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INFORMATION RESOURCES FOR INSPECTION AND TESTING LIBRARIES

MCGILL UNIVERSITY
GRADUATE SCHOOL OF LIBRARY SCIENCE

A GUIDE TO INFORMATION RESOURCES FOR INSPECTION AND TESTING COMPANY LIBRARIES

BY

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PREFACE

Inspection and testing have become important elements in business and industry. Although there are about one hundred independent inspection and testing companies in Canada with a volume of business estimated at twenty-five million,[1] it was discovered in a survey conducted in 1962 by the writer (Librarian of The Warnock Hersey Company Ltd., in Montreal) that most of these organizations have a small collection of books but few have well organized libraries. Because of this and because very little information is available to assist those who are charged with providing bibliographical service, it was felt that a guide to the literature of inspection and testing would be useful for those, new to the field, who are starting, building or using a library collection in an inspection and testing company in Canada.

The present study is divided into two parts. Part I is concerned with the meaning and scope of inspection and testing and a description of the organizations involved in the field such as independent companies, government organizations, and associations which provide specifications and standards upon which inspection and testing are based. Part II consists of a selected and annotated list of information resources, i.e. reference books and serials arranged by type of material, e.g. guides, bibliographies, etc. An introduction to Part II explains its scope and

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[1] Oxley, Frank. Say Government Testers Squeezing Private Labs. (In Financial Post, v.57, p.40, March 9, 1963)

arrangement and short descriptions are given as to the value and usefulness of each type of material when considered necessary. Part II is followed by an index to subjects, authors and serials, a selected list of addresses of associations and organizations which publish specifications, standards and technical material and a bibliography of sources consulted.

In the preparation of this study there have been interviews with some of the personnel of The Warnock Hersey Company Ltd., Montreal, and I should like to take this opportunity to thank them, especially the Vice-President, Mr. E.P. Hersey, for their assistance and interest in this paper. To my advisor, Professor Virginia Murray, and to Professor Beryl Anderson go my most sincere gratitude and appreciation for their guidance, criticism and untiring encouragement, so generously given. My thanks also go to Miss Sonia Proudian for typing the manuscript.

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CHAPTER I

INSPECTION AND TESTING

Mass production requires that all goods be made according to some specification or standard so that they may be as uniform as possible quantitatively and qualitatively. As early as the year 1800 Eli Whitney put the idea of mass production into practical use by demonstrating his army rifle made of "standard" reproducible parts but it only gradually became evident as well that standardized products had to be made from standardized materials. The realization of this in Europe led to the formation there of the first societies for the testing of materials in the 1880's;[1] subsequently inspection and testing companies developed to meet the need for ensuring uniform quality in materials and products. Later societies and associations devoted to the development of specifications and standards to use in inspecting and testing materials appeared.

Today with the high costs in producing goods as well as the competitive market it is more necessary than ever for the producer to make certain by inspection and testing that his product is not faulty or for the owner, architect and construction company to be sure that equipment and materials being used in new buildings comply with specifications. Inspection and testing services provided by testing companies help ensure

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[1]Bates, A. Allan. An ASTM for the Future. (In Materials Research & Standards, v.1, p.555, July 1961)

that faults will not be discovered after equipment has been installed or a building completed, resulting in delays and possible incalculable loss later. In effect, these companies offer a form of insurance for capital investment and the demand for their services has steadily increased as modern technology has developed. In Canada the growing demand for inspection, testing and commercial laboratory services is largely a result of the country's phenomenal growth since the last war, especially in the area of construction.

Although the functions of inspection and testing overlap, it is desirable to distinguish between the two.

> INSPECTION is the critical examination of a product to determine its conformance to applicable quality standards or specifications. Inspection is generally a mechanical operation; it determines the adequacy of such characteristics as appearance, dimensions, and over-all operation of the product.[2]

> TESTING is more penetrating; it measures performance in one form or another. Testing involves instrumentation to measure the functional adequacy of the product.[3]

Two types of testing are generally recognized today: destructive and nondestructive. Destructive tests consist of chemical and physical tests including chemical analysis of many different items and the determination of certain physical properties of various materials. A partial list of the items tested includes ferrous and non-ferrous metals, paints, ores, concrete, coal, lubricating oils, textiles and water. Chemical and physical tests also play a very important part in controlling the choice and quality of construction materials.

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[2]McGraw-Hill Encyclopedia of Science and Technology. New York, McGraw-Hill, 1960, v.7, p.145.

[3]Loc. cit.

Nondestructive tests consist of the testing of materials, parts, or products, in such a way that they are not harmed in the process. It is desirable to use this method for finished products. Two of the main processes in carrying out these tests are by radiography and ultrasonics, but other common forms include dye penetrant and magnetic particle testing. These are employed for testing pipe during fabrication, pressure vessels and steel structures with welded joints.

Tests are performed to determine whether the properties of a product or material fall within required limits. The formal statement of these limits is a specification or standard, and it is upon the existence of accepted specifications and standards that inspection and testing are dependent.

The terms specification and standard, like inspection and testing, should be distinguished, but in practice they are often confused and used interchangeably.

> A specification is the attempt on the part of the consumer to tell the producer what he wants. A specification is intended to be a statement of a standard of quality. The ideal specification would uniquely define the qualities of a material necessary to serve most efficiently for a given use, and it can be approached if truly significant tests can be made to determine the presence of the required qualities.[4]

> A standard may be considered a generic term and specifications a form of standards used primarily for buying and selling. In everyday usage a specification is usually a written document describing a material in terms of composition, dimension, or

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[4]Davis, Harmer E. and others. The Testing and Inspection of Engineering Materials. 3d ed. New York, McGraw-Hill, 1964. p.12-13.

> performance or combinations of these, so that the same meaning is conveyed to a buyer and a seller.[5]

This document may incorporate both materials specifications and methods of testing, but in many cases the later are separate, being methods developed by various independent bodies and of general application.

Sometimes the buyer specifies how he wants the material or product to be tested and that it must conform to, for example, a standard or specification of the Canadian Standards Association or the American Society for Testing and Materials. In many cases, however, he merely states what performance he wants under given tests and leaves it up to the testing laboratory to use the test methods best suited.

Early specifications were often crude because the buyer knew little about the materials he used; today, with all our advances in scientific knowledge, it has become possible to devise more adequate specifications and to develop widely accepted standards of quality. Armed with these the inspection and testing companies are able to perform valid tests on the materials submitted to them.

The scope of inspection and testing is very wide. An independent inspection and testing company's services may include analysis and testing of materials, on-site inspections, confidential consultations, control of quality, impartial, independent opinions, proof of compliance with specifications, technical legal advice and court testimony. To obtain

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[5]Flagg, Cedric R. and Ware, Robert P. Standards and Specifications. (In American Chemical Society. Literature Resources for Chemical Process Industries. Washington, 1954. p.449-450. Advances in Chemistry Series, no.10)

information on which to base its decisions a company will use any suitable methods of testing - physical, chemical or nondestructive - and even engage in applied research. In the course of a day a company's activities may range from testing a sweater that the moths have attacked to see why the moth-proofing has failed; giving expert testimony in a lawsuit or testing the soil and rock upon which the foundations of a skyscraper are to be constructed. The extent to which a testing company's services are required in our modern machine society and the importance of the proper performance of these services may be clearly seen in the construction industry.

The testing company's client may be an architect, contractor or owner who wants an independent laboratory to check on the materials and equipment going into a new plant. The company's first task will be the testing of the soil upon which the plant is to be erected to make sure it can withstand the weight of the planned structure. The soil samples will be tested in the laboratory and on the basis of the results the architects and engineers will design the foundation with due allowance for any peculiarities in soil conditions revealed by the tests.

In the next phase the laboratory will undertake the testing and inspection of concrete and reinforcing steel being incorporated into the foundation. After this the company's inspectors will go to the mill to supervise, inspect and test each shipment of steel for the new plant. They will also check the work at the steel fabricator's plant to make sure the fabricated steel meets specifications.

If the components of the structural steel for the building are to be welded, the company will employ some type of nondestructive testing (X-rays, or the newer ultrasonic methods) to detect defects such as cracks and flaws in the welded joints.

Another important aspect besides the testing and inspection of the materials used in the construction of the plant is the inspection and supervision of the actual construction. Company inspectors follow the daily progress of the construction work through every stage and they may even act as representatives of the owners or architects and as such be responsible for checking that all materials used strictly conform with the contract, thus ensuring the satisfactory, safe and speedy completion of the structure.

The man who is about to spend a million dollars or more on a plant and equipment feels it is money well spent to pay one or two per cent of his capital cost to independent experts for advice and services that will prevent error or even failure.

The foregoing gives some idea of the amount and diversity of inspection and testing necessary in the construction field; it also shows how much work a company may have to do outside its own laboratories. Other examples of outside work are nondestructive testing of pipelines for oil and gas companies; inspection of rails and rolling stock and inspection of power lines and cable for public utility companies. In its own laboratories a company may have to devote much time to the testing of commodities and materials; e.g., analysis of metals, ores, minerals, paints, textiles, foodstuffs, grains and feeds, plastics, petroleum products,

vegetable oils, water, asphalt, concrete and coal; and with the trend towards more uniform standards for merchandise, the company is increasingly performing such analysis for retailers as well as manufacturers.[6]

The chapters which follow will describe briefly the commercial laboratories, government laboratories and other bodies which carry out inspection and testing in response to stated needs and also the organizations, governmental and otherwise, which develop the specifications, standards and methods of testing used by the first groups in the testing process.

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[6]Thoms, William. Ultrasonics and X-Rays Help to Build Industrial Canada. (In Canadian Business, v.29, p.44-48, 51-54, 56-58, September 1956)

CHAPTER II

INSPECTION AND TESTING ORGANIZATIONS

Inspection and Testing Companies

The post 1945 construction boom, the growing complexity of all industrial processes and the large capital investments involved have resulted in a need for stricter quality control and have thus brought about an increasing demand for inspection, testing and laboratory services. Consequently existing companies have expanded their services and a few new companies have been formed in Canada as in other countries.

The oldest inspection and testing company in Canada as far as can be discovered is The Warnock Hersey Company Ltd., in Montreal. It was formed in 1954 by the amalgamation of the Milton Hersey Co., Limited founded in 1888 and Charles Warnock and Co., Limited in 1926. The Milton Hersey Co., Limited, became closely associated with the chemical industry and is believed to have set up Canada's first commercial testing laboratory; but a company notebook dated 1896 shows that the company was conducting a wide variety of tests even then, among them the testing of paints and metallic packings for the Canadian Pacific Railway. The firm of Charles Warnock and Co., Limited, on the other hand, was known from its beginning mainly in the field of inspection.[1]

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[1]Warnock Hersey Builds New Lab. (In Chemistry in Canada, v.7, p.36-38, January 1955)

The present company has developed its services in both of the fields covered by its predecessors. Over the years it has expanded its inspection services to include appraisal and expediting; it has expanded its testing services to include chemical, physical and nondestructive testing, applied research and soil investigations. It has recently established a pharmaceutical analysis laboratory which provides quality control and analysis of drugs.

Because The Warnock Hersey Company is so large and diversified, it gives one a good idea of the range and type of service that may be offered by a single inspection and testing firm or, collectively, by the firms now operating in Canada.

The exact number of Canadian firms is not known. The 1965 Directory: Commercial Testing and Inspection for Industry and Government published by the Canadian Testing Association[2] lists twenty-five independent testing laboratories and consultants with a short resume of the scope and services of each company, certainly only a small percentage of the companies in this field. However, those listed are the larger and more diversified companies which have made substantial capital expenditures on their premises as well as on new mechanical and technical equipment.

The main fields of interest of the inspection and testing companies differ considerably, depending in part on the size of the company and in part on its location. The companies are inclined to concentrate on the natural resources and commerce of the area where they are established;

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[2]Canadian Testing Association. Directory: Commercial Testing and Inspection for Industry and Government. 2d ed. Toronto [1965] 32p.

in a mining area the bulk of their work will be analyses of ores, minerals and metals. A small company usually focuses its attention on one or two specialities such as mineral testing or concrete; a larger company can handle almost any assignment required of it except in a few specialized areas where the number of orders received does not warrant the outlay necessary for setting up facilities to take care of this type of testing.

Government Testing Laboratories

There are several Canadian government departments which have testing laboratories, but the two that an inspection and testing company are likely to be most concerned with either directly or indirectly are the Food and Drug Directorate of the Department of National Health and Welfare and the Testing Laboratories Division, Development Engineering Branch, Department of Public Works.

Food and Drug Directorate, Department of National Health and Welfare

The work of the Directorate[3] impinges on the work of the testing companies in two ways. The Food and Drugs Act and Regulations which it administers are used as a guide by the inspection and testing companies when testing foods, drugs, vitamins and cosmetics. In addition the Directorate issues Trade Information Letters which cover foods, drugs, vitamins, cosmetics and controlled drugs and these contain government regulations of interest to the drug and cosmetic manufacturers as well as to the inspection and testing companies carrying out testing for them.

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[3]For history see Davidson, A. Linton. The Genesis and Growth of Food and Drug Administration in Canada. Ottawa [n.p.] 1949. 117p. Mimeo.

The Directorate does not perform commercial testing but will assist a testing laboratory with technical information and methods of testing these commodities. It is a research organization, but does carry out spot quality checks on foods and drugs.

Testing Laboratories Division, Development Engineering Branch, Department of Public Works

The Testing Laboratories Division of the Development Engineering Branch tests anything from concrete materials to ball-point pens; it develops specifications and tests for materials used in construction by the branches of the Department of Public Works.[4] Its services are available to other departments and agencies of the government on request and are frequently used by the Canadian Government Specifications Board, sometimes in conjunction with the Canadian Standards Association in its preparation of specifications and standard test methods.[5] These specifications and standards are used by the inspection and testing companies in carrying out their inspection and testing.

Research Councils

The National Research Council and the provincial research councils will not do routine testing when there are commercial testing facilities available; they do however undertake research on special problems which

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[4]Canada. Department of Public Works. The Department of Public Works. Ottawa, Queen's Printer, 1964. p.7.

[5]An example of such joint development is the seat belt testing undertaken for the combined Canadian Government Specifications Board and Canadian Standards Association Committee which resulted in CSA Specification D159.1-1963 Motor Vehicle Safety Seat Belts. (In Canada. Department of Public Works. Annual Report for the Fiscal Year Ended March 31, 1963. Ottawa, Queen's Printer, 1964. p.26)

affect their particular area, whether federal or provincial, and thus augment, rather than compete with, the services of the testing companies.

As yet only five of Canada's ten provinces have research councils, namely Nova Scotia, Ontario, Saskatchewan, Alberta and British Columbia.[6] This does not mean that the others are completely without research facilities, for all provincial governments are involved in research: individual government departments have research sections and there are university research facilities which the government in each province may use and upon which commercial testing companies may call if necessary.

The National Research Council

The most important of the research councils is, of course, the National Research Council, which was set up by Act of Parliament in 1916 "to stimulate all phases of scientific research in Canada, and to link science with industry".[7] At first, the National Research Council urged the creation of independent government laboratories since it believed that these would "stimulate the general research effort through fundamental research and through assistance to industry".[8] However, this suggestion was not taken up until 1927 when the Council began laboratory

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[6]It was announced on June 1, 1965 by Industry Minister Gerard Levesque that the Quebec Government had decided to establish a scientific research council and industrial research centre. (In R & D Centre Planned: Levesque gives 5-Point Quebec Program. Gazette (Montreal) June 1, 1965, p.14)

[7]Lay, R.A. The Organization of Research in Canada. (In Design Engineering, v.5, p.47, July 1959)

[8]Ibid., p.48

work, enlarging its scope in 1932 and continuing to expand since then. The record of this development may be traced in its Annual Reports.[9]

The Council now has nine laboratory divisions investigating fundamental problems in the fields of chemistry, biology, physics, engineering (mechanical, electrical and radio) and building research. The results of its research are made known through scientific and technical journals as well as separate publications. Since most of the Council's work is not classified, the results are available to the testing companies and others interested. Several National Research Council's publications will be discussed in the second part of this report.

The Council's library has the largest collection of scientific and technical material in Canada and its resources and services are readily available to the testing companies and interested persons on request. Its books and periodicals may be borrowed, or photostatic or microfilm copies may be obtained. This library is now the National Science Library.

National Research Council. Division of Building Research

The Division of Building Research is the National Research Council's Division of most interest to inspection and testing companies. It was formed in 1947 to provide technical assistance to the newly established Central Mortgage and Housing Corporation, to service the National Building Code and more generally to provide a research service for the construction industry - a function obviously of prime importance to the testing companies.[10]

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[9]National Research Council (Canada). Annual Report, 1916/17- Ottawa, 1917-

[10]National Research Council (Canada). The Division of Building Research; What it is, What it does. Ottawa [n.d.] 32p. (NRC no.4879)

The Division's main duty to the construction industry is to provide information with regard to construction problems on the job as well as on the properties of the construction materials. In the main it concentrates on research into those problems which are peculiar to Canada. For solution to more general problems it draws on building research organizations in other countries.

All results of the Division's research work are available to the public, so that for the commercial firm the Publications Section is a very important part of this organization. So too is its library, which in addition to its extensive collection in the fields of construction, architecture, building materials, soil mechanics, building standards, building codes and specifications has an up-to-date file of trade literature.[11] These may be borrowed or photostatic copies may be obtained by interested companies.

Provincial Research Councils

Information on the provincial research councils will be found in their annual reports.[12] Cooperation is close between them and the National Research Council. Each of the provincial research councils

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[11] Ibid., p.30

[12] British Columbia Research Council. Annual Report 1- 1944/45 [Vancouver] 1945-

Nova Scotia Research Foundation. Annual Report 1- 1947- Halifax, 1947-

Ontario Research Foundation. Report 1928/29- [Toronto] 1929-

Research Council of Alberta. Report 1- 1920- [Edmonton] 1920-

Saskatchewan Research Council. Annual Report 1947- Regina, 1947-

has a Technical Information Service which offers technical assistance and advice to industrial companies and government departments on request and in most cases will engage in research and testing projects for industry on a contract basis where no commercial facilities are available. They try not to duplicate satisfactory testing resources available from commercial testing laboratories. Their function is to make available to all industry those machines and equipment which it would not be practical for any single industry to buy. The Technical Information Service of each provincial research council relies substantially on the resources of the National Research Council and its library.

CHAPTER III

ORGANIZATIONS RESPONSIBLE FOR SPECIFICATIONS AND STANDARDS

In addition to Canadian government departments and agencies there are many associations which are responsible for preparing and developing specifications and standards. The most important in Canada is the Canadian Standards Association. The Canadian Government Specifications Board whose purpose is to prepare specifications for government agencies has been included in this section however, as industry has adopted some of its specifications. Two of the most important in the United States are the American Society for Testing and Materials and the American Standards Association, and their publications are used extensively in Canada.

Canadian Organizations

Canadian Standards Association

"The Canadian Standards Association was incorporated under the Dominion Companies Act, in 1919, under the name of the Canadian Engineering Standards Association, as a non-profit, non-governmental organization, to provide a national standardizing body for Canada".[1] In 1945 it adopted its present name. Through its over 700[2] technical committees, composed

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[1] Canadian Standards Association. CSA List of Publications 1964. Ottawa, 1964. p.1

[2] Canadian Standards Association, List of Members and Committees, January 1st, 1965. Ottawa, 1965, p.155

of representatives from industry, government departments, technical and scientific organizations, CSA promotes uniformity in standards for products and procedures. These committees review and revise CSA standards from time to time.

CSA has five divisions: Administration (Head Office), CSA Testing Laboratories, Canadian Welding Bureau, Canadian Lumber Standards and Structural Glued-Laminated Timber. The CSA Testing Laboratories is the largest division with the principal laboratory in Toronto and branches in Montreal, Winnipeg and Vancouver. It combines laboratory testing and factory inspection services at cost for products covered by CSA standards and also offers Laboratory Certification Services for these products. As the testing and certification of products, both electrical and non-electrical, have increased it was decided to establish two testing departments in the laboratories: the Electrical Approvals Department and the Mechanical-Chemical Department, which was formerly the Product Certification Department.[3] This means it gives industry a method of checking its products to make sure these products meet the basic standards. Certified products are re-inspected periodically to ensure they continue to keep up the standard.

The Canadian Welding Bureau is concerned with sound practices in welding operations through conformity with codes. It is responsible for testing and certifying personnel for welding and provides a list of companies qualified to undertake this work. To help welders to quality the Bureau provides a series of home study courses.

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[3]Canadian Standards Association, Annual Meeting, Reports for Year ending March 31st, 1964. [Ottawa, n.d.] (Report no.31, p.1-3) Mimeo.

The Canadian Lumber Standards Committee is responsible for approving the organizations which grade-mark the lumber in Canada. Grade-marked lumber has to meet the requirements of the Central Mortgage and Housing Corporation and several federal government departments.[4]

In 1963 the Structural Glued-Laminated Timber Division was set up with the responsibility "for the qualification of manufacturers of structural glued-laminated timber".[5]

In Canada the CSA cooperates closely with the Canadian Government Specifications Board and the departments of both the federal and provincial governments, while in the international field it represents Canada on the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC). Through membership in these CSA hopes to help solve Canadian standards problems in international commerce.

CSA publishes the CSA News Bulletin[6] mentioned in Part II. This is a quarterly publication and contains information on new and revised CSA standards. Once a year it also publishes a list of standards[7] with the latest revision date and price of each. This list is free and includes a selection of international standards as well as Canadian.

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[4]Canadian Standards Association. Facts about the Canadian Standards Association. Ottawa, [n.d.]

[5]Canadian Standards Association. Annual Meeting, Reports for the Year ending March 31st, 1964. [Ottawa, n.d.] (Report no.1, p.1) Mimeo.

[6]Canadian Standards Association. CSA News Bulletin. v.1, no.1- April 1961- Ottawa. quarterly.

[7]Canadian Standards Association. CSA List of Publications 1953- Ottawa, 1953- annual.

The CSA library contains national standards from forty-eight nations and these may be consulted at or purchased through the CSA office in Ottawa.[8]

Canadian Government Specifications Board

In 1934 the National Research Council was requested by the Royal Commission on Price Spreads to find out how much use the Federal Government departments made of specifications in purchasing supplies. On the basis of their findings the Council recommended that government departments should collaborate in establishing their own purchasing specifications. As a result the Canadian Purchasing Standards Committee was formed in 1934 and its name was changed in 1948 to the Canadian Government Specifications Board (CGSB).

The function of the Board is to prepare specifications and standards for commodities and materials which the government departments require; these specifications and standards, while primarily for the use of the Canadian government, have received wide acceptance in industry. The Board's procedure when specifications are needed is to appoint a committee for each commodity field in which specifications are to be prepared; this committee is responsible for writing the specifications and keeping them up-to-date. At the beginning the members of the committees were government personnel, but now representatives from industry are on most of the committees. As new projects are undertaken the Board forms new committees to prepare the specifications. Whenever it seems useful

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[8]Canadian Standards Association. CSA List of Publications, 1964. Ottawa, 1964. p.4

the committees also prepare separate schedules of methods of testing and sampling such as 1-GP-71, "Methods of Testing Paints and Pigments" and these schedules can be purchased.[9]

The Board publishes specifications for paints, soaps, petroleum, textiles, leather and rubber and puts out an annual index to the specifications as well as cumulative quarterly supplements.

In order not to duplicate effort in the field of specifications and standards, the Board works closely with the Canadian Standards Association and the Standards Division of the Department of Trade and Commerce. There is also a reciprocal exchange of standards and specifications between the Board and the Standards Division, General Supply Service of the United States General Services Administration, the standardizing bodies in the Commonwealth countries, the American Society for Testing and Materials and the American Standards Association.[10]

American Organizations

American Society for Testing and Materials

The American Society for Testing and Materials was organized in 1898 and in 1902 was incorporated as a national technical society. Its main purpose is "the promotion of knowledge of the materials of

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[9]National Research Council (Canada). CGSB an Interdepartmental Co-ordinating Agency in the Fields of Specifications and Standardization. Ottawa, 1959. 6p. Mimeo.

[10]National Research Council (Canada). An Outline of the Character and Function of the CGSB an Inter-Departmental Co-ordinating Agency in the Fields of Specifications and Standardization. Ottawa, 1954. 22p. (NRC no.3355)

engineering and the standardization of specifications and methods of testing".[11]

In fact "ASTM is best known for its work in the standardization of methods of test, specifications, recommended practices and definitions of terms relating to materials" and these specifications and test methods are "used as standards for engineering materials because they are competent, unbiased, widely applicable and authoritative".[12] The ASTM accomplishes this work by means of technical committees and subcommittees composed of the outstanding experts in their respective fields; these committees develop and regularly revise the standards.

The Society has an extensive publications programme. Besides the Book of ASTM Standards, special compilations of standards and the monthly Materials Research & Standards (formerly the ASTM Bulletin) which are discussed in Part II of this paper, it publishes annually the ASTM Proceedings and the Year Book; preprints of reports and papers to be presented at the Annual Meeting as well as Special Technical Publications which cover a wide range of technical and scientific information on materials. No testing laboratory could operate without a good collection of ASTM publications.

American Standards Association

The American Engineering Standards Committee was formed in 1918 by five engineering societies: the American Society of Civil Engineers,

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[11] American Society for Testing and Materials. 1964 ASTM Index to Standards. Philadelphia, 1964. p.vi

[12] Ibid., p.vii,ix

the American Society of Mechanical Engineers, the American Society of Mining and Metallurgical Engineers, the American Institute of Electrical Engineers and the American Society for Testing and Materials. Almost immediately, other societies and trade associations which had a common interest in an effective, integrated national standardization programme were admitted and in 1928 the original American Engineering Standards Committee became the American Standards Association.

The ASA is "a private enterprise service agency operating on the principle of voluntary standards".[13] In the beginning most of its work was confined to the field of engineering or industrial standards, but over the years it has broadened its scope to include almost any standard that has a national or international reputation. In 1946 it entered the field of trade standards by officially approving some of the trade standards issued by the United States Department of Commerce. It now lists a total of more than two thousand national standards as American Standards. The projects being undertaken include most branches of engineering and science, consumer goods and safety.

ASA has tried to avoid duplicating the work of other organizations when suitable facilities for carrying out a specific project exist within some more highly specialized national group. The main function of ASA is to act as a clearing house and coordinating agency to ensure the most advantageous dissimination of the specialized knowledge and experience of these associated groups. The ASA has also undertaken the work of

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[13] Objectives and Policies of the American Standards Association; Official Statement Approved by ASA's Board of Directors October 17, 1956. (In the Magazine of Standards (ASA), v.28, p.36, February 1957)

correlating American Standards with international standardization activities with the guidance of other established agencies within the United States.[14]

In addition to disseminating its own standards the ASA is the sales agent in the United States for the published standards of 47 nations, these being the foreign countries with which ASA exchanges standards, and there are on file with the Association about sixty thousand foreign standards.

The Library of the Association contains more than one hundred thousand American and foreign standards, specifications and related material along with a collection of technical literature. It forms the most complete source of information on standards in the United States and these standards may be borrowed by ASA members. However, if there is only one copy of a standard it cannot be sent out on loan, but it may be photostated if it is not too extensive.[15]

International Organizations

The necessity for international industrial standards has become acute through the growth of international trade. If a Canadian manufacturer wants to sell his product overseas he must make his product conform to the standards of the country importing it; he must also make it satisfy conflicting test methods for materials and equipment. "All these problems

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[14] Ibid., p.36-37

[15] American Standards Association. ASA Standards Library .. at Your Service. New York, 1961. [n.p.]

point to one solution - the creation of truly international standards - standards that are used by all nations sharing an economic interest - standards that can create a truly competitive free economy and mass market comprising all nations of the world".[16]

This need for international standards has been recognized for a long time. In the fields of engineering and industry the International Electrotechnical Commission (IEC) was founded as early as 1904 to prepare international standards in the electrical and related fields. In 1946 the International Organization for Standardization (ISO) was formed to replace two predecessor organizations that had been operating before World War II with responsibility for engineering and industrial standards other than electrical. In 1947 IEC became the electrical division of ISO.

ISO is composed of members of national standards organizations of countries which want to participate. The main objectives of both ISO and IEC are "to facilitate the exchange of goods and services through the development of internationally accepted standards, to provide the machinery for the development of such international standards, to coordinate the national standards of [their] members, to issue standards recommendations for voluntary acceptance by members, to provide for exchange of information among members concerning international standards work," and "to cooperate with other international organizations concerned with related problems".[17]

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[16]Canadian Standards Association. Canada and International Standards: CSA, ISO, IEC. Ottawa [n.d.] p.5

[17]Ibid., p.8-9

The Canadian Standards Association which is the national clearing house and coordinating body for standardization in Canada, represents Canadian interests in these organizations. The American Standards Association, CSA's counterpart in the United States represents American interests, while the American Society for Testing and Materials, through its collaboration with the ASA, is also contributing substantially though indirectly to the work of the ISO. Two examples of such contributions may be cited.

First ASTM is helping in international standardization by its decision to promote the use of the metric system by preparing a uniform practice to convert other units to this system and then by adding metric equivalents to all ASTM publications containing units other than metric as these publications are revised or type reset.[18]

Secondly, ASTM indirectly fosters international trade through its Books of ASTM Standards, which contain a wealth of information on materials specifications and test methods that can be used by foreign purchasers to provide the merchandise they want to buy in the United States and Canada and to make sure they receive the materials they have ordered.[19]

Much work has been accomplished and is being accomplished in the field of international standards and specifications, but much remains to be done.

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[18]ASTM Board Gives Push to Metric System. (In Materials Research & Standards, v.3, p.152, February 1963)

[19]LaQue, F.L. International Aspects of ASTM. (In ASTM Bulletin, no.247, p.7-9, July 1960)

Part I has provided information as regards the meaning and scope of inspection and testing, the organizations involved, such as independent companies, government agencies, research councils, and the associations, Canadian, American and international, which provide specifications and standards on which much of the work depends. Part II will provide a list of information resources useful to those working in the field of inspection and testing.

PART II

SELECTED AND ANNOTATED LIST OF INFORMATION RESOURCES OF VALUE IN CANADIAN INSPECTION AND TESTING LIBRARIES

PART II

INTRODUCTION

As already indicated in Part I, inspection and testing covers many fields of scientific knowledge. It employs chemistry, mathematics, physics, engineering, mineralogy, metallurgy and many other areas. Because of this a wide variety of reference materials is often necessary.

The books, specifications and standards, and serials that each inspection and testing company will require will depend largely upon their areas of interest. All require general reference books but the number of volumes on specific subjects will depend upon the amount of inspection and testing the companies perform in these fields. If one concentrates mostly on concrete, the number of volumes in this sphere will be large; if one does only a little testing of textiles, the bare minimum will be required. Each collection of books will be geared to the type of work the company performs.

Part II contains a selected and annotated list of items considered to be of value in an inspection and testing library in Canada. The books listed are in print as of December 1964 unless there are indications to the contrary. The latest edition of a work has been listed whenever possible; full histories are given for serials, that is for periodicals, annual reports and proceedings of associations when available.[1]

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[1] A selected list of addresses of associations, societies and other organizations which publish technical material, specifications and standards has been included in Appendix A.

The basic arrangement of the list which follows is according to type of material i.e., guides, bibliographies, indexing and abstracting services, encyclopaedias, dictionaries, directories, handbooks, formularies, specifications and standards, lists of synonyms and trade names, treatises and serials. Whenever possible or feasible, general works are described first followed by those on selected subjects. In some cases, for example under bibliographies, only a few subjects have been included, but those included provide samples of what is available or might be useful.

An outline of the arrangement follows:

Section

A GUIDES FOR SEARCHING THE TECHNICAL LITERATURE

- General
- Special
  - Chemistry
  - Construction
  - Dyes and Textile Chemistry
  - Engineering
  - Nondestructive Testing
  - Pharmaceuticals

B BIBLIOGRAPHIES

- General
- Special
  - Cement and Concrete
  - Construction
  - Highway Engineering
  - Metallurgy

C INDEXING AND ABSTRACTING SERVICES

- General
- Special
  - Chemistry
  - Construction

Section

Corrosion
Engineering
Highway Engineering
Metallurgy

D ENCYCLOPAEDIAS AND DICTIONARIES

General
Special
Chemistry
Microscopy
Spectroscopy
Synthetic Resins and Plastics
Testing and Inspection
X-Rays and Gamma Rays

E LANGUAGE DICTIONARIES

General
Special
Chemistry
Engineering
Foundations and Soil Mechanics

F DIRECTORIES

General
Special
Laboratory Directories
Scientific and Technical Directories

G HANDBOOKS

H FORMULARIES

I SPECIFICATIONS AND STANDARDS

General
Special
Asphalt
Cellulose and Paper

Section

Cement and Concrete
Construction
Detergents
Dyes and Textile Chemistry
Fats, Fatty Oils and Waxes
Foods
Foundations and Soil Mechanics
Fuels and Carbonization Products
Highway Engineering
Metallurgy
Nondestructive Testing
Paints, Varnishes, Lacquers and Inks
Petroleum and Lubricants
Pharmaceuticals
Rubber and Other Elastomers
Synthetic Resins and Plastics
Toxicology
Water, Sewage and Sanitation

J SYNONYMS AND TRADE NAMES

K GENERAL TREATISES

Analytical Chemistry
Asphalt
Cellulose and Paper
Cement and Concrete
Construction
Corrosion
Cosmetics and Perfumes
Detergents
Dyes and Textile Chemistry
Explosives and Explosions
Fats, Fatty Oils and Waxes
Foods
Foundations and Soil Mechanics
Fuels and Carbonization Products
Highway Engineering
Industrial Chemistry
Leather
Metallurgy
Mineralogy
Nondestructive Testing
Paints, Varnishes, Lacquers and Inks
Petroleum and Lubricants

Section

Pharmaceuticals
Rubber and Other Elastomers
Soils and Fertilizers
Sugar
Synthetic Resins and Plastics
Testing and Inspection
Toxicology
Water, Sewage and Sanitation

L SERIALS

Analytical Chemistry
Asphalt
Cellulose and Paper
Cement and Concrete
Construction
Corrosion
Cosmetics and Perfumes
Detergents
Dyes and Textile Chemistry
Engineering
Fats, Fatty Oils and Waxes
Foods
Foundations and Soil Mechanics
Fuels and Carbonization Products
Highway Engineering
Industrial Chemistry
Leather
Metallurgy
Nondestructive Testing
Paints, Varnishes, Lacquers and Inks
Petroleum and Lubricants
Pharmaceuticals
Rubber and Other Elastomers
Sugar
Synthetic Resins and Plastics
Testing and Inspection
Water, Sewage and Sanitation

SECTION A

GUIDES FOR SEARCHING THE TECHNICAL LITERATURE

Guides for searching the literature are the first place a novice should look for help. These guides are books which outline for the beginner the principal sources of information in a subject field, describe the most important books and journals and explain their use.

Some guides are very general; others are highly specialized. They may be the work of experts in the field (e.g., Crane, A7 below); or be prepared under the auspices of a society (e.g., the Division of Chemical Literature of the American Chemical Society, which since 1949 has been foremost in fostering the effective utilization of recorded information in the chemical field); or be adjuncts of a technical literature course given at a university (e.g., Jenkins, A2 below).

In the appended list, as already indicated, the general guides are given first followed by a selection of the special subject guides. Since chemistry is an integral part of the collection of any inspection and testing laboratory, many of the guides described in this section deal with chemical literature and the novice should become familiar with them. For information on more recent developments in the field, he will find the Journal of Chemical Documentation[1] a very helpful supplement.

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[1] Journal of Chemical Documentation. v.1- 1961- Washington, American Chemical Society. quarterly.

GENERAL

A1 Burns, Robert W. Literature Resources for the Sciences and Technologies: a Bibliographic Guide. (In Special Libraries, v.53, p.262-271, May-June 1962)

The sections of interest here are cellulose technology, chemistry, cosmetics, engineering, food technology, forestry, mathematics, metallurgy, petroleum technology, pharmacy, plastics, pulp and paper technology, rubber technology and textiles.

A2 Jenkins, Frances Briggs. Science Reference Sources. 3d ed. Champaign, Illini Union Bookstore, 1962. 135p.

This selected list of representative science reference sources available on December 7, 1961 was compiled for use in the course in the bibliography of science and technology offered at the University of Illinois Library School. The course is designed to present a survey of representative tools in science, with training and practice in their use in answering reference questions. General reference books have not been included as knowledge of them has been assumed.
The arrangement of this list is by subject. Presentation of general works in science is followed by a bibliography in each of the scientific fields. The chemistry bibliography is of special interest to the testing library and among the sections that are useful are bibliographies, indexes, abstracts, dictionaries and encyclopaedias; synonyms and trade names; analytical chemistry, handbooks and tables; and formularies.

A3 Schutze, Gertrude. A Bibliography of Guides to the S-T-M Literature, Scientific - Technical - Medical. New York, 1958. 64p. (Contributions to the S-T-M Library Literature no.1)

--- --- Supplement 1958-62. New York, 1963. 38p. (Contributions to the S-T-M Library Literature no.2)

The main volume covers the years 1920-57, while the supplement brings it up to 1962; and the arrangement is by subject. In the supplement more emphasis has been put on foreign literature and a useful index of foreign literature arranged alphabetically by country has been included.

SPECIAL

Chemistry

A4 American Chemical Society. Literature Resources for Chemical Process Industries. Washington, 1954. 582p. (Advances in Chemistry Series no.10)

Regarded as complementary to A5 below this volume treats the aspects of applied chemistry such as resins and plastics, textile chemistry, food industry and petroleum. The final section includes standards and specifications, information on foreign literature and translations, and searching the PB collection[2] for chemical information. This volume, like the following one, has a useful list of references at the end of each paper.

A5 --- Searching the Chemical Literature. Washington, 1961. 326p. (Advances in Chemistry Series no.30)

Contains thirty-one papers which deal authoritatively with every aspect of the subject including theses, reports and patents. All the papers are devoted to the actual search for information, whether they relate to searching in certain areas of information, searching for certain types of information, or are concerned with aides for searching. It also covers searching for unpublished data, as well as surveys on the uses of indexes and abstracts, on language problems and on the facilities of four leading libraries. It has a good subject index and nearly every paper has an extensive bibliography.

A6 Bottle, R.T., ed. Use of the Chemical Literature. London, Butterworths, 1962. 231p.

Consists of fifteen articles covering chemical periodicals, translations, abstracts, patent literature, government and trade

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[2]The PB collection is the Publication Board collection maintained by the Office of Technical Services, United States Department of Commerce and consists of all the technological data seized by the Allies after World War II from the conquered European and Asian enemy countries, particularly Germany. It contains as well a large number of declassified reports of United States federally-sponsored research carried on during and after the war and British and Canadian reports of government-sponsored research.

publications. The articles are based on lectures given as short courses organized by the Liverpool College of Technology; for this reason the British sources of technical information have been discussed more fully than the American sources. This compilation makes a useful supplement to Crane (A7) and Mellon (A9) below.

A7 Crane, E.J. and others. A Guide to the Literature of Chemistry. 2d ed. New York, Wiley, 1957. 397p.

A standard text and reference tool since the publication of the first edition in 1927. It contains information on how to use each form of chemical literature: books, periodicals, patents, government publications, trade literature, biographies, bibliographies and indexes, as well as an introduction to the art of literature searching. The appendices consist of a bibliography of lists of periodicals, a list of scientific and technical organizations, periodicals of chemical interest with a list of those discontinued before 1910 and a list of dealers and publishers. Unfortunately all the lists of books, periodicals, organizations, etc., have been revised to the end of 1956 only. This volume is most useful to a librarian beginning to work with a chemical collection and is a ready reference book for the more experienced librarian who is confronted with new reference problems.

A8 Dyson, George Malcolm. A Short Guide to Chemical Literature. 2d ed. London, Longmans, 1958. 157p.

Supplies an introduction to the literature of chemistry for students and research workers by giving a good outline of the dictionaries and encyclopaedias, the chemical journals and periodicals and the abstracting journals of interest. It provides an exhaustive list of obsolete journals of the nineteenth century, giving dates and places of publication, its most valuable aspect is Appendix III which contains tables showing the year and volume number of each of the main chemical journals which are useful to the librarian doing a reference search. Author and subject indexes are included.

A9 Mellon, M.G. Chemical Publications, their Nature and Use. 3d ed. New York, McGraw-Hill, 1958. 327p.

Similar in scope to Crane's Guide to the Literature of Chemistry but the approach is by primary, secondary and

tertiary sources of information. Among the primary sources he discusses are early books on chemistry, chemical periodicals (arranged by subject and first date of publication) and governmental and nongovernmental publications. Patent literature and miscellaneous contributions such as dissertations and manufacturers' technical publications follow. Secondary sources discussed include the indexing and abstracting journals, as well as journals carrying abstracts. These are followed by bibliographies, handbooks, dictionaries, encyclopaedias, monographs and textbooks. Tertiary sources consist of guides, directories and book lists.

Construction

A10 Bentley, Howard B. Construction and Building Information Sources. Detroit, Gale Research, 1964. 180p. (Management Information Guide Series v.2)

This bibliography includes books, periodical articles, governmental and institutional reports, dictionaries and directories.

A11 Carson, Eileen R. Sources of Information on Building. (In Canadian Building Digest, no.27, p.1-12, March 1962)

This guide covers printed information on building such as periodicals, directories, pamphlets, books, abstracting and indexing services, and bibliographies. Where possible Canadian sources are given but it contains many American and a few European ones as well.

Dyes and Textile Chemistry

A12 Emerson, Mary E. Textile Literature: a Selected Bibliography for 1961. (In Special Libraries, v.53, p.86-92, February 1962)

The textile publications published in 1961 are covered but its main use is for the list of some of the earlier ones which were felt to be useful for answering reference questions.

A13 Kopycinski, Joseph V. Textile Industry Information Sources. Detroit, Gale Research, 1964. 125p. (Management Information Guide Series v.4)

This guide to the textile industry covers textile reference books, individual volumes on fibres, processes and equipment, and has also a section devoted to location of textile literature.

Engineering

A14 Herling, John P. Engineering Abstracting Services. (In Special Libraries, v.52, p.560-565, December 1961)

The larger abstracting services like Engineering Index, Applied Science and Technology Index, Chemical Abstracts are covered as well as periodicals which have abstracting sections such as the Journal of Applied Chemistry.

Nondestructive Testing

A15 Corney, G.M. First Aid - The Literature of Nondestructive Testing. (In Nondestructive Testing, v.21, p.167-174, May-June 1963)

This is important for the abstract and indexing journals listed which contain information on nondestructive testing.

Pharmaceuticals

A16 Minimum Library for the Practising Pharmacist as Recommended at the 1963 Annual Meeting of the Canadian Pharmaceutical Association. (In Canadian Pharmaceutical Journal, v.97, p.14-15, June 1964)

If a company tests drugs this list would be a useful introduction to the reference material as it covers medical dictionaries, pharmaceutical specialties reference books, pharmacology texts and periodicals.

Textile Chemistry see Dyes and Textile Chemistry

SECTION B

BIBLIOGRAPHIES

While guides supply the names of the most important reference works and journals in a field, they will not usually contain any extensive listings of important monographs and certainly do not provide announcements of new titles. For this information the beginner must go first to subject bibliographies, and then to those publications which regularly list new works - publishers' catalogues, trade lists, buying guides, etc., issued by societies and government agencies, catalogues and accession lists of libraries, and the professional and trade journals in his field.

He may be fortunate enough to find a specialized retrospective bibliography which he may follow in building his book collection, but he will normally have to select likely titles from more general listings such as Hawkins (B6) and Aslib's British Scientific and Technical Books (B3). Of such listings those with annotations will ordinarily be most helpful. To bring his collection up-to-date he must often consult current bibliographies such as American Book Publishing Record (B1) and Aslib Book List (B4). A general classified list of periodicals such as Ulrich's Periodicals Directory (B13) will usually be the starting point for choosing journals for the collection. Suggestions for more specialized materials will often come from the bibliographies, etc., issued by societies and government agencies; good examples of the latter are the bibliographies

published by the U.S. Office of Technical Services on such topics as cement and concrete, corrosion, material testing, rubber and textiles,[1] and its series of OTS Reports.

Publishers' catalogues are not included in the listings given here. The novice will soon find certain names recurring as he prepares his lists of books and journals; he may then request these publishers to send their catalogues regularly to the library. Occasionally, he may base his requests on a list of important publishers given in a guide such as Crane.[2] For their Canadian agents and publishers he will find the list in the Canadian Almanac and Directory[3] most accessible.

Catalogues, if available, and accession lists from libraries in allied organizations are another source of information which may not be obvious to the new person in the field. They give some idea of the material being received by the libraries and may be the main source of information on reports prepared by their organizations. A request to be placed on the mailing list for the library's accession bulletin is usually honoured.

GENERAL

B1 American Book Publishing Record. v.1- February 1960- New York, Bowker. monthly.

This periodical is a monthly cumulation of the titles announced in Publishers' Weekly and is arranged by the Dewey classification

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[1]U.S. Office of Technical Services. List of OTS Selective Bibliographies. Washington, 1964. 7p. Mimeo.

[2]Crane, E.J. and others. A Guide to the Literature of Chemistry. 2d ed. New York, Wiley, 1957. p.372-375.

[3]Canadian Almanac and Directory, 1964. Toronto, Copp Clark, 1964. p.701-704.

number. Every two years the monthly issues cumulate into American Scientific Books which is also arranged by Dewey.

B2 American Chemical Society. Chemical Abstracts List of Periodicals; Key to Library Files and Other Information 1961. Washington, 1962. 395p.

--- --- 1962 Supplement. Washington, 1963. 38p.

These volumes contain in addition to the list of periodicals a directory of publishers and sales agencies with addresses and give sponsoring body if not identical with publisher. They are useful for locating library files of periodicals. The arrangement of the periodicals is by Chemical Abstracts abbreviations.

B3 Aslib. British Scientific and Technical Books; a Select List of Recommended Books Published in Great Britain and the Commonwealth in the years 1935 to 1952. London, Clarke, 1956. 364p.

--- --- 1953 to 1957, edited by L.J. Anthony. London, 1960. 251p.

Selective lists of the best books on science and technology published in Great Britain and the Commonwealth. The arrangement is by the Universal Decimal Classification System and there is a subject index and a list of publishers. This is supplemented by Aslib Book List.

B4 Aslib Book List; a Monthly List of Recommended Scientific and Technical Books with Annotations. v.1- 1935- London. monthly.

This updates the previous Aslib volumes listed. The arrangement is by the Universal Decimal Classification System.

B5 Columbia University. Science and Engineering Libraries. The Recorder; a Selected List of Recently Acquired Publications. no.127- November 15, 1964- New York. semi-monthly.

v.1-10 no.3/4, 1954-July/October 1963 as Science Reference Notes. The medical portion of it is continued by the acquisition list of the Medical Sciences Division of the Columbia University Libraries, while the Recorder continues the non-medical portion.

The reviews are arranged by subject and are most detailed and useful, but are often late in appearing. This may be remedied by the change to a semi-monthly list.

B6 Hawkins, Reginald Robert, ed. Scientific, Medical and Technical Books Published in the United States of America; a Selected List of Titles in Print with Annotations - Books Published to December 1956. Prepared under the Direction of the National Academy Sciences - National Research Council's Committee on Bibliography of American Scientific and Technical Books. Washington, 1958. 1491p.

The list is divided by subject and the annotations are most helpful. For books later than 1956 see the Library Journal which is listed below.

B7 Library Journal. v.1- September 30, 1876- New York, Bowker. twice a month from September-June; monthly July and August.

v.1 September 30, 1876-August 31, 1877 title was American Library Journal.

The March 1, July and November 1 issues cover new scientific and technical books to be published and contain short annotations on each. The list is divided by subject so one needs to check only the sections of interest. Gives early notice of forthcoming ASTM publications.

B8 National Research Council (Canada). Directory of Canadian Scientific and Technical Periodicals; a Classified Guide to Currently Published Titles. 2d ed. Ottawa, 1962. 34p. Mimeo. (NRC no.6831)

This list is arranged by subject and has an index to titles.

B9 --- Publications, 1918-1952. 3d ed. Ottawa, Queen's Printer, 1953. 262p.

--- --- Supplement 1953-1958.

--- --- Supplement 1958-1963. Ottawa, 1964. 438p.

The first two publications are now out-of-print. The 1958-1963 directory will be kept up-to-date through publication of quarterly and annual cumulations. These lists contain a wide variety of scientific papers which contain the results of

original research. They take the form of reprints of papers reporting on experimental work carried out in the Council's laboratory.

B10 National Research Council (Canada). Library. Recent Additions to the Library. 19? - Ottawa. semi-monthly.

Because the National Research Council is the national science library for Canada its scientific coverage is vast. The list is arranged by subject, so that only the fields of interest need be scanned. It is not annotated. An important feature is the section on new periodicals which are received by the Library.

B11 --- Serial Publications in the Library 1963. Ottawa, 1963. 635p. (NRC no.7352)

--- --- Supplement December 1963. Ottawa, [n.d.] 87p. (NRC no.7777)

Records library holdings and the arrangement is alphabetical. New edition is to be published each year.

B12 --- Union List of Scientific Serials in Canadian Libraries. Ottawa, 1957. 805p. (NRC no.4200)

--- --- Supplement 1957-59. Ottawa, 1960. 290p. (NRC no.5584)

The serials are arranged alphabetically and under each are listed the libraries which have them. This is the basic list in Canada for locating periodicals which need to be borrowed.

B13 Ulrich's Periodicals Directory, a Classified Guide to a Selected List of Current Periodicals, Foreign and Domestic, edited by Eileen C. Graves. 10th ed. New York, Bowker, 1963. 667p.

The list is arranged by subject with a title and subject index and is updated by lists in the Library Journal. The eleventh edition entitled Ulrich's International Periodicals Directory will be published in two volumes. The first volume will cover scientific, technical and medical periodicals and will be ready in the spring of 1965 while the second volume covering the arts, humanities, social sciences and business is due later in 1965.

B14 U.S. Library of Congress. Reference Department. Science and Technology Division. A List of Scientific and Technical Serials Currently Received By the Library of Congress, Prepared under the Sponsorship of the National Science Foundation. Washington, 1960. 186p.

The main list is arranged alphabetically. Serials published in Japan, Communist China, Hong Kong, South Korea, North Korea and Ryukyus are listed alphabetically by country following the main listing.

SPECIAL

Cement and Concrete

B15 Cement and Concrete Association. Catalogue of Text and Reference Books in the Library of the Cement and Concrete Association November 1959. 6th ed. London, 1960. 109p.

--- --- 1960 Supplement. London, 1961. 23p.

--- --- 1961 Supplement. London, 1962. 21p.

--- --- 1962 Supplement. London, 1963. 17p.

The Library has one of the most comprehensive collections in the field of cement and concrete and these volumes record the entire collection. The material is arranged by subject and all the editions of a book are listed.

B16 Slate, Floyd A. Comprehensive Bibliography of Cement and Concrete, 1925-1947. Lafayette, Ind., Joint Research Project, Engineering Experiment Station, Purdue University, [n.d.] 491p.

Exhaustive coverage of the world literature on cement and concrete.

B17 U.S. (Army). Corps of Engineers. List of Publications of U.S. Army Engineer Waterways Experiment Station Available for Purchase 1 January 1960- Vicksburg, Miss., 1960- annual.

This list consists mainly of reports covering such subjects as soil mechanics, flexible pavements and concrete. These reports are very technical but are useful in a testing library both for subject matter and for the experimental

work the Corps is performing. The Corps hopes to publish a comprehensive list of all its available material in January 1965.

Construction

B18 National Research Council (Canada). Division of Building Research. List of Publications 1947-1962. Ottawa, 1962. 60p.

This list contains publications prepared not only by the Division of Building Research but also some publications on building research by the National Research Council before the formation of the Division. Quarterly Supplements are issued.

B19 --- Recent Additions to the Building Research Library. 19? - Ottawa. monthly.

The new books are listed first; then reports and reprints which are classified according to the Universal Decimal Classification System.

B20 --- Selected List of Books 1963-1964. Ottawa, 1965. 53p. Mimeo.

These books have been selected from the monthly accession list of the Division. The arrangement is by subject.

Highway Engineering

B21 Canadian Good Roads Association. Road Reference Library Catalogue. Ottawa, 1960. 207p.

--- --- Supplement 1, August 1961. Ottawa, [n.d.] 51p.

--- --- Supplement 2, August 1962. Ottawa, [n.d.] 52p.

--- --- Supplement 3, October 1963. Ottawa, [n.d.] 59p.

All the material relates to roads and among the headings under which material is listed are asphalt, concrete, pavements, soil mechanics and highway engineering. New additions to the Library are included in the supplements. Many of the items may be borrowed by the members of the Association.

Metallurgy

B22 American Society for Testing and Materials. Five-Year Bibliography on Fatigue 1950-1954 (with Index). Philadelphia, 1963. 64p.

Since 1950 the ASTM Committee E-9 has sponsored a yearly list of references on fatigue as below (B23) but without any index. This well-indexed cumulation partly remedies the omission. The basic arrangement is geographic: United States, English-speaking countries, Western European countries, Asia and Far Eastern countries, the sub-arrangement is first chronological, then by author.

B23 --- References on Fatigue. 1950- Philadelphia, 1951- annual.

The most recent in this series is the volume for 1960.

SECTION C

INDEXING AND ABSTRACTING SERVICES

The bibliographies listed in Section B are predominately bibliographies of books. Even more important for the testing library, however, are those bibliographies of periodical articles; reports; etc., which we call indexing and abstracting journals. An index is a compilation of reference only, including the author's name, title of the article and the source. An abstracting journal, however, contains concise summaries of articles, bulletins, patents and sometimes books and cites where the original has been published.

A few of the most useful are given in this section. More extensive listings are readily available in the National Science Foundation's Guide to the World's Abstracting and Indexing Services in Science and Technology[1] and in A Guide to U.S. Indexing and Abstracting Services in Science and Technology published by the Science and Technology Division of the Library of Congress.[2]

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[1]National Science Foundation (U.S.) A Guide to the World's Abstracting and Indexing Services in Science and Technology. Washington, 1963. 183p. (Report no.102 National Federation of Science Abstracting and Indexing Services)

The main list is alphabetical by title, but at the beginning of the volume there is also an index arranged according to the Universal Decimal Classification.

[2]U.S. Library of Congress. Science and Technology Division. A Guide to U.S. Indexing and Abstracting Services in Science and Technology. Washington, 1960. 79p.

The arrangement is by subject and alphabetical within each.

Chemical Abstracts (C4) and the Engineering Index (C9) cover together most of the subjects necessary in an inspection and testing library; such as analytical chemistry, chemical technology, chemistry, cement and concrete, construction, corrosion, cosmetics, dyes, engineering, explosives, fats, foods, fuels, highway engineering, inks, leather, materials testing, metallurgy, mineralogy, mining, oils, paints, petroleum, plastics, pharmacology, pulp and paper, rubber, soaps, soils, sugar, textiles, toxicology, varnishes, water and waxes. The other indexes are included to give an idea of the subject indexes that are available and might prove useful if more highly specialized indexing is required.

GENERAL

C1 Applied Science and Technology Index. v.46- 1958- New York, H.W. Wilson. monthly except August.

Formerly part of Industrial Arts Index (v.1-45, 1913-1957)

Arrangement is alphabetic by subject. Indexes scientific and technical periodicals in English in the fields of chemistry, construction, engineering, mining, metallurgy, etc.

C2 British Technology Index. v.1- 1962- London, Library Association. monthly except August with annual cumulation.

It is an alphabetic subject index to articles on engineering and chemical technology including corrosion, fuels, foods, paints, petroleum, pharmaceuticals, plastics, rubber, mining, metallurgy, textiles, etc., appearing in 400 British technical journals. Aims at appearing within four to seven weeks of the original publication.

SPECIAL

Chemistry

C3 Analytical Abstracts. v.1- 1954- London, Society for Analytical Chemistry. monthly.

Replaces British Abstracts Section C.

Arrangement is by subject classification and annual author and subject indexes are published. Covers all fields of analytical chemistry.

C4 Chemical Abstracts. v.1- 1907- Washington, American Chemical Society. twice a month.

Decennial indexes are available from 1907 to 1956 and the sixth collective index 1957 to 1961.

Most comprehensive chemical abstracting service, indexing periodicals from all over the world. Has endeavoured to abstract all United States chemical patents and foreign patent coverage is also a valuable feature. The arrangement is by subject and there are 74 classes now. Certain sections are available separately.

C5 Chemical Titles; Current Author and Keyword Indexes from Selected Chemical Journals. no.1- April 1960- Washington, American Chemical Society. semimonthly.

This is an index to titles of selected chemical research papers from about 600 journals of pure and applied chemistry and chemical engineering. It is designed to fill in the gap between original publication and the appearance of abstracts.

C6 Current Chemical Papers. no.1- 1954- London, Chemical Society. monthly.

This is a classified world list of new papers in pure chemistry whose purpose is to inform chemists of new work more quickly than an abstract journal can. However it is not intended to replace abstracts and is not indexed.

Construction

C7 Canadian Building Abstracts. no.1/104- June 1960- Ottawa, National Research Council (Canada). Division of Building Research. two or three times a year.

Contains summaries in English and French of articles on building research in Canadian technical journals. Arrangement is by Universal Decimal Classification.

Corrosion

C8 Corrosion Abstracts: Abstracts of the World's Literature on Corrosion and Corrosion Mitigation. v.1- 1962- Houston, National Association of Corrosion Engineers. bi-monthly.

Formerly published in Corrosion.

Abstracts the corrosion control literature of the world.

Engineering

C9 Engineering Index. v.1- 1906- New York, 1906- annual.

Supersedes Engineering Index 1884-1905; 1906-1918 known as Engineering Index Annual.

Engineering Index Card Service. 1928- New York. weekly.

Engineering Index Monthly Bulletin. October 1962- New York. monthly.

All these services are arranged alphabetically by subject according to a standard list of subject headings based on the Library of Congress list. They cover the engineering literature of the world including books, miscellaneous publications and government documents in addition to journal articles. The current weekly card service is divided into nearly 300 sections and it is possible to subscribe to one or more of these divisions. Since October 1962 the Monthly Bulletin has been published which supplements both the weekly card service and the annual volume - the weekly card service and Monthly Bulletin cumulate into the annual volume.

Highway Engineering

C10 Highway Research Abstracts. no.1- May 1931- Washington, National Research Council (U.S.), Highway Research Board. monthly except August.

nos.1-142, May 1931-June 1947; new series v.17 no.7, July 1947 nos.1 and 3 as Research Abstracts. Indexes for 1931/61, 1962 and 1963.

Contains good abstracts, mostly from periodicals but also a few reports, on current highway literature of the world with more emphasis on the United States. Lists new Highway Research Board publications and other outstanding publications on highway research. Owing to climatic conditions and common road problems in Canada and the United States this publication is of more importance to a Canadian testing laboratory than Road Abstracts. In several cases abstracts from Road Abstracts have been reprinted in Highway Research Abstracts.

C11 Road Abstracts. v.1- 1934- Great Britain, Department of Scientific and Industrial Research. (Available in Canada through British Information Services, 80 Elgin Street, Ottawa 4, Ontario) monthly.

v.1-16, 1934-1949 published by the Institution of Municipal Engineers.

Abstracts over 170 journals on civil and road engineering as well as soil mechanics. It covers the world with emphasis on British and European publications. The arrangement is subject classification and has annual author and subject indexes.

Metallurgy

C12 ASM Review of Metal Literature. v.1- 1944- Metals Park, Ohio, American Society for Metals. monthly.

Annual 1944-1958; monthly since January 1959 (v.16) with annual cumulation.

Contains abstracts of pertinent articles from world literature, arranged according to ASM-SLA Classification of Metallurgical Literature. Has annual author and subject indexes. Subjects of special interest to the testing laboratory are corrosion, fatigue, physical testing and properties of metals.

SECTION D

ENCYCLOPAEDIAS AND DICTIONARIES

Two types of reference books which are very useful for the beginner not yet familiar with the subject matter and terminology of the field are encyclopaedias and dictionaries. Today there is sometimes a little confusion between the two. One reason is that encyclopaedic works are often called dictionaries; another, is that both types of reference works are arranged alphabetically. An encyclopaedia, however, deals with subjects and is most useful for a short summary of a topic or as a starting point for further searches.

The function of a dictionary, on the other hand, is to define words and to give their meaning, pronunciation and usage. The confusion arises when scientific dictionaries include valuable biographical and bibliographical information, useful tables, tests and illustrations, as well as word definition. Therefore for this reason dictionaries of this type are included here with encyclopaedias. Language dictionaries as such, will be found in Section E.

GENERAL

D1 Bennett, H., ed. Concise Chemical and Technical Dictionary. 2d ed. New York, Chemical Publishing, 1962. 1206p.

Although chemical terms predominate, this work covers a wide range of subjects and there are many definitions in mathematics, physics, biology, metallurgy, electronics and other fields. There is a very useful section on both foreign and domestic trade-names, which are often difficult to find.

D2 Chambers's Technical Dictionary; Comprising Terms Used in Pure and Applied Science, Medicine, the Chief Manufacturing Industries, Engineering, Construction, the Mechanic Trades, with Definitions by Recognized Authorities, edited by C.F. Tweney and L.E.C. Hughes. Rev. ed. with Supplement. 3d ed. New York, Macmillan, 1958. 1028p.

This is one of the best general dictionaries for scientific subjects, though the terminology is essentially British and the American equivalents are not always given.

D3 McGraw-Hill Encyclopedia of Science and Technology. New York, McGraw-Hill, 1961. 15v.

An authoritative reference work which covers basic data in all areas of the physical sciences, earth sciences, life sciences and engineering. It is thoroughly cross-referenced, includes an index volume, and contains extensive bibliographies. In order to keep it up-to-date an annual yearbook has been published since 1962.

D4 Van Nostrand's Scientific Encyclopedia. 3d ed. Princeton, Van Nostrand, 1958. 1839p.

A handy one-volume work which provides factual information on chemistry, nuclear science, engineering, mathematics, mineralogy and geology.

SPECIAL

Chemistry

D5 Condensed Chemical Dictionary, Completely Rev. and Enl. by Arthur and Elizabeth Rose. 6th ed. New York, Reinhold, 1961. 1257p.

This is an indispensable chemical reference book. Not only are the principal terms defined, but considerable information not expected in a dictionary is given about them. Most of the commercially important chemicals and trade-marked chemical products are concisely described. Manufacturers' names are supplied for the chemicals sold under trade names.

D6 Encyclopedia of Chemical Technology edited by Raymond E. Kirk and Donald F. Othmer. New York, Interscience, 1947-1956. 15v.

--- Supplements 1957-1960. New York, Interscience, 1957-1960. 2v.

--- 2d ed. New York, Interscience, 1963- v.1- in progress.

A standard reference work on the American chemical industry, its methods, processes, equipment and materials. The scope is roughly similar to that of the well-known work by Thorpe listed below. Emphasis is on American chemical engineering practice with mention of foreign methods only in cases when the foreign methods appear to offer advantages over American ones. All articles, except the very short ones, are signed and contain bibliographies. The problem of keeping up-to-date was solved first of all by issuing supplements; but later it was decided to revise and rewrite each volume. This second edition began to appear in 1963, and three volumes a year will be issued until the total of approximately twenty volumes is reached.

D7 Encyclopedia of Chemistry, edited by George L. Clark and G.G. Hawley. New York, Reinhold, 1957. 1053p.

--- Supplement 1958. New York, Reinhold, 1958. 338p.

Centred around chemistry - pure and applied chemistry, chemical engineering and the sciences that border on chemistry. Statements on organizations and institutions of chemical interest and biographical sketches of famous chemists are also included. It is condensed but authoritative.

D8 Snell, Foster Dee and Snell, Cornelia T. Dictionary of Commercial Chemicals. 3d ed. Princeton, Van Nostrand, 1962. 714p.

Gives in brief form the salient facts about chemicals in commercial use. Arrangement is a subject-classified list and for each product information is supplied as to name, formula, general description, method of manufacture, commercial grades and uses. Has a subject index as well as a table of contents. Useful to the purchasing agent who needs practical information rather than to the chemist.

D9 Thorpe's Dictionary of Applied Chemistry. 4th ed. London, Longmans, Green, 1937-1956. 12v.

This is one of the standard reference works for a chemical library, still very useful although unfortunately, there are no supplements to it. Each article has been written by a specialist.

D10 Van Nostrand's International Encyclopedia of Chemical Science. Princeton, Van Nostrand, 1964. 1344p.

Incorporates recent developments in theory with practical reference material. Covers chemical elements, their inorganic and organic compounds, reactions, tests and testing methods. The arrangement is basically alphabetical but the individual compounds are arranged under the major element and type-compound. Includes a glossary in French, German, Russian and Spanish.

Gamma Rays see X-Rays and Gamma Rays

Inspection see Testing and Inspection

Microscopy

D11 Encyclopedia of Microscopy, edited by George L. Clark. New York, Reinhold, 1961. 708p.

For the chemist the most useful sections would be those on the microscopical identification of textile fibres, polymers, plastics, metals and the like, as well as the chemical and industrial applications of microscopy.

Plastics see Synthetic Resins and Plastics

Spectroscopy

D12 Encyclopedia of Spectroscopy, edited by George L. Clark. New York, Reinhold, 1960. 787p.

Written by an authoritative team of American and foreign spectroscopists, it surveys the entire field of spectroscopy. Sections on analytical applications and methods are the most helpful for the analytical chemist.

Synthetic Resins and Plastics

D13 Encyclopedia of Polymer Science and Technology, edited by Herman F. Mark and Norman G. Gaylord. New York, Interscience, 1964- v.1- in progress.

This work is expected to comprise approximately twelve volumes when it is finished and at least two volumes a year will be published. It will cover plastics, resins, rubbers and fibres and will contain a comprehensive treatment of their properties, the methods and processes for their preparation and manufacture, as well as broad treatment of theoretical fundamentals. The coverage is intended to be international, but it uses the terminology employed in the United States, as well as descriptions of special tests and specifications confined to American practice.

Testing and Inspection

D14 Clauser, H.R. and others, eds. The Encyclopedia of Engineering Materials and Processes. New York, Reinhold, 1963. 787p.

Among the subjects covered are metals, nonmetallic materials, finishes and coatings and the fabricating processes for both metallic and nonmetallic materials. For a testing laboratory the articles on materials which provide information on their chemical or metallurgical properties, their engineering and service properties, as well as their fabricating characteristics are the most useful ones. The volume contains many tables, charts, cross references and a good index. The arrangement is alphabetical.

X-Rays and Gamma Rays

D15 Encyclopedia of X-Rays and Gamma Rays, edited by George L. Clark, New York, Reinhold, 1963. 1149p.

Written by 300 specialists, it is a definitive work in the relatively new field of radiation. Most of the signed articles conclude with good selective bibliographies. This volume is very useful to a company carrying out X-ray and gamma ray testing of materials.

SECTION E

LANGUAGE DICTIONARIES

As so many of the scientific articles today are written in a language other than English it is necessary to have a few translation dictionaries. If a testing company is working in the province of Quebec, English-French : French-English technical dictionaries are required. Only a few special subject dictionaries are listed below but information on others may be found in the United Nations Educational, Scientific and Cultural Organization's Bibliography of Interlingual Scientific and Technical Dictionaries[1] and kept up-to-date by lists in Babel.[2]

GENERAL

E1 Kettridge, J.O. French-English and English-French Dictionary of Technical Terms used in Civil, Mechanical, Electrical and Mining Engineering, Geology, Chemistry, Physics, etc. London, Musson, 1955-1956. 2v.

Contains good coverage of technical terms and phrases in many fields.

SPECIAL

Chemistry

E2 Fouchier, J. and Billet, F. Chemical Dictionary; Dictionnaire

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[1]United Nations Educational, Scientific and Cultural Organization. Bibliography of Interlingual Scientific and Technical Dictionaries. 4th ed. Paris, [c1961] 236p. (Documentation and Terminology of Science)

[2]Babel; Revue Internationale de la Traduction, International Journal of Translation. v.1- Sept.1955- Berlin. quarterly.

de Chimie, Fachwörterbuch für Chemie. 2d ed. Amsterdam, Netherlands University Press, 1961. various paging.

In part 1 the English words are translated into French and German, in part 2 the French words into German and English, and in part 3 the German words into English and French.

Engineering

E3 Bucksch, Herbert. Dictionary of Civil Engineering and Construction Machinery and Equipment, English-French. Paris, Editions Eyrolles, 1960. 420p.

--- French-English. Paris, Editions Eyrolles, 1962. 547p.

These two volumes cover the major aspects of civil engineering such as road and airfield construction, soil mechanics, dams, harbours, tunnels, foundations and bridges.

Foundations and Soil Mechanics

E4 International Society of Soil Mechanics and Foundation Engineering. Technical Terms in English, French, German, Swedish, Portuguese and Spanish used in Soil Mechanics and Foundation Engineering. Zurich, Berichthaus, 1954. 103p.

Very useful if translation is required in this field.

SECTION F

DIRECTORIES

The librarian of a Canadian testing company will need to be able to find information on scientific and technical organizations and laboratories in the United States and Canada, and will therefore have to acquire directories of such organizations; and, since his firm may work for governments, federal and provincial, he will also have directories of Canadian government officials. Some of the more useful directories of these types are listed below.

GENERAL

F1 Canadian Almanac and Directory. 1847- Toronto, Copp Clark, 1847- annual.

Lists federal and provincial government officials and Canadian associations and societies.

F2 Daily Commercial News and Building Record; Engineering and Construction Review and Forecast. January 15, 1932- Toronto, Daily Commercial News, 1932- annual.

Published every January, it contains a directory section on architects, consulting engineers, federal officials and contractors for Canada.

F3 Engineering and Contract Record. Construction Industries Directory. 1964/65- Don Mills, Ont., Southam Business Publications, 1964- annual.

1925-1939 as The Canadian Engineer Annual Directory; 1940-1964 as Roads and Engineering Construction Annual Directory. In March 1964 Roads and Engineering Construction incorporated into Engineering and Contract Record.

The combined directory was issued in August 1964, but in subsequent years it will be published about mid-year. It contains a list of provincial and federal road officials as well as contractors and engineering construction consultants for Canada.

F4 Financial Post. Directory of Directors. 1931- Toronto, Maclean-Hunter, 1931- annual.

The first section lists alphabetically key Canadian directors and executives resident in Canada, with their directorships, official positions, business and home addresses. The second section includes a selective list of companies with their addresses and the names and positions of their executive officers and directors.

F5 --- Survey of Industrials. 1927- Toronto, Maclean-Hunter, 1927- annual.

Lists of companies in Canada by groups such as industrials, public utilities, trust and loan companies, merchandising, banking and finance, printing and publishing, property development, transportation, chemicals, oil and pipelines and lists executives for these. It is necessary to use the alphabetic company index as the companies are not listed alphabetically within the groups.

F6 --- Survey of Mines. 1926- Toronto, Maclean-Hunter, 1926- annual.

Lists the companies by province and then within the province by area giving financial data and executives. Has section on defunct companies.

F7 --- Survey of Oils. 1929- Toronto, Maclean-Hunter, 1929- annual.

Lists the Canadian oil and natural gas companies, giving their addresses and executives. It is necessary to use the alphabetic company index as the companies are not listed alphabetically in the text.

F8 Fraser's Canadian Trade Directory. 1913- Montreal, Fraser's Trade Directories, 1913- annual.

The companies are listed under product classification followed by an alphabetical list of Canadian manufacturers. Representatives in Canada of foreign companies are given in the yellow page section.

F9 Government of Canada Telephone Directory. 1950- Ottawa, Queen's Printer, 1950- annual except 1952 and 1959.

The main part of the list is under departments of the government with personnel and telephone numbers given; while at the beginning there are departmental addresses followed by an alphabetical list of personnel of the Canadian government in Ottawa with telephone numbers.

F10 Lockwood's Directory of the Paper and Allied Trades. 1875- New York, 1875- annual.

Contains information on paper and pulp mills, converters of paper and paperboard, merchants of equipment and supplies and technical services. Indexes to mills and officials facilitate use of the volume which is arranged by geographic location.

F11 Le Service Téléphonique Gouvernement de la Province de Québec. 1961?- Québec, Ministère des Travaux Publics, 1961?- irregular.

This directory lists in French departments of the Quebec government with personnel and telephone numbers. It contains both departmental and personnel indexes.

SPECIAL

Laboratory Directories

F12 American Council of Independent Laboratories, Inc. Directory. 9th ed. Bellwood, Ill., Sleepeck Printing, 1964. 111p.

Laboratories are listed alphabetically with descriptions of their services. The work contains a geographical index as well as an index of types of services performed.

F13 American Society for Testing and Materials. Directory of Laboratories - Commercial and Institutional. 2d ed. Philadelphia, 1963. 53p. (STP 333)

Contains a classification of commodities tested, followed by an alphabetical list of laboratories. The directory itself lists the commercial laboratories geographically under state and then city, and includes branches of laboratories. College laboratories follow and are listed in the same way. Only the United States is covered in this directory.

F14 Association of Canadian Commercial Testing Laboratories and Consultants. 1962 Directory Commercial Testing and Inspection for Industry and Government. Toronto, 1962. 19p.

Laboratories in Canada are listed alphabetically and their services described. New edition will be available in 1965.

F15 National Research Council (Canada). Division of Building Research. Directory of Commercial Testing and Inspection Services in Canada. 3d ed. Ottawa, 1956. 31p. (Technical Paper no.1) Mimeo.

Each institution, including universities which are equipped to carry out special tests or investigations which cannot be performed by commercial laboratories for one reason or another, is listed geographically by province with address and description of services performed. Unfortunately this directory is rather old, but has to be used in conjunction with F14 for Canadian sources.

F16 National Research Council (U.S.). Industrial Research Laboratories of the United States. 11th ed. Washington, Government Printing Office, 1960. 698p. (NAS-NRC Publication 844)

A most useful directory for the United States, revised from time to time. As well as the subject and geographic indexes it contains a personal-name index of individuals involved in research. There is a full description of the research carried on in each laboratory, together with the names of the research directors and other important officials.

F17 U.S. General Services Administration. Directory of U.S. Government Inspection Services and Testing Laboratories; a Guide for Federal Agencies in Locating Required Inspection and Testing Services. Washington, Government Printing Office, 1958. 203p.

In two parts: the first a list of commodities to be tested with the departments that offer the testing service; the second, a list of the departments of the government with a description of the services performed by each. It is rather old but has never been updated.

F18 U.S. Small Business Administration. Research and Development; a List of Small Business Concerns Interested in Performing Research and Development. Washington, Government Printing Office, 1961. 609p.

Covers firms doing research in chemistry, communications, metallurgy, electronics and physics and is to be revised periodically.

Scientific and Technical Directories

F19 Association of Consulting Engineers of Canada. List of Members and Services. 1954?- Toronto, 1954?- irregular.

Lists members as well as firms, giving services they provide. Has both English and French sections.

F20 Encyclopedia of Associations - National Organizations of the U.S. 4th ed. Detroit, Gale Research Company, 1964. 3v.

Contents: v.1. National Organization of the U.S.
v.2. Geographic-Executive Index.
v.3. New Associations.

In the first volume the associations are grouped by field of work and there is an index by title, key word and subject. Information is given on addresses, activities and purposes, staff, publications and dates of conventions. The most useful section is the one on scientific, engineering and technical organizations. The second volume is an index to volume one, arranged by personal names and geographic location. The third volume will be published in 1965 and will for the first time give information on new associations. This will be supplemented every two months during the period between editions of the Encyclopedia of Associations.

F21 Engineers Joint Council. Directory of Engineering Societies and Related Organizations. 3d ed. New York, 1963. 87p.

Information is given covering officers, objectives and publications of over 200 organizations, including Canadian ones.

F22 National Research Council (Canada). Division of Building Research. Directory of Canadian Building Trade Associations. Ottawa, 1963. 123p. (Technical Paper no.160, NRC 7629)

This booklet contains information on the organization of the national and provincial associations connected with the construction industry and gives for each a list of its publications and the standards it has issued.

F23 Scientific and Technical Societies of the United States and Canada. 7th ed. Washington, National Academy of Sciences - National Research Council, 1961. 413 + 54p. (NAS-NRC Publication 900)

Besides giving addresses and data on responsible officers (usually president and secretary) this work gives history, purpose, membership and publications of the societies listed. The Canadian section is available separately.

F24 U.S. Library of Congress. Reference Department. General Reference and Bibliography Division. International Scientific Organizations; a Guide to Their Library, Documentation and Information Services, prepared by Kathrine O. Murra. Washington, Government Printing Office, 1962. 794p.

Covers 449 organizations and is arranged alphabetically by English names. Contains information on the library and information services of each organization followed by a list of publications issued by it usually from 1959 to date. A final section contains the books and articles which were helpful in preparing the report.

F25 U.S. Library of Congress. Reference Department. Science and Technology Division. Directories in Science and Technology; a Provisional Checklist. Washington, 1963. 65p. Mimeo.

This annotated list includes international directories grouped by subject followed by country directories divided the same way. Its coverage is world wide and is based primarily on

the publications found in the collection of the Library of Congress. Its chief use is for beginners who want to find out the directories that are available in the technical field.

F26 U.S. Office of Domestic Commerce. National Associations of the United States, compiled by Jay Judkins. Washington, Government Printing Office, 1949. 634p.

Covers trade associations as well as scientific and technical organizations. This list is old and now out-of-print but if a copy is available it is still useful as the basic list for American trade and technical associations.

F27 U.S. Office of Technical Services. Directory of National Associations of Businessmen 1961, by Jay Judkins. Washington, Government Printing Office, 1961. 81p.

This directory supplements the basic directory of 1949 National Associations of the United States which is out-of-print. It has a "key work index" followed by an alphabetical list of associations containing the address and secretary of each. The appendix contains a useful list of addresses of National Societies of Engineers in the United States.

SECTION G

HANDBOOKS

In the technical field handbooks will usually be consulted by the laboratory personnel for the tables they contain; they may also be consulted by the librarian for the tables as well as for their convenient summaries of information. Those listed below are only three of the many available.

G1 Handbook of Chemistry and Physics; a Ready-Reference Book of Chemical and Physical Data. 1913- Cleveland, Chemical Rubber, 1913- annual.

A compendium of mathematical tables and formulas which is an invaluable reference book for the scientific laboratory.

G2 Lange, Norbert A. Handbook of Chemistry. 10th ed. New York, McGraw-Hill, 1961. 1969p.

One of the standard reference books for chemical laboratories; provides a wide coverage of chemistry, including physical as well as chemical properties of substances. It contains many tables and is revised frequently.

G3 Perry, Robert H. and others, eds. Chemical Engineers' Handbook. 4th ed. New York, McGraw-Hill, 1963. various paging.

This is a standard reference handbook for chemical engineers and industrial chemists. Contains mathematical tables, physical and chemical data and currently approved information on new procedures, modern applications and new equipment. A useful section is the one on Materials of Construction which covers corrosion resistance of metallic and nonmetallic materials of construction and the properties and performance of the newer plastics and metals.

SECTION H

FORMULARIES

Formularies, in effect, are recipe books which will name the components of a product, describe ways to make it, and tell how to obtain various specified reactions. They are intended to give practical information, with emphasis on commercial methods and are a very good source of information in the applied chemistry field not easily found elsewhere. If they do not solve the problem completely, they may save hours of research work by giving leads to a solution. Three examples follow.

H1 Bennett, H., ed. The Chemical Formulary. New York, Chemical Publishing, 1933- v.1- in progress.

Contains a collection of thousands of the best and most practical formulas for making products. Each volume is grouped into broad general classes such as cosmetics and drugs, food products, materials of construction, metals, paint, varnish and lacquer, polishes, soaps and detergents, textiles, etc. All the classes are not necessarily repeated in each volume and the formulations are not repeated so all the volumes must be retained. The material in each volume must be approached through its index and the excellence of the indexing makes access easy. A useful list of chemicals and suppliers is included in each volume. Twelve volumes have been published to date. There is a cumulative index volume covering volumes 1-10.

H2 Freeman, Mitchell. Practical and Industrial Formulary. New York, Chemical Publishing, 1962. 297p.

Among subjects covered are adhesives, cleaning preparations, cosmetics, food products, inks and paints. Also contains a Buyer's Guide which tells where the chemicals for the various products may be purchased. Contains reliable formulas intended to provide accurate, concise and practical information for technical and non-technical people alike.

H3 Van Nostrand's Practical Formulary, edited by William R. Minrath. Princeton, Van Nostrand, 1957. 366p.

Formulas for all types of products from stains, paints, varnishes to cosmetics and food products are provided.

SECTION I

SPECIFICATIONS AND STANDARDS

As already discussed in Part I, specifications and standards are among the most essential tools in an inspection and testing library and should always be kept up-to-date.

The Canadian Standards Association, the Canadian Government Specifications Board, the American Society for Testing and Materials and the American Standards Association provide specifications and standards in a wide variety of areas and their publications are listed in the general section at the beginning of the list which follows. Specialized associations such as the American Concrete Association, the American Petroleum Institute and the American Water Works Association provide standards and specifications in their respective fields of interest. Selected examples of some of those available are listed under subject.

Many individual parts of the Book of ASTM Standards (I1) have been repeated under special subject sections, e.g., cement and concrete; construction. This duplication is considered useful because the ASTM standards cover such a wide variety of topics and because they are often referred to in the specifications and standards of the Canadian Standards Association and the Canadian Government Specifications Board. These Canadian specifications and standards and those of the American Standards Association have not been listed separately under subject but they will be found in the index under topics which correspond to the headings used in this section.

GENERAL

I1 American Society for Testing and Materials. Book of ASTM Standards with Related Material. 1964- Philadelphia. 1964- 32v. annual.

Contents:
- Part 1. Steel Piping Materials.
- Part 2. Ferrous Castings.
- Part 3. Steel Sheet, Strip, Bar, Rod, Wire, Chain and Spring; Wrought Iron Bar and Sheet; Metallic Coated Products.
- Part 4. Structural Steel; Boiler and Pressure Vessel Plate; Steel Rails, Wheels and Tires; Bearing Steel; Steel Forgings; Ferro-Alloys; Filler Metal.
- Part 5. Copper and Copper Alloys (Including Electrical Conductors).
- Part 6. Light Metals and Alloys (Including Electrical Conductors).
- Part 7. Nonferrous Metals and Alloys (Including Corrosion Tests); Die-Cast Metals; Electro-deposited Metallic Coatings; Metal Powders.
- Part 8. Magnetic Properties: Metallic Materials for Thermostats and for Electrical Resistance, Heating, and Contacts; Materials for Electron Tubes and Semiconductor Devices.
- Part 9. Cement; Lime; Gypsum.
- Part 10. Concrete and Mineral Aggregates.
- Part 11. Bituminous Materials for Highway Construction, Waterproofing, and Roofing; Soils.
- Part 12. Mortars; Clay and Concrete Pipe and Tile; Masonry Units; Asbestos-Cement Products; Building Stone.
- Part 13. Refractories; Glass; Ceramic Materials.
- Part 14. Thermal Insulation; Acoustical Materials; Joint Sealants; Fire Tests; Building Constructions.
- Part 15. Paper; Packaging; Cellulose; Casein; Flexible Barrier Materials.
- Part 16. Structural Sandwich Constructions; Wood; Adhesives.
- Part 17. Petroleum Products - Motor Fuels; Solvents; Fuel Oils; Lubricating Oils; Cutting Oils.
- Part 18. Petroleum Products - Measurement and Sampling; Liquefied Petroleum Gases; Pure Light Hydrocarbons; Engine Test Methods; Lubricating Grease; Petroleum Wax.
- Part 19. Gaseous Fuels; Coal and Coke.

Part 20. Paint, Varnish, Lacquer, and Related Products - Materials Specifications and Tests; Naval Stores; Industrial Aromatic Hydrocarbons.
Part 21. Paint, Varnish, Lacquer, and Related Products - Tests for Formulated Products and Applied Coatings.
Part 22. Sorptive Mineral Materials; Soap; Engine Antifreezes; Wax Polishes; Halogenated Organic Solvents.
Part 23. Industrial Water; Atmospheric Analysis.
Part 24. Textile Materials - General Methods and Definitions.
Part 25. Textile Materials - Fibers and Products; Leather.
Part 26. Plastics - Specifications (with Closely Related Tests).
Part 27. Plastics - General Methods of Testing.
Part 28. Rubber; Carbon Black; Gaskets.
Part 29. Electrical Insulating Materials.
Part 30. General Testing Methods; Quality Control; Appearance Tests; Temperature Measurement; Effect of Temperature.
Part 31. Metallography; Nondestructive Testing; Radioisotopes and Radiation Effects; Industrial Chemicals; Emission, Absorption, and Mass Spectroscopy.
Part 32. Chemical Analysis of Metals.

Previously the Book of ASTM Standards was published triennially, the last triennial issue being published in 1961 with supplements for 1962 and 1963. In 1964, a new publication policy was established; the ASTM Standards are now published in thirty-two volumes and each part is to be revised and published annually about the same time each year. Most special compilations of standards that were published as separates previously are being replaced by equivalent parts of the current Book of ASTM Standards. This means that each part will now cover a specific field of interest, e.g., concrete and mineral aggregates, plastics, etc. Each will include an index, table of contents and numeric list of standards, the same as previously. These volumes contain up-to-date, authoritative information on all aspects of the evaluation of materials and meet the needs of engineers, scientists and technicians. Each part may be purchased separately.

Each year an Index to ASTM Standards is published as a separate. It indexes the standards by subject and also by number, giving

the year of the latest revision and the number of the volume in which each is located. Cumulated indexes have also been published; these cover 1898-1950, 1951-55 and 1956-1960.

In an inspection and testing library it is important to always have the latest edition of the specifications, but in the case of the Book of ASTM Standards it is also necessary to keep the older editions as well. Sometimes it is necessary to consult these in court cases and allow the data to be judged on the standard in force at the time the inspection and testing took place, not that in force at the time the case is before the court.

I2 American Standards Association. [American Standards] New York, various dates. various parts.

Contents:
- A - Civil Engineering and Construction.
- B - Mechanical Engineering.
- C - Electrical Engineering.
- D - Automotive.
- G - Ferrous Materials and Metallurgy.
- H - Nonferrous Materials and Metallurgy.
- J - Rubber.
- K - Chemical Industry.
- L - Textile Industry.
- M - Mining.
- MH - Materials Handling.
- N - Nuclear.
- O - Wood Industry.
- P - Pulp and Paper Industry.
- PH - Photography and Motion Pictures.
- S - Acoustics, Vibration, Mechanical Shock and Sound Recording.
- X - Office Equipment and Supplies.
- Y - Drawings, Symbols and Abbreviations.
- Z - Miscellaneous.
- CS - Commercial Standards.

These standards are revised from time to time and as previously stated many of the above standards approved as ASA Standards have been developed by other associations such as ASTM. In the ASA Catalog of American Standards Index and International Recommendations Included which is published annually there is an organizational cross index which provides a cross index to those American Standards that carry the designations of other organizations.

I3 Canadian Government Specifications Board. [Specifications and Standards] Ottawa, National Research Council, various dates. various parts.

Contents:

1-GP Paints, Pigments and Related Commodities.
2-GP Soaps and Detergents.
3-GP Petroleum and Associated Products.
4-GP Textiles.
5-GP Leather.
6-GP Standardization of Forms.
7-GP Editorial Style Manual.
8-GP Testing Sieves.
9-GP Paper Products.
10-GP Refractories.
11-GP Wood Fiberboard, Particle Board and Related Products.
12-GP Glass.
13-GP Fire Hose.
14-GP Thermometers.
15-GP Chemicals.
16-GP Road Materials.
17-GP Welding High-Temperature Steam Piping.
18-GP Solid Fuels.
19-GP Putty, Caulking and Sealing Compounds.
20-GP Rubber Products and Coated Fabrics.
22-GP Brushes, Brooms and Mops.
23-GP Metallizing.
24-GP Codes for Identification of Materials.
25-GP Waxes and Polishes.
26-GP Measuring Cups and Spoons.
27-GP Electrical Insulating Varnishes.
28-GP Fire-Fighting Equipment.
29-GP X-Ray Films.
30-GP Abrasives.
31-GP Corrosion Prevention.
32-GP Foods.
33-GP Drawing Practices.
34-GP Asbestos-Cement Products.
36-GP Wiping Cloths.
37-GP Bituminous Materials for Waterproofing.
38-GP Clothing.
39-GP Hand Tools.
40-GP Cordage.
41-GP Plastics.
42-GP Aluminum Kitchen Utensils.
43-GP Packaging Materials.
45-GP Portable Power Tools.
46-GP Cutting Tools.
47-GP Hypodermic Syringes and Needles.

48-GP Nondestructive Testing.
49-GP Standardization of Garment Sizes.
50-GP Coding of Metals.
51-GP Thermal Insulation.
52-GP Major Kitchen Equipment.
53-GP Office Supplies.
54-GP Stitches, Seams and Stitchings.
55-GP Fishing Gear.
56-GP Miscellaneous Bituminous Materials and Related Products.
57-GP Surgical Instruments.
58-GP Silicone Masonry Water Repellents.
59-GP Standardization of Metal Gauges.
61-GP Canvas Equipment.
62-GP Delcalcomanias.
63-GP Windows.
64-GP Sleeping Bags.
65-GP Life Jackets.
67-GP Surgical Dressings.
69-GP Builders Finishing Hardware.
70-GP Vapor Barrier Materials for Building Construction.
72-GP Microfilming.
73-GP Safety Color Codes.
74-GP Standards for Manufacture Control and Distribution of Drugs.
75-GP Ceramic Tile.
76-GP Engine Generator Sets.
77-GP Pipe Joints.
79-GP Window Screens.
81-GP Flooring for Hazardous Areas.
82-GP Doors.
85-GP Painting Standards.
87-GP Steel Wool.
88-GP Drafting and Graphic Arts Materials and Equipment.
89-GP Glass Pipettes.
100-GP Miscellaneous.
105-GP Inspection by Attributes.

These specifications are revised from time to time and in between these revisions amendments are issued.

I4 Canadian Standards Association. [CSA Standards] no.1- Ottawa, 1920- various parts.

Contents: Section A - Civil Engineering.
Section B - Mechanical Engineering.

Section C - Electrical Engineering.
Section D - Automotive Work.
Section G - Ferrous Metals.
Section H - Non-Ferrous Metals.
Section O - Timber.
Section S - Structures.
Section W - Welding.
Section Z - Miscellaneous.

These standards cover cement, concrete, gypsum, ferrous metals, non-ferrous metals, timber, etc. All standards are subject to periodic review and revision as conditions warrant, and amendments may be issued in between major revisions.

I5 U.S. General Services Administration. Federal Supply Service. Index of Federal Specifications and Standards. 1930- Washington, Government Printing Office, 1930- annual with cumulative monthly supplements.

This index is revised each January and includes information concerning federal standards, common-use military specifications and federal qualified products lists. It is useful as an order list for U.S. federal specifications and also as a source for suggesting alternative specifications when no Canadian ones are available.

SPECIAL

Asphalt

I6 American Society for Testing and Materials. Book of ASTM Standards Part 11. Bituminous Materials for Highway Construction, Waterproofing and Roofing; Soils. 1964- Philadelphia, 1964- annual.

Contains recent improvements and changes that have occurred in the testing and use of bituminous materials.

Carbonization Products see Fuels and Carbonization Products

Cellulose and Paper

I7 American Society for Testing and Materials. Book of ASTM Standards Part 15. Paper; Packaging; Cellulose;

Casein; Flexible Barrier Materials. 1964- Philadelphia, 1964- annual.

Contains standards and test procedures for interior packaging materials and petroleum wax, as well as interlaboratory evaluation of test methods for paper and paper products.

I8 American Society for Testing and Materials. Book of ASTM Standards Part 16. Structural Sandwich Constructions; Wood; Adhesives. 1964- Philadelphia, 1964- annual.

Covers methods for chemical analysis of wood, as well as test methods and specifications for wood preservatives.

I9 American Wood-Preservers' Association. Manual of Recommended Practice. Washington, [n.d.] 1v. Looseleaf.

Contains standards and analytical methods for testing preservatives for wood. Revised and new standards supplied every year.

I10 Technical Association of the Pulp and Paper Industry. Tappi Standards: Tentative and Official Testing Methods. New York, [n.d.] 1v. Looseleaf.

Contains suggested tentative and official methods, specifications and recommended practices for testing pulp and paper. New and revised standards are issued annually.

Cement and Concrete

I11 American Concrete Institute. ACI Book of Standards 1964. Detroit, 1964. 522p.

Covers eighteen current ACI standards which are important for the testing and inspection of concrete. These standards relate to mixing and placing for precast and in place pours.

I12 American Society for Testing and Materials. Book of ASTM Standards Part 9. Cement; Lime; Gypsum. 1964- Philadelphia, 1964- annual.

Contains specifications and tests pertaining to cement (portland, natural, masonry, air-entraining portland), lime and gypsum.

I13 American Society for Testing and Materials. Book of ASTM Standards Part 10. Concrete and Mineral Aggregates. 1964- Philadelphia, 1964- annual.

Covers specifications and methods of test for aggregates, concrete, admixtures and cement.

I14 Cement Statistical and Technical Association. Review of the Portland Cement Standards of the World 1961. Malmo, Sweden, 1961. 96p.

Up-to-date information on standards in the 42 countries which have issued their own national specifications for portland cement.

I15 U.S. (Army) Corps of Engineers. Handbook for Concrete and Cement. Vicksburg, Miss., 1949- 1v. Looseleaf.

Contains specifications and methods for testing concrete and concrete materials developed by the Corps itself and also incorporates others developed by ASTM and U.S. Federal Specifications. Kept up-to-date by supplements.

Construction

I16 American Concrete Institute. Building Code Requirements for Reinforced Concrete. Detroit, 1963. 144p. (ACI 318-63)

Provides minimum requirements for the design and construction of reinforced concrete or composite structural elements of any structure erected under the requirements of the U.S. general building code of which this code forms a part.

I17 American Society for Testing and Materials. ASTM Standards in Building Codes. 2d ed. Philadelphia, 1963. 1305p.

A large number of ASTM Standards have been adopted in building codes throughout the United States and Canada as authentic sources of test procedure and as a basis for acceptable quality for materials and construction. This compilation covers the standards and methods that have been adopted in some form by the various building codes.

I18 National Research Council (Canada). Associate Committee on the National Building Code. National Building Code 1960. Ottawa, [n.d.] 1v. (NRC no.5800-X)

Contains nine parts covering design, materials, building services, plumbing services and housing. These set forth the minimum regulations respecting the safety of buildings. A new edition is to be published in 1965.

Detergents

I19 American Oil Chemists' Society. Official and Tentative Methods of the American Oil Chemists' Society. 2d ed. Chicago, 1946- 1v. Looseleaf.

Includes methods for sampling and analysis of vegetable oils, drying oils, soap and synthetic detergents, commercial fats and oils and provides standard procedures for the commercial evaluation of these materials. Additions and revisions are made every year.

I20 American Society for Testing and Materials. Book of ASTM Standards Part 22. Sorptive Mineral Materials; Soap; Engine Antifreezes; Wax Polishes; Halogenated Organic Solvents. 1964- Philadelphia, 1964- annual.

Describes extensive methods of sampling and analysis as well as specification requirements for bar, powdered, chip, milled and other soaps, caustic soda and soda ash.

Dyes and Textile Chemistry

I21 American Society for Testing and Materials. Book of ASTM Standards Parts 24-25. 1964- Philadelphia, 1964- annual.

Contents: Part 24. Textile Materials - General Methods and Definitions.
Part 25. Textile Materials - Fibers and Products; Leather.

Contains up-to-date standards on textiles including textile fibres, yarns, threads, hosiery, non-woven fabrics, asbestos, textiles, cotton, wool and man-made fibre textiles.

Elastomers see Rubber and Other Elastomers

Fats, Fatty Oils and Waxes

I22 American Oil Chemists' Society. Official and Tentative Methods of the American Oil Chemists' Society. 2d ed. Chicago, 1946- 1v. Looseleaf.

See I19.

I23 American Society for Testing and Materials. Book of ASTM Standards Part 22. Sorptive Mineral Materials; Soap; Engine Antifreezes; Wax Polishes; Halogenated Organic Solvents. 1964- Philadelphia, 1964- annual.

Covers test methods for wax polishes.

Foods

I24 American Association of Cereal Chemists. Cereal Laboratory Methods with Reference Tables. 7th ed. St.Paul, 1962- 1v. Looseleaf.

Contains a "methods index" (table of contents) and a "materials index" to facilitate the search for methods applicable to specific substances for which analysis is desired. Can be used for factual information as well as analytical methods. Revised sheets are issued from time to time.

I25 American Public Health Association. Standard Methods for the Examination of Dairy Products, Bacteriological, Bioassay and Chemical. 11th ed. New York, 1960. 448p.

A standard reference book for the laboratory. Some of the chemical analysis has been quoted from the Official and Tentative Methods of Analysis of the Association of Official Agricultural Chemists. A new edition is published every five years.

I26 Association of Official Agricultural Chemists. Official and Tentative Methods of Analysis. 9th ed. Washington, 1960. 832p.

"The Association of Official Agricultural Chemists, ... is the professional organization of State and Federal scientists devoted to developing, testing and approving methods for the analysis of fertilizers, feeds, pesticides, foods, drugs, cosmetics, caustic poisons and other materials related to agricultural pursuits". (Preface p.v) Their handbook embodies the results of their work. It is revised every five years and supplemented by the Journal of the Association published six times a year. The new editions however do not always include the older methods and if these are still in use by the laboratory it is necessary to keep the older volumes.

I27 Gunderson, Frank and others. Food standards and Definitions Official in the United States. New York, Academic Press, 1963. 269p.

Brings together in one convenient listing the food standards of identity, grades and definitions, also contains military and federal specifications for food products.

Foundations and Soil Mechanics

I28 American Society for Testing and Materials. Book of ASTM Standards Part 11. Bituminous Materials for Highway Construction, Waterproofing, and Roofing; Soils. 1964- Philadelphia, 1964- annual.

Contains specifications and tests for soils.

Fuels and Carbonization Products

I29 American Society for Testing and Materials. Book of ASTM Standards Part 19. Gaseous Fuels; Coal and Coke. 1964- Philadelphia, 1964- annual.

Contains standards on coal and coke as well as standards pertaining to gaseous fuels such as natural gas, liquefied petroleum gas and manufactured gas.

Highway Engineering

I30 American Association of State Highway Officials. Standard Specifications for Highway Materials and Methods of Sampling and Testing. 8th ed. Washington, 1961. 2v.

These specifications are especially devised to regulate highway construction. They cover methods of sampling and testing and are revised frequently.

Inks see Paints, Varnishes, Lacquers and Inks

Lacquers see Paints, Varnishes, Lacquers and Inks

Lubricants see Petroleum and Lubricants

Metallurgy

I31 American Society for Testing and Materials. Book of ASTM Standards Part 32. Chemical Analysis of Metals. 1964- Philadelphia, 1964- annual.

Contains up-to-date ASTM methods for chemical analysis of ferrous and non-ferrous metals and alloys. Indispensable for the laboratory.

Nondestructive Testing

I32 American Society for Testing and Materials. Book of ASTM Standards Part 31. Metallography; Nondestructive Testing; Radioisotopes and Radiation Effects; Industrial Chemicals; Emission, Absorption, and Mass Spectroscopy. 1964- Philadelphia, 1964- annual.

Covers methods and recommended practices for nondestructive testing.

Paints, Varnishes, Lacquers and Inks

I33 American Society for Testing and Materials. Book of ASTM Standards Parts 20-21. 1964- Philadelphia, 1964- annual.

Contents: Part 20. Paint, Varnish, Lacquer and Related Products - Materials Specifications and Tests; Naval Stores; Industrial Aromatic Hydrocarbons.

Part 21. Paint, Varnish, Lacquer and Related Products - Tests for Formulated Products and Applied Coatings.

Contains specifications, methods of tests and definitions covering pigments, fatty oils, fatty acids, resins and polymers, solvents, paints, varnishes and lacquers.

I34 Steel Structures Painting Council. Steel Structures Painting Manual. Pittsburgh, 1954-1964. 2v.

Contents: v.1. Good Painting Practice.
v.2. Systems and Specifications.

Methods and specifications for cleaning and painting steel structures such as bridges, tanks are covered in these volumes.

Paper see Cellulose and Paper

Petroleum and Lubricants

I35 American Petroleum Institute. Crude Oil Tank Measurement and Calibration. 2d ed. New York, 1961. 81p. (Standard 2501)

Covers general strapping requirements for wooden tanks, vertical steel tanks and horizontal cylindrical tanks. Gives methods for calculating increment and total tank capacities as well as the method for preparing gauge tables.

I36 --- Measuring, Sampling and Testing Crude Oil. 2d ed. New York, 1961. 65p. (Standard 2500)

Covers methods for both the measurement of petroleum for the producer or purchaser and representative sampling of its quality.

I37 American Society for Testing and Materials. Book of ASTM Standards Parts 17-18. 1964- Philadelphia, 1964- annual.

Contents: Part 17. Petroleum Products - Motor Fuels; Solvents; Fuel Oils; Lubricating Oils; Cutting Oils.

Part 18. Petroleum Products - Measurement and Sampling; Liquefied Petroleum Gases; Pure Light Hydrocarbons; Engine Test Methods; Lubricating Grease; Petroleum Wax.

These volumes cover standards on petroleum products and lubricants.

I38 American Society for Testing and Materials. ASTM Standards Relating to Petroleum Products and Lubricants. Philadelphia, 1964. 796p.

Contains standards for products other than petroleum that are used in the petroleum industry such as paint, varnish, lacquer, bituminous road and paving materials as well as quality control and spectroscopy. This is still published as a separate compilation and supplements parts 17 and 18 of the Book of ASTM Standards (I37).

I39 Institute of Petroleum, London. IP Standards for Petroleum and Its Products. 2d ed. London, 1962-1964. 4v.

Contents: Part 1. Methods of Analysis and Testing.
Part 2. Methods for Rating Fuels - Engine Tests.
Part 3. Methods for Assessing Performance of Crankcase Lubricating Oils - Engine Tests.
Part 4. Methods of Sampling.

The second edition 1964 of part I is the first to contain joint ASTM/IP methods for testing petroleum and its products which are also published in parts 17 and 18 of the 1964 Book of ASTM Standards, giving IP designation as well as ASTM. By 1960 some 80 IP methods of test had become technically equivalent to ASTM methods and it is hoped by 1966 there will be 56 joint ASTM/IP methods. There are 21 joint methods in the 1964 edition. It is usually sufficient for the North American laboratory to test according to ASTM standards but the IP standards may be needed occasionally for comparison and therefore have been listed only for information.

Pharmaceuticals

I40 American Pharmaceutical Association. The National Formulary. 11th ed. New York, Lippincott, 1960. 531p.

Contains official standards for drugs which have been omitted from the Pharmacopeia of the United States of America and is revised every five years. Interim revisions are issued between new editions.

I41 British Pharmaceutical Codex 1963. London, Pharmaceutical Press, 1963. 1433p. (Amendments December 1963)

Contains up-to-date information on drugs and drug formulations. Since 1959 it has been published to coincide with the British Pharmacopoeia. This provides continuing current standards for those substances and preparations that are omitted from the British Pharmacopoeia and subsequently included in the Codex.

I42 British Pharmacopoeia 1963. London, Pharmaceutical Press, 1963. 1210p.

--- Addendum 1964. London, Pharmaceutical Press, 1964. 91p.

Provides standards for the quality of substances and preparations used in medical and pharmaceutical practice. Revised every five years and has one addendum in the interval.

I43 The Pharmacopeia of the United States of America. 16th ed. Easton, Mack Printing, 1960. 1148p.

--- Supplement: 1st, May 1, 1962. Easton, Mack Printing, 1962. 53p.

Many new analytical techniques have been adopted in this edition. Contains official testing methods and standards for purity and strength of drugs. Revised every five years and in the interval supplements are issued.

Plastics see Synthetic Resins and Plastics

Rubber and Other Elastomers

I44 American Society for Testing and Materials. Book of ASTM Standards Part 28. Rubber; Carbon Black; Gaskets. 1964- Philadelphia, 1964- annual.

Covers rubber and rubber products.

Sanitation see Water, Sewage and Sanitation

Sewage see Water, Sewage and Sanitation

Soap see Detergents

Soil Mechanics see Foundations and Soil Mechanics

Synthetic Resins and Plastics

I45 American Society for Testing and Materials. Book of ASTM Standards Parts 26-27. 1964- Philadelphia, 1964- annual.

Contents: Part 26. Plastics - Specifications (with Closely Related Tests).
Part 27. Plastics - General Methods of Testing.

Contains a collection of the specifications and methods of testing the various families of plastics.

Textile Chemistry see Dyes and Textile Chemistry

Toxicology

I46 Canada. Board of Transport Commissioners. Regulations for the Transport of Dangerous Commodities by Rail. Ottawa, Queen's Printer, 1962- 1v. Looseleaf.

Gives regulations applying to shipping explosives, flammable liquids, acids, compressed gases, etc., and also has specifications for shipping containers. Sheets are revised from time to time.

I47 Canada. Department of Transport. Dangerous Goods Shipping Regulations. Ottawa, Queen's Printer, 1958- 1v. Looseleaf.

Covers explosives, compressed gases, poisonous substances and gives information on labelling and packing these.

I48 U.S. Interstate Commerce Commission. Agent T.C. George's Tariff no.15, Publishing Interstate Commerce Commission Regulations for transportation of Explosives and Other Dangerous

Articles by Land and Water in Rail Freight Service and by Motor Vehicle (Highway) and Water Including Specifications for Shipping Containers. New York, T.C. George, 1963- 1v. Looseleaf.

Revised sheets are issued from time to time.

Varnishes see Paints, Varnishes, Lacquers and Inks

Water, Sewage and Sanitation

I49 American Public Health Association. Standard Methods for the Examination of Water and Wastewater Including Bottom Sediments and Sludges. 11th ed. New York, 1960. 626p.

Is the standard work on water analysis. Old editions of this work should be kept, as older methods are not always included in the new editions. This is revised every five years.

I50 American Society for Testing and Materials. Manual on Industrial Water and Industrial Waste Water. 2d ed. Philadelphia, 1963. 774p. (STP 148F)

Contains up-to-date methods and specifications developed by specialists in the field. Part I provides extensive information on the uses of industrial water and the problems of sampling and analysis, while part II covers all standard tests used in testing industrial water.

I51 American Water Works Association. Water Quality and Treatment. 2d ed. New York, 1950. 451p.

A comprehensive survey of water quality standards and procedures for purification, softening and other conditioning.

I52 U.S. Public Health Service. Public Health Service Drinking Water Standards. Washington, Government Printing Office, 1962. 61p. (Public Health Service Publication no.956)

These standards are for evaluating the quality and safety of drinking water supplies. They contain information on the bacteriological quality, chemical and physical characteristics of water as well as a section on sampling and analysis for radioactivity in water.

Waxes see Fats, Fatty Oils and Waxes

SECTION J

SYNONYMS AND TRADE NAMES

The trade name by which a product is known in commerce is frequently the sole clue by which the librarian must trace its manufacturer, physical and chemical properties, composition and uses. Lists of trade names giving some or all of this information as well as lists of synonyms are therefore important in a testing library collection.

J1 Fraser's Canadian Trade Directory. 1913- Montreal, Fraser's Trade Directories, 1913- annual.

Contains a section on Canadian and foreign trade names, listed alphabetically and for each the manufacturer's name is given.

J2 Gardner, W. Chemical Synonyms and Trade Names, revised by E.I. Cook. 5th ed. London, Technical Press, 1948. 564p.

Authoritative reference book for chemists and manufacturers. Covers many minerals, dyestuffs, explosives, drugs, alloys, commercial chemicals and materials in common use.

J3 Haynes, W. Chemical Trade Names and Commercial Synonyms. 2d ed. Princeton, Van Nostrand, 1955. 466p.

Broad coverage of trade names in the chemical industry. The chemical composition or nature of the substance, its uses and name of manufacturer are given for each of the trade names.

J4 Thomas Register of American Manufacturers. 1- 1910- New York, 1910- 4v. annual.

The 1965 edition will be published in five volumes.

Volumes 1-3 cover classified products list. Volume 4 contains A-Z list of leading manufacturers with addresses of home offices

and branches, section on trade names and trade marks, also commercial organizations such as chambers of commerce and boards of trade.

J5 Zimmerman, O.T. and Lavine, I. Handbook of Material Trade Names. 2d ed. Dover, N.H., Industrial Research Service, 1953. 794p.

--- --- Supplement 1956. Dover, N.H., Industrial Research Service, 1956. 378p.

--- --- Supplement 1957. Dover, N.H., Industrial Research Service, 1957. 356p.

--- --- Supplement 1960. Dover, N.H., Industrial Research Service, 1960. 400p.

Gives physical and chemical properties, compositions and uses for an extensive list of trade name products. The supplements help to keep it up-to-date. The fourth supplement is now in preparation.

SECTION K

GENERAL TREATISES

ANALYTICAL CHEMISTRY

K1 American Chemical Society. Reagent Chemicals: Specifications, 1960. Washington, 1961. 564p.

A well-sponsored and carefully prepared reference book of specifications for reagents to be used in precise analytical work.

K2 Ewing, Galen W. Instrumental Methods of Chemical Analysis. 2d ed. New York, McGraw-Hill, 1960. 454p.

Describes analytical methods utilizing instruments. Emphasis is placed on the scope, advantages and limitations of each method with a discussion of its theoretical background.

K3 Feigl, Fritz. Spot Tests in Inorganic Analysis. 5th ed. Amsterdam, Elsevier, 1958. 600p.

--- Spot Tests in Organic Analysis. 6th ed. Amsterdam, Elsevier, 1960. 675p.

Both of these contain a wealth of information and are kept up-to-date by frequent revisions. They are standard works.

K4 Gore, W.L. Statistical Methods for Chemical Experimentation. New York, Interscience, 1952. 210p.

A useful, relatively brief collection of the statistical methods most used in the design of chemical experiments at the Du Pont Experimental Station, where the author works. Good for the guidance of practical chemists who do not have the time to master statistical theory.

K5 Griffin, Roger Castle. Technical Methods of Analysis as Employed in the Laboratories of Arthur D. Little, Inc., Cambridge, Mass. 2d ed. New York, McGraw-Hill, 1927. 936p.

A representative selection of analytical methods used as standard procedures in the laboratories of Arthur D. Little, Inc. Gives methods of analysis of metals, fuels, paints, oils, fats, waxes, soaps, paper, textiles, foodstuffs, water, sewage and soils. It is preferred to Commercial Methods of Analysis by Foster Dee Snell and Frank M. Biffen because of the tables it contains. Even though this is very old the standard methods are useful and often these are not repeated in later books. However, if the laboratory is new and all its equipment is the latest, this volume would be of no value.

K6 Kirk, Paul L. Quantitative Ultramicroanalysis. New York, Wiley, 1950. 310p.

Standard methods require samples of about one milligram in size, whereas in this book a more refined technique is described in which quantities as small as one microgram may be used. The book is therefore most useful to advanced researchers who are already familiar with standard methods.

K7 Snell, Foster Dee and Biffen, Frank M. Commercial Methods of Analysis. New York, Chemical Publishing, 1964. 753p.

A collection of methods of chemical analysis for use in evaluating commercial products. Stresses time saving methods to be employed in commercial laboratories. However, since the first edition of this volume in 1944 many changes have taken place in methods of analysis and equipment. The newer methods of analysis such as infrared analysis or gas chromatography have not been incorporated but the new equipment has been described.

K8 Standard Methods of Chemical Analysis. 6th ed. Princeton, Van Nostrand, 1962- 4v.

Contents: v.1. The Elements.
v.2A. and 2B. Industrial and Natural Products and Non-Instrumental Methods.
v.3. Instrumental Analysis (in preparation).

Each edition of this has been a standard reference work in every analyst's library. This one is no exception although

volume one has been criticized because many tables have been dropped in order to include more recent material.

K9 Treadwell, F.P. and Hall, William T. Analytical Chemistry. 9th ed. New York, Wiley, 1937-1942. 2v.

Contents: v.1. Qualitative Analysis.
v.2. Quantitative Analysis.

These are standard reference books even though old.

ASPHALT

K10 Abraham, Herbert. Asphalts and Allied Substances. 6th ed. New York, Van Nostrand, 1960-1963. 5v.

Contents: v.1. Historical Review and Natural Raw Materials.
v.2. Industrial Raw Materials.
v.3. Manufactured Products.
v.4. Methods of Testing: Industrial Raw Bituminous Materials.
v.5. Methods of Testing: Fabricated Bituminous Products.

Few standard reference books have withstood the test of time as well as this one and it has now been brought up-to-date to reflect the needs of a growing bituminous products industry. Its continued coverage of the same broad range of subjects is useful to the chemist as well as being practical for the engineer, contractor and architect.

K11 Asphalt Institute. The Asphalt Handbook. College Park, Maryland, 1962. 441p. (Manual Series No.4 (MS-4))

This manual pertains almost exclusively to asphalt road construction and is one of a number of useful technical handbooks on asphalt published by the Institute. The few Institute publications that have been translated into French are most useful in a Canadian laboratory.

K12 Association of Asphalt Paving Technologists. Proceedings. v.1- 1928- [Ann Arbor, Mich.] 1928- annual.

Not published in 1930, 1931, 1934, 1938, 1941, 1944-1946 (inclusive). Two volumes published each year in 1932,

1937, 1940 and 1942. Volume 26, 1957 contains index to volumes 1-26, 1928-1957.

These papers cover the latest technical data on asphalt.

K13 Great Britain. Department of Scientific and Industrial Research. Road Research Laboratory. Bituminous Materials in Road Construction. London, Her Majesty's Stationery Office, 1962. 611p.

This is a thorough and practical study of the properties of bituminous road materials in relation to current practice. Based mainly on research work of the Road Research Laboratory, it contains results of both laboratory investigations and full-scale road experiments. It is of interest to road engineers as well as to technicians dealing with tar and bitumen.

K14 Martin, J. Rogers and Wallace, Hugh A. Design and Construction of Asphalt Pavements. New York, McGraw-Hill, 1958. 305p.

Gives modern methods and technology in the design and construction of many types of asphalt pavements. Includes testing procedures and design methods.

K15 Traxler, Ralph N. Asphalt, Its Composition, Properties and Uses. New York, Reinhold, 1961. 294p.

Describes the chemical and physical properties of asphalt and its durability then reviews the manufacturing methods and the various forms in which asphalt is used. Concludes with descriptions of the major uses of asphalt, such as in road building, roofing. The overall approach in each chapter is selective, giving emphasis to the important facts, procedures and theories involved.

CARBONIZATION PRODUCTS see FUELS AND CARBONIZATION PRODUCTS

CELLULOSE AND PAPER

K16 American Society for Testing and Materials. Paper and Paperboard. Philadelphia, 1963. 136p. (STP 60-B)

This publication contains ASTM and TAPPI methods of testing paper and covers definitions of terms, nomenclature and properties of various classes of paper and paperboard.

K17 Brown, H.P. and others. Textbook of Wood Technology. New York, McGraw-Hill, 1949-1952. 2v.

Contents: v.1. Structure, Identification, Defects and Uses of the Commercial Woods of the United States.
v.2. The Physical, Mechanical and Chemical Properties of the Commercial Woods of the United States.

The second volume is the more valuable one for a testing laboratory.

K18 Casey, James P. Pulp and Paper. 2d ed. New York, Interscience, 1960. 3v.

Contents: v.1. Pulping and Bleaching.
v.2. Papermaking.
v.3. Paper Testing and Converting.

These volumes are concerned with the chemical aspects of pulp manufacturing, papermaking and converting operations. The third volume dealing with paper testing is the most important for the testing laboratory.

K19 Ott, E. and others, eds. Cellulose and Cellulose Derivatives. 2d ed. New York, Interscience, 1954-1955. 3v.

A comprehensive reference work that covers the most important scientific and technical information on occurrence of cellulose, chemical nature of cellulose and its derivatives, structure and properties of cellulose fibres and properties of substances associated with cellulose in nature.

K20 U.S. Forest Products Laboratory. Wood Handbook. Washington, Government Printing Office, 1955. 528p. (U.S. Department of Agriculture. Agriculture Handbook no.72)

Contains information on physical properties of wood, grades, strength, preservation, and ways of making it a more efficient material of construction. Includes some tests but is chiefly useful to the laboratory as a source of background material.

CEMENT AND CONCRETE

K21 American Concrete Institute. ACI 55-Year Index, 1905-1959. Detroit, 1960. 364p.

--- ACI Supplemental Index, 1959-1963. Detroit, 1964. 94p.

A comprehensive guide to all papers appearing in the ACI Proceedings and the Journal from 1905 to 1963. Each paper is indexed by title, author and major subject classification.

K22 --- Manual of Concrete Inspection. 4th ed. Detroit, 1961. 240p.

Describes methods of inspecting concrete which are generally accepted as good practice.

K23 American Society for Testing and Materials. Significance of Tests and Properties of Concrete and Concrete Aggregate. Philadelphia, 1956. 387p. (STP 169)

These papers constitute an authoritative and useful survey of the various tests for concrete and of the properties of concrete and its ingredients except cement. Literature references are included in the individual papers.

K24 Jones, R. Non-Destructive Testing of Concrete. Cambridge, University Press, 1961. 103p.

The various procedures in use are described, giving scope and limitations of each with appropriate equations, diagrams and plates. There is a bibliography.

K25 Larson, Thomas D. Portland Cement and Asphalt Concretes. New York, McGraw-Hill, 1963. 288p.

Provides treatment of the two principal types of concrete - portland cement and asphalt and presents the theory together with test and field procedures for these as used for engineered construction. Includes worked examples to illustrate specific laboratory or design problems.

K26 Lea, F.M. and Desch, C.H. The Chemistry of Cement and Concrete. 2d ed. London, Arnold, 1956. 640p.

Useful to those interested in the use of concrete in building as well as for the chemist and others concerned with the science and technology of concrete and cement. The greater emphasis is on cement.

K27 Troxell, George Earl and Davis, Harmer E. Composition and Properties of Concrete with Chapters on Proportioning of Concrete Mixtures and Strength of Concrete by J.W. Kelly. New York, McGraw-Hill, 1956. 434p.

A comprehensive study of plain concrete. The first part describes the characteristics of cements, aggregates, admixtures and water used in concrete mixes. The second part consists of instructions for laboratory tests.

K28 U.S. Bureau of Reclamation. Concrete Manual; A Manual of Control of Concrete Construction. 7th ed. Washington, Government Printing Office, 1963. 642p.

This new edition gives data on concrete and concrete materials; design of concrete mixes, inspection, field laboratory concrete manufacturing; handling, placing, finishing and curing of concrete; it is the first edition to include information on prestressed concrete. The book is indispensable for concrete testing and inspection.

K29 Waddell, Joseph J. Practical Quality Control for Concrete. New York, McGraw-Hill, 1962. 396p.

This is one of the most useful books that have been published lately on the prevention and cure of defects in concrete. It is well indexed and the material is concise. Appendix A lists specifications and test methods. Appendix B contains "Sources of Information", which is a list of professional, technical and other organizations which publish standards on concrete and related materials.

CHEMISTRY, ANALYTICAL see ANALYTICAL CHEMISTRY

CHEMISTRY, INDUSTRIAL see INDUSTRIAL CHEMISTRY

CONCRETE see CEMENT AND CONCRETE

CONSTRUCTION

K30 American Institute of Steel Construction. Manual of Steel Construction. 6th ed. New York, 1963. 761p.

Contains standards on steel design, fabrication and erection "and is oriented toward the use of ASTM A36 and higher strength steels in keeping with modern building technology and economy of materials." (Preface p.vii). Contains mathematical tables.

K31 American Society for Testing and Materials. Symposium on Methods of Testing Building Constructions. Philadelphia, 1962. 302p. (STP 312)

Gives current work on building standards and includes sections on metal curtain walls and clay masonry curtain walls.

K32 Godfrey, Robert S., ed. Building Construction Cost Data. 1-1943- Duxbury, Mass., Robert Snow Means Company, 1943- annual.

Provides average U.S. unit prices on a wide variety of building construction items for use in making up engineering estimates. Most prices are separated into material and installation prices.

K33 McKaig, Thomas H. Building Failures; Case Studies in Construction and Design. New York, McGraw-Hill, 1962. 261p.

Covers over 200 case studies of building failures in recent years and provides engineers, contractors and architects with the reasons for these failures. Also helps engineers and inspectors when they are called in to find out why a building has collapsed.

K34 --- Field Inspection of Building Construction. New York, McGraw-Hill, 1958. 337p.

Contains recommended procedures and guides for the field inspector of building construction. There are good references at the end of each chapter which usually refer to ASTM standard specifications. At the end of the book there is a list - very useful to the librarian - of all the organizations whose publications have been mentioned.

CORROSION

K35 La Que, F.L. and Copson, H.R. Corrosion Resistance of Metals and Alloys. 2d ed. New York, Reinhold, 1963. 736p. (American Chemical Society Monograph no.158)

Describes the corrosion behaviour of all basic metals and alloys and emphasizes both the theoretical and practical aspects of the problem.

K36 Speller, F.N. Corrosion; Causes and Prevention. New York, McGraw-Hill, 1951. 686p.

Explains causes of corrosion, with emphasis on corrosion in ferrous metals, and shows how to prevent it in various fields of engineering work.

K37 Uhlig, H.H. Corrosion and Corrosion Control. New York, Wiley, 1963. 371p.

A concise and orderly treatment of corrosion and its problems. The author has provided an effective bridge between theory, recent research findings and modern corrosion control methods.

K38 --- Corrosion Handbook. New York, Wiley, 1948. 1188p.

Covers the causes of corrosion in nearly every type of metal and alloy. Contains information on corrosion testing and on prevention of corrosion.

COSMETICS AND PERFUMES

K39 Guenther, Ernest. The Essential Oils. Princeton, Van Nostrand, 1948-1952. 6v.

Authoritative and most comprehensive work available in this field of chemistry.

K40 Harry, R.G. The Principles and Practice of Modern Cosmetics. 5th ed. New York, Chemical Publishing, 1962-1963. 2v.

Contents: v.1. Modern Cosmeticology.
v.2. Cosmetic Materials.

The first volume includes the care of the body and details on the formulas of various types of cosmetic products and manufacturing methods, while the second volume presents a summary of the essential substances used as bases or adjutants in cosmetics.

K41 Newburger, Sylvan H. A Manual of Cosmetic Analysis. Washington, Association of Official Agricultural Chemists, 1962. 84p.

Gives explicit directions for the analysis of cosmetic products. The procedures have been thoroughly tested and are a blend of modern instrumental techniques with classical chemical methods.

K42 Poucher, W.A. Perfumes, Cosmetics and Soaps. 6th ed. Princeton, Van Nostrand, 1959-1960. 3v.

Contents: v.1. Dictionary of Raw Materials.
v.2. Production, Manufacture and Application of Perfumes of all Types.
v.3. Treatise on Modern Cosmetics.

The third volume contains formulas for making every type of cosmetic. This information is useful to a laboratory when the laboratory chemists are confronted with the problem of finding out what ingredients are in a cosmetic. This is a standard work and is up-to-date.

DETERGENTS

K43 Cooke, E.I., ed. The Modern Soap and Detergent Industry. 3d ed. London, Technical Press, 1950. 2v.

The first volume deals with the theory and practice of soap making while the second is on the manufacture of special soaps and detergent compositions.

K44 Harris, Jay C. Detergency Evaluation and Testing. New York, Wiley, 1954. 220p. (Interscience Manual no.4)

Critical survey of the present state of detergency evaluation and a manual of techniques currently in use. A useful volume, which would be of considerable value to those engaged in textile or detergent testing.

K45 McCutcheon, John W. Detergents & Emulsifiers. 1949- Morristown, N.J., John W. McCutcheon Inc., 1949- annual since 1962.

Contains nearly 4000 trade named surfactants. For each product gives company name, class and formula of product, main uses. Also includes a list of names and addresses of manufacturers whose products are listed and a complete alphabetical list of products by type.

K46 Schwartz, A.M. and others. Surface Active Agents and Detergents. New York, Interscience, 1949-1958. 2v.

A comprehensive survey of the literature published on the chemistry, technology and application of surface active agents and detergents. The first volume covers the period up to 1947 and the second volume is from 1947 to 1956.

DYES AND TEXTILE CHEMISTRY

K47 American Association of Textile Chemists and Colorists. Analytical Methods for a Textile Laboratory. Lowell, Mass., Lowell Textile Institute, 1949. 287p.

A new edition is being prepared but no definite date has been set for publication.

K48 --- The Color Index. 2d ed. Lowell, Mass., 1957. 4v.

--- --- Supplement 1962.

The first edition was compiled by the Society of Dyers and Colourists (Great Britain). This index is invaluable for information on dyes as it gives commercial and scientific names, formulas and methods of preparation and includes references to the literature. The "Color Index" numbers positively identify dyes having many names.

K49 --- Technical Manual. v.1- 1923- New York, Howes Publishing, 1923- annual.

1923-1947 known as its Year Book.

Useful for the latest standard test methods which it includes. Contains bibliography of articles from the journals for the year, and a list of books on textiles and dyeing covering the last twenty years to date.

K50 Booth, John E. Principles of Textile Testing. New York, Chemical Publishing, 1961. 497p.

Standard methods and instruments used for decades in textile testing are covered as well as the most recent procedures.

K51 Harris, Milton. Handbook of Textile Fibers. 1st ed. Washington, Harris Research Laboratory, 1954. 356p.

Provides in one source data on physical and chemical properties of fibres. Additional sections include a glossary of textile terms, economic and production data and chemical and engineering tables. Is of value to research chemists and others in the textile field.

K52 Heyn, A.N.J. Fiber Microscopy. New York, Interscience, 1954. 419p.

Covers microscopic study of the individual textile fibres in the laboratory as well as the basic theory on the microscopical research of fibres.

K53 Marsh, J.T. An Introduction to Textile Finishing. London, Chapman & Hall, 1957. 568p.

This work is based on the author's experience as a research chemist in the textile industry and on his study of the literature of the subject. His incorporation of material from British and foreign patents makes the book a useful supplement to American texts.

K54 Matthews, J. Merritt. Textile Fibers; Their Physical Microscopic and Chemical Properties; prepared under the editorship of Herbert R. Mauersberger. 6th ed. New York, Wiley, 1954. 1283p.

A standard reference book on textiles.

K55 Moncrieff, R.W. Man-Made Fibres; Formerly Artificial Fibres. 4th ed. New York, Wiley, 1963. 742p.

Supplements information given by Matthews, as it concentrates on the structure, properties and processing of all types of the man-made fibres.

K56 Pizzuto, J.J. and D'Alessandro, P.L. 101 Fabrics; Analyses and Textile Dictionary. New York, Textile Press, 1952. 160p.

Useful to those who deal in textile fabrics because it contains a collection of mounted fabric samples giving their fabric weights, weave construction, yarn counts, yarn twists and changes from grey to finished construction.

K57 Venkataraman, K. The Chemistry of Synthetic Dyes. New York, Academic Press, 1951-1952. 2v.

A substantial work of interest to men in the dyestuffs or textile industries. It includes discussions of the chemistry and properties of dyestuffs and their application to textile materials.

ELASTOMERS see RUBBER AND OTHER ELASTOMERS

EXPLOSIVES AND EXPLOSIONS

The number of books that deal with the chemical aspects of the subject is small. However, as a substitute the United States Bureau of Mines and other government agencies publish useful research reports on explosives and explosions.

K58 Canadian Industries Limited. Explosives and Ammunition Division. Blasters' Handbook, Describing Practical Methods of Using Explosives for Various Purposes. 5th ed. Montreal, 1964. 476p.

Describes commercial explosives, blasting agents, detonators and other blasting accessories manufactured and/or sold by CIL as well as preferred procedures and methods of use. In spite of its limitations to the products of one firm it is a convenient reference handbook for Canadian laboratories.

K59 Cook, Melvin A. The Science of High Explosives. New York, Reinhold, 1958. 456p. (American Chemical Society Monograph no.139)

A very comprehensive treatment of detonation processes and related phenomena. It includes the results of much research, some of which has never before been published.

K60 Urbanski, T. Chemistry and Technology of Explosives. Oxford, Pergamon, 1964- v.1- in progress.

This is the first volume of at least three and maybe four on the chemical aspect of explosives. This fills a gap between the books that have appeared of a specialized or cyclopaedic nature on explosives. Volume one deals essentially with aromatic nitrocompounds and there is a comprehensive review of the literature presented. It also covers the physical and chemical properties, toxicity and explosive properties of the major explosives.

FATS, FATTY OILS AND WAXES

K61 Bennett, H., ed. Industrial Waxes; Occurrence, Properties, Production, Uses. New York, Chemical Publishing, 1963. 2v.

Contents: v.1. Natural Waxes; Synthetic Waxes.
v.2. Compounded Waxes; Technology.

The first volume contains information on natural waxes and synthetic waxes while the second volume is on the compounding of waxes, discussing their desirable properties and the special products obtainable with such non-waxy substances as rubber and natural and synthetic resins. There is a comprehensive presentation of tests and techniques and a valuable survey by experts of the applications of waxes. Includes an alphabetic list of trademark products covered in the text.

K62 Eckey, E.W. Vegetable Fats and Oils. New York, Reinhold, 1954. 836p. (American Chemical Society Monograph no.123)

The first seven chapters contain general information on the chemical composition, physical and chemical properties of fats and oils while the rest contain a descriptive catalogue giving scientific data that has been published on them. Includes many tables of reference data and is fully indexed.

K63 International Union of Pure and Applied Chemistry. Applied Chemistry, Oils and Fats Division. Standard Methods of the Oils and Fats Division. 5th ed. London, Butterworths, 1964- 1v. Looseleaf.

The text is published in both English and French and contains the most up-to-date methods for the analysis of oils, fats, soaps and glycerol.

K64 Warth, A.H. The Chemistry and Technology of Waxes. 2d ed. New York, Reinhold, 1956. 948p.

A source of basic information on the origins and properties of waxes, their manufacture and refining, and their many uses. Out of print.

FERTILIZERS see SOILS AND FERTILIZERS

FOODS

In this section the reference material has been selected mainly from the viewpoints of analysis of food and methods of testing foodstuffs, including dairy products. Sugar is treated in a separate section.

K65 Canada. Laws, Statutes, etc. Office Consolidation of the Food and Drugs Act and of the Food and Drug Regulations. Ottawa, Queen's Printer, 1954- 1v. Looseleaf.

Serves as a general guide to official standards and acceptable quality in food and drugs but only outlines a few official standards. For the ones not included it is necessary to obtain these from the Food and Drug Directorate of the Department of National Health and Welfare. In many instances the term "acceptable" has to be checked as well to make sure the method one intends to use comes under the heading of acceptable. Also contains sections on vitamins and cosmetics. Kept up-to-date by revision sheets.

K66 Food Chemicals Codex. Washington, National Research Council, 1964- 1v. Looseleaf (National Research Council (U.S.) Publication no.1143)

This work comprises 25 monographs giving specifications for identity and purity of several hundred chemicals to be used in food. A large section is devoted to general analytical procedures for determining the conformity of the chemicals to the standards. It should eliminate much current confusion in specifications, help standardize procurement and minimize purchaser-supplier disagreements on specifications.

K67 Jacobs, Morris B. The Chemical Analysis of Foods and Food Products. 3d ed. Princeton, Van Nostrand, 1958. 970p.

Standard reference work for methods of food analysis used in the development and enforcement of standards of identity, purity and quality, investigation of toxicological problems and in field testing.

K68 Jensen, Lloyd B. Microbiology of Meats. 3d ed. Champaign, Ill., Garrard, 1954. 422p.

Contains some methods for testing, but is more useful for reference.

K69 Leach, Albert E. Food Inspection and Analysis ... revised and enlarged by Andrew L. Winton. 4th ed. New York, Wiley, 1920. 1090p.

Methods are well described and the work is good even though now very old and out-of-print.

K70 U.S. Office of Federal Register. Food and Drugs revised as of January 1, 1964. Washington, Government Printing Office, 1964. 1224p. (Code of Federal Regulations Title 21)

Covers food and drugs regulations in the United States and has been included here for information only.

K71 Winton, Andrew L. and Winton, Kate Barber. Analysis of Foods. New York, Wiley, 1945. 999p.

A comprehensive and authoritative compilation of practical information for practicing food analysts whether engaged in inspection and quality control in the plant or in research and testing in the laboratory.

FOUNDATIONS AND SOIL MECHANICS

K72 American Road Builders' Association. Soil Tests. Washington, 1964. 95p. (Technical Bulletin no.107)

Soil testing procedures are described step by step with illustrations.

K73 American Society for Testing and Materials. ASTM Symposium on Laboratory Shear Testing of Soils. Philadelphia, 1964. 300p. (STP 361)

This symposium took place in Ottawa in September 1963 for the purpose of assessing the state of knowledge on laboratory shear testing of soils and on the interpretation of test results. Thirty papers were presented from Canada, United States and overseas.

K74 --- Procedures for Testing Soils. 4th ed. Philadelphia, 1964. 540p.

K75 --- Symposium on Field Tests and Measurements for Soils and Foundation Engineering. Philadelphia, 1963. 324p. (STP 322)

K76 --- Symposium on Load Tests for Bearing Capacity of Soils. Philadelphia, 1948. 156p. (STP 79)

K77 --- Symposium on the Identification and Classification of Soils. Philadelphia, 1951. 96p. (STP 113)

K78 --- Triaxial Testing of Soils and Bituminous Mixtures. Philadelphia, 1951. 310p. (STP 106)

These five items provide a comprehensive picture of practices in the testing and evaluation of soils.

K79 Bishop, Alan W. and Henkel, D.J. The Measurement of Soil Properties in the Triaxial Test. 2d ed. London, Arnold, 1962. 230p.

Gives a thorough review of the principles of triaxial testing and the appendix contains a summary of the advances in testing techniques from 1957-1961.

K80 Chellis, Robert Dunning. Pile Foundations. 2d ed. New York, McGraw-Hill, 1961. 704p.

Provides information needed for economical and efficient design and handling of pile foundations. The classified bibliography includes a convenient list of catalogues of piles and pile-driving equipment.

K81 Davis, Raymond E. and Foote, Francis S. Surveying, Theory and Practice. 4th ed. New York, McGraw-Hill, 1963. 1021p.

Covers the theory of both elementary and more advanced surveying and allows for practice by giving problems to be worked.

K82 Dawson, Raymond F. Laboratory Manual in Soil Mechanics. New York, Pitman, 1954. 177p.

Is a good practical book on laboratory tests for soils.

K83 Dunham, Clarence W. Foundations of Structures. 2d ed. New York, McGraw-Hill, 1962. 744p.

The author deals with the theory of foundation engineering and design and shows the application of general principles by working out a number of practical problems.

K84 Hvorslev, M.J. Subsurface Exploration and Sampling of Soils for Civil Engineering Purposes. Vicksburg, Miss., Waterways Experiment Station, 1949. 521p.

This is a basic text on soils.

K85 International Conference on Soil Mechanics and Foundation Engineering. 5th, Paris, July 17-22, 1961. Proceedings. Paris, Dunod, 1961-1962. 3v.

These conferences are held about every five years and the papers, delivered by outstanding authorities from all countries, contain new developments in soil mechanics and foundation engineering. These articles are in either English or French with summaries and captions given in both languages.

K86 Lambe, T. William. Soil Testing for Engineers. New York, Wiley, 1951. 165p.

Serves as a textbook for students but the test procedures described are useful to the practicing engineer as well.

K87 Legget, R.F., ed. Soils in Canada: Geological, Pedological and Engineering Studies. Toronto, University of Toronto Press, 1961. 229p.

These papers demonstrate the progress now being made in Canada in the study of soils. They describe the occurrence, properties and problems of the major soil types of Canada from the geological, agricultural and the engineering or soil mechanics points of view.

K88 Peck, Ralph B., and others. Foundation Engineering. New York, Wiley, 1953. 410p.

Covers practical foundation engineering and new developments in soil mechanics.

K89 Prest, V.K. and Keyser, J. Hode. Surficial Geology and Soils, Montreal Area, Quebec. Montreal, Department of Public Works, 1962. v.p.

The text is in both French and English. Gives good description of Montreal soils. This is included only to give an example of the type of specific area studies needed in the library.

K90 Seelye, Elwyne E. Foundations, Design and Practice. New York, Wiley, 1956. 466p.

Provides information on construction methods and specifications for foundations as well as on design and costs.

K91 Taylor, Donald W. Fundamentals of Soil Mechanics. New York, Wiley, 1948. 700p.

This book was specially designed for use in courses offered to graduate engineering students at the Massachusetts Institute of Technology. It has less theory than Terzaghi's Theoretical Soil Mechanics and is not as complete on the practical aspects as Soil Mechanics in Engineering Practice by Terzaghi and Peck but is a good intermediary text for both phases.

K92 Terzaghi, Karl. Theoretical Soil Mechanics. New York, Wiley, 1943. 510p.

A major contribution to the knowledge of soil mechanics, covering the theoretical and mathematical aspects of the science. Is supplemented for the practical solution of problems by the following.

K93 Terzaghi, Karl and Peck, Ralph B. Soil Mechanics in Engineering Practice. New York, Wiley, 1948. 566p.

The treatment is less mathematical than in the preceding and the emphasis has been shifted to the practical analysis and solution of soil problems encountered in building.

K94 Tschebotarioff, Gregory P. Soil Mechanics, Foundations and Earth Structures. 1st ed. New York, McGraw-Hill, 1951. 655p.

The theoretical knowledge of soil mechanics gained in the last few decades is applied directly to practical problems in civil engineering. Much attention is given to the techniques of field and laboratory testing. Has a good bibliography.

K95 U.S. Bureau of Reclamation. Earth Manual; A Guide to the Use of Soils as Foundations and as Construction Materials for Hydraulic Structures. 1st ed. rev. Washington, Government Printing Office, 1963. 783p.

Summarizes recent technical information derived from field and laboratory investigations and construction control of soils used as foundations in the United States. The appendix describes standardized procedures for sampling, classification, and field and laboratory testing of soils.

K96 U.S. Department of Agriculture. Soil Survey Manual. Washington, Government Printing Office, 1951. 503p. (Handbook no.18)

This manual is to help soil scientists engaged in soil classification and mapping. The problems and methods described are primarily applicable to the United States and territories.

FUELS AND CARBONIZATION PRODUCTS

K97 Altieri, V. Joseph. Gas Analysis and Testing of Gaseous Materials. New York, American Gas Association, 1945. 567p.

Intended for use by gas chemists as a guide to standard procedures for analyzing and testing. Specific directions for apparatus, procedures and interpretation of tests are given. There is an extensive bibliography.

K98 Lowry, H.H., ed. The Chemistry of Coal Utilization. New York, Wiley, 1945. 2v.

--- --- Supplementary volume. New York, Wiley, 1963. 1142p.

The 1945 volume - now unfortunately out of print - was prepared by a staff of experts under the auspices of the National Research Council (U.S.) and was a very comprehensive work on coal and all the products that can be obtained from it by carbonization, hydrogenation and other methods. The supplementary volume contains the advances since 1945 in coal science and technology.

K99 Mullen, Paul W. Modern Gas Analysis. New York, Interscience, 1955. 354p. (Interscience Manual 6)

A compact manual on the chemical analysis of gases and mixtures of gases. The first part covers traditional methods based upon absorption; the second part, newer methods based upon various physical properties. Contains useful information as well on the instruments used in analysis.

K100 Wilson, Philip J. and Wells, Joseph H. Coal, Coke and Coal Chemicals. New York, McGraw-Hill, 1950. 494p.

Contains information on coal, high temperature coking, recovery of coal chemicals from coke-oven gas and distillation of tar. Each phase of the industry is covered. Out of print.

HIGHWAY ENGINEERING

The books listed in this section deal with roads in general; books which deal with specific road-building materials are listed in the sections on Asphalt and Cement and Concrete.

K101 Canadian Good Roads Association. Proceedings of the Annual Convention ... v.1- 1913- Ottawa, 1913- annual.

No Proceedings published for 1935, 1939, 1942-1945 (inclusive).

--- Technical Publications. 1- 1954- Ottawa, 1954-

These contain helpful information on road research, pavements and highway finance essential for Canadian engineers.

K102 U.S. Department of the Army. Roads and Airfields. Washington, Government Printing Office, 1957. 705p. (Technical Manual 5-250)

Covers technical training of and problems useful to the engineer engaged in road and airfield construction especially in wartime.

K103 U.S. Highway Research Board. Highway Research Record. 1- 1963- Washington, 1963-

Replaces the Bulletins and the Proceedings of the Board.

It is devoted mainly to papers given at annual meetings and each publication contains a number of papers all related to the same subject. These papers are of permanent reference value.

K104 Woods, K.B., ed. Highway Engineering Handbook. New York, McGraw-Hill, 1960. 1696p.

A very exhaustive study of modern highway engineering divided into 28 sections, each written by a specialist, covering the entire field from financing, planning and traffic engineering to design, construction, maintenance and landscaping of highways. Describes methods, standards, specifications and procedures for best highway engineering.

K105 Yoder, E.J. Principles of Pavement Design. New York, Wiley, 1959. 569p.

Sets forth basic principles that apply to both flexible and rigid airfield and highway pavements.

INDUSTRIAL CHEMISTRY

K106 Anderson, H.V. Chemical Calculations. 6th ed. New York, McGraw-Hill, 1955. 305p.

A useful guide for solving problems in chemical calculations since it employs a step-by-step procedure to show how a solution is reached.

K107 Kent, James A., ed. Riegel's Industrial Chemistry. 6th ed. New York, Reinhold, 1962. 963p.

Contains a wide range of information on major chemical industries and for the first time gives separate treatment to the chemical aspects of the pharmaceutical and nuclear industries. Each chapter has a list of references to the literature.

INKS see PAINTS, VARNISHES, LACQUERS AND INKS

INSPECTION see TESTING AND INSPECTION

LACQUERS see PAINTS, VARNISHES, LACQUERS AND INKS

LEATHER

K108 O'Flaherty, Fred and others. The Chemistry and Technology of Leather. New York, Reinhold, 1956-61. 3v. (American Chemical Society Monograph no.134)

Contents: v.1. Preparation for Tannage.
v.2. Types of Tannages.
v.3. Process Control of Leather Quality.

Represents the most authoritative and up-to-date knowledge of the technical aspects of tanning and leather manufacture. Three volumes have now been published and a fourth is due in 1965. Volume 2 is out of print.

LUBRICANTS see PETROLEUM AND LUBRICANTS

METALLURGY

K109 American Society for Metals. Metals Handbook, v.1. Properties and Selection of Metals. 8th ed. Novelty, Ohio, 1961. 1300p.

Has been written by metal experts and contains a fund of information on the selection and uses of metals. Extensively treated are carbon and low-alloy steels, cast irons, stainless steels and heat-resisting alloys, tool materials and non-ferrous metals.

K110 American Society of Mechanical Engineers. ASME Handbook; Metals Properties. New York, McGraw-Hill, 1954. 433p.

The properties of over 500 metals are given and data tabulated in tables and charts. Covers steels in common industrial use which conform to the specifications of the American Iron and Steel Institute as well as the American Society for Testing and Materials.

K111 Hillebrand, W.F. and others. Applied Inorganic Analysis with Special Reference to the Analysis of Metals, Minerals and Rocks. 2d ed. New York, Wiley, 1953. 1034p.

Describes analytical methods particularly suited to the analysis of metals, minerals and rocks. Some of the procedures are described in full and others only outlined.

K112 Liddell, Donald M. Handbook of Non-Ferrous Metallurgy. 2d ed. New York, McGraw-Hill, 1945. 2v.

Written by specialists, it gives a comprehensive survey of current practices in the reduction of ores and the refining of crude metals.

K113 Low, Albert H. and others. Technical Methods of Ore Analysis for Chemists and Colleges. 11th ed. New York, Wiley, 1939. 325p.

Standard reference book for laboratories even though it is old.

K114 U.S. Department of Defense. Cross-Index of Chemically Equivalent Specifications and Identification Code (Ferrous and Nonferrous Alloys). Washington, Government Printing Office, 1958. 366p. (MIL-Handbook-H1B)

Indexes General Services Administration (Federal) and Department of Defense (MIL being abbreviation for military and JAN indicating specifications were issued under the authority of the Army-Navy Joint Specifications Board) specifications for alloys giving their chemical analysis and the chemical analysis of their equivalents - in specifications of the American Society for Testing and Materials, Aeronautical Materials Specifications, Society of Automotive Engineers, American Iron and Steel Institute and Aluminum Association. A laboratory which does not have the required federal or military specification may be able to use one of the equivalents provided the difference in date is taken into consideration and the latest edition of the equivalent used. A new edition is expected in 1965.

K115 United States Steel Corporation. The Making, Shaping and Treating of Steel. 8th ed. Pittsburg, 1964. 1198p.

A standard reference book for the practical side of steel making.

K116 Wulff, John and others. Metallurgy for Engineers; Casting, Welding and Working. New York, Wiley, 1952. 624p.

The extraction of metals from their ores is not covered in this book but otherwise it is an all-inclusive treatment particularly suited to graduate engineers whose interest in metals is confined to their properties and working. Selected literature references are included with each chapter.

MINERALOGY

K117 Dana, James Dwight and others. The System of Mineralogy. 7th ed. New York, Wiley, 1944-1962. 3v.

Contents: v.1. Elements, Sulfides, Sulfosalts, Oxides.
v.2. Halides, Nitrates, Borates, Carbonates ...
v.3. Silica Minerals.

A widely known work that has long been the recognized authority on the classification of minerals. This revision has brought it up-to-date.

NONDESTRUCTIVE TESTING

K118 McGonnagle, Warren J. Nondestructive Testing. New York, McGraw-Hill, 1961. 455p.

Contains the practical methods in use today and the scientific principles upon which they are based. Along with the description of the methods it gives the advantages and limitations of each.

K119 Society for Nondestructive Testing. Nondestructive Testing Handbook by Robert C. McMaster. New York, Ronald, 1959. 2v.

Comprehensive and definitive reference book in which the major test methods are described by experts in the industry. Applications and equipment are also covered.

PAINTS, VARNISHES, LACQUERS AND INKS

K120 Apps, E.A. Ink Technology for Printers and Students. London, Leonard Hill, 1963. 3v.

Contents: Part 1. Manufacture and Testing of Printing Inks, Rollers and Blankets.
Part 2. Inks for the Major Printing Processes.
Part 3. Inks for the Minor Printing Processes and Specialized Applications.

These three parts cover all aspects of printing ink technology as well as the testing of printing inks, rollers and blankets. An up-to-date and comprehensive work.

K121 Gardner, Henry A. and Sward, George G. Physical and Chemical Examination - Paints, Varnishes, Lacquers and Colors. 12th ed. Bethesda, Md., Gardner Laboratory, 1962. 553p.

A very comprehensive volume for a chemical laboratory testing paints and varnishes.

K122 Payne, Henry Fleming. Organic Coating Technology. New York, Wiley, 1961-1962. 2v.

Contents: v.1. Oils, Resins, Varnishes and Polymers.
v.2. Pigments and Pigmented Coatings for Architectural and Industrial Applications.

Provides a concise treatment of the chemistry, manufacture and applications of the raw materials and finished products of the paint industry.

K123 Voet, A. Ink and Paper in the Printing Process. New York, Interscience, 1952. 220p.

The chemistry of ink and the interaction between paper and ink in the major printing processes are covered.

PAPER see CELLULOSE AND PAPER

PERFUMES see COSMETICS AND PERFUMES

PETROLEUM AND LUBRICANTS

K124 American Society for Testing and Materials. ASTM-IP Petroleum Measurement Tables, American ed., United States Units of Measurement. Philadelphia, 1952. 529p.

These tables are also published in the British edition (imperial system) and metric edition. All the individual tables are reprinted separately and may be purchased that way.

K125 --- Manual on Hydrocarbon Analysis. Philadelphia, 1963. 682p. (STP 332)

Comprehensive manual devoted to analysis of hydrocarbons. Discusses choice of methods of analysis and the interpretation of results obtained by them.

K126 Brooks, B.T., ed. The Chemistry of Petroleum Hydrocarbons. New York, Reinhold, 1954-1955. 3v.

An excellent treatise on the fundamentals of hydrocarbon chemistry. Unfortunately, volume one is now out-of-print.

PHARMACEUTICALS

K127 American Drug Index. 1956- Philadelphia, Lippincott, 1956- annual since 1958.

Information on drugs includes generic name, chemical name, trade name, manufacturer, ingredients, use and dosage.

K128 American Medical Association. New and Nonofficial Drugs; an Annual Compilation of Available Information on Drugs, Including their Therapeutic, Prophylactic and Diagnostic Status, as Evaluated by the Council on Drugs of the American Medical Association. 1906- Philadelphia, Lippincott, 1906- annual.

Known as New and Nonofficial Remedies from 1906-1955.

Contains much useful information on composition of new drugs - official and nonofficial - their uses, side effects, toxicity, precautions and dosage. The complete organizational names and addresses of commercial sources of drugs are listed in an appendix.

K129 Canada. Laws, Statutes, etc. Office Consolidation of the Food and Drugs Act and of the Food and Drug Regulations. Ottawa, Queen's Printer, 1954- 1v. Looseleaf.

See K65. It is unfortunate that Canada does not have an official pharmacopoeia such as the British Pharmacopoeia but the Food and Drug Directorate hopes to compile a volume of official methods for testing drugs in the future.

K130 Canadian Pharmaceutical Association. Compendium of Pharmaceutical Specialties (Canada), edited by F.N. Hughes. 2d ed. Toronto, 1963. 666p.

Contains alphabetical list of pharmaceutical specialties available in Canada as well as an index of manufacturers which lists the names of each manufacturer's products. Every six months a supplement will be published, and there will be three cumulations.

K131 The Dispensatory of the United States of America. New York, Lippincott, 1960. 2v.

Contains important nonofficial medicinals as well as those listed in the National Formulary, The Pharmacopeia of the United States of America and British Pharmacopoeia. Gives more history and background on drugs than the other three do. The second volume deals with a survey of new drug developments.

K132 Garratt, D.C. Quantitative Analysis of Drugs. 3d ed. London, Chapman & Hall, 1964. 925p.

This volume includes the latest trends in analytical techniques and gives critical descriptions of the quantitative methods for testing drugs and their pharmaceutical preparations.

K133 Higuchi, Takeru and Brochmann-Hanssen, Einar, eds. Pharmaceutical Analysis. New York, Interscience, 1961. 854p.

Each chapter deals with a specific class of drug. The various approaches to analytical determination of drugs are discussed and the advantages and disadvantages of each technique evaluated. It provides an excellent source of reference for methods and an extensive bibliography is found at the end of each chapter.

K134 Merck Index of Chemicals and Drugs; an Encyclopedia for Chemists, Pharmacists, Physicians and Members of Allied Professions. 7th ed. Rahway, N.J., Merck, 1960. 1641p.

This is a comprehensive reference book on chemicals and drugs, giving composition, uses and toxicity.

K135 U.S. Office of Federal Register. Food and Drugs revised as of January 1, 1964. Washington, Government Printing Office, 1964. 1224p. (Code of Federal Regulations Title 21)

See K70.

PLASTICS see SYNTHETIC RESINS AND PLASTICS

RUBBER AND OTHER ELASTOMERS

K136 Fisher, Harry L. Chemistry of Natural and Synthetic Rubbers. New York, Reinhold, 1957. 216p.

Surveys all commercial rubbers both natural and synthetic and their properties. Covers their history and chemistry.

K137 Whitby, G.S. and others, eds. Synthetic Rubber. New York, Wiley, 1954. 1044p.

This is a very comprehensive study prepared under the auspices of the Division of Rubber Chemistry of the American Chemical Society covering the manufacture of synthetic rubber.

SANITATION see WATER, SEWAGE AND SANITATION

SEWAGE see WATER, SEWAGE AND SANITATION

SOAP see DETERGENTS

SOIL MECHANICS see FOUNDATIONS AND SOIL MECHANICS

SOILS AND FERTILIZERS

K138 Bear, F.E., ed. Chemistry of the Soil. 2d ed. New York, Reinhold, 1964. 515p. (American Chemical Society Monograph no.160)

Interprets the chemical processes involved in soil development, and covers the chemical composition of soils with a special chapter on trace element chemistry and the relationship between plant roots and the soils in which they grow. Also contains a chapter on the biochemistry and radioactivity of soils which is of interest to those concerned with soil and plant contamination in relation to crops.

K139 Buckman, H.D. and Brady, N.C. Nature and Properties of Soils. 6th ed. New York, Macmillan, 1960. 567p.

An excellent textbook; the material is well presented and the illustrations are excellent. The authors deal primarily with principles rather than practices with the intention of developing a basic understanding of the subject that can be applied when the occasion arises.

K140 Canada. Department of Agriculture. Chemistry Division. Science Service. Chemical Methods of Soil Analysis. Ottawa, 1958. 89p. (Contribution no.169) Mimeo.

This is a very useful booklet which in terminology and presentation keeps in mind the needs of the analyst who is new to the field.

K141 Jacob, Kenneth D., ed. Fertilizer Technology and Resources in the United States. New York, Academic Press, 1953. 454p. (American Society of Agronomy. Agronomy, a series of monographs, v.3)

The material contained was first presented as a "Short Course in Fertilizer Technology" at the University of Maryland, August 21-25, 1950, sponsored by the Soil Science Society of America. The 14 chapters cover the chemistry, production and tonnages of nitrogen, phosphorus and potassium fertilizer materials and the manufacture of mixed fertilizers, with a final chapter on special fertilizers, special uses for fertilizers and non-fertilizer sources of plant nutrients. A carefully selected bibliography is appended to each chapter. This is the most inclusive and well-developed presentation of this subject that has been published and fills a highly important need.

K142 Sauchelli, Vincent, ed. Fertilizer Nitrogen: Its Chemistry and Technology. New York, Reinhold, 1964. 432p. (American Chemical Society Monograph no.161)

Contains recent research on and technology of synthetic ammonia, especially as it applies to the fertilizer industry. Gives chemical tests for determining nitrogen in the soil. Useful to chemists concerned with fertilizer control problems.

SUGAR

K143 Honig, Pieter, ed. Principles of Sugar Technology. New York, Elsevier, 1953-1963. 3v.

This book is of interest to technical operators and research workers in the sugar-cane industry. It reviews the international literature on sugar-cane technology, gives the physical and chemical properties of sucrose and the reducing sugars and the composition of the nonsugars of sugar-cane juice, their amounts, properties and reactions during purification.

K144 Meade, George P. Cane Sugar Handbook. 9th ed. New York, Wiley, 1963. 845p.

A technical survey of the various phases of cane sugar manufacture and refining, covering analytical procedures and written primarily for the control chemist.

K145 U.S. National Bureau of Standards. Polimetry, Saccharimetry and Sugars. Washington, Government Printing Office, 1942. 810p. (Circular C440)

--- --- Supplement July 31, 1958. Washington, Government Printing Office, 1958. 7p.

Methods of preparation and properties of sugars and their derivatives are given in great detail.

SYNTHETIC RESINS AND PLASTICS

K146 Flory, Paul J. Principles of Polymer Chemistry. Ithaca, N.Y., Cornell University Press, 1953. 688p.

Authoritative work covering the whole field of polymer chemistry.

K147 Simonds, Herbert R. and Church, James M. A Concise Guide to Plastics. 2d ed. New York, Reinhold, 1963. 392p.

Describes all known American commercial plastics and the information given includes basic data on strength, properties, processes, production and prices. Lists the most important plastics producers with addresses.

K148 Society of the Plastics Industry. SPI Plastics Engineering Handbook. 3d ed. New York, Reinhold, 1960. 607p.

A very good up-to-date reference book on plastic materials, methods and fabrication. Describes every step in the manufacturing operation. In the discussion of test methods for the properties of reinforced plastics the standards of the American Society for Testing and Materials as well as U.S. Federal government test procedures are taken into account. A numeric index of these test methods is included.

TESTING AND INSPECTION

K149 Davis, Harmer E. and others. The Testing and Inspection of Engineering Materials. 3d ed. New York, McGraw-Hill, 1964. 475p.

Covers concepts and principles of material testing, with specific reference to the mechanical properties of engineering materials. Discusses tests and equipment employed and includes information on nondestructive testing as well.

K150 Juran, J.M., ed. Quality Control Handbook. 2d ed. New York, McGraw-Hill, 1962. 800p.

Summarizes the know-how developed in industry for achieving better quality at lower cost. It gives detailed examples of actual use of quality control in various industries such as the textile industry.

K151 Keyser, Carl A. Materials of Engineering; Properties, Fabrication, Uses and Testing. Englewood Cliffs, N.J., Prentice-Hall, 1956. 502p.

Contains a wide range of basic and practical information on the major engineering materials.

K152 Mantell, Charles L., ed. Engineering Materials Handbook. New York, McGraw-Hill, 1958. 1906p.

Each section is prepared by a specialist and gives comprehensive information on engineering materials - their properties, advantages and limitations.

TEXTILE CHEMISTRY see DYES AND TEXTILE CHEMISTRY

TOXICOLOGY

K153 Jacobs, Morris B. The Analytical Chemistry of Industrial Poisons, Hazards and Solvents. 2d ed. New York, Interscience, 1949. 806p.

A comprehensive technical treatment of interest not only to toxicologists, but also to specialists in industrial hygiene. Most of the spade is devoted to detailed descriptions of analytical procedures. However, data are also included on physical and chemical properties, toxicity and detection of poisons. Contains selected references at the end of each chapter.

K154 Sax, N. Irving, ed. Dangerous Properties of Industrial Materials. 2d ed. New York, Reinhold, 1963. 1343p.

Sets out the hazardous properties of chemical compounds and other industrial materials and what precautions should be taken in handling them. The materials are all listed alphabetically and the following points are covered for most of those included: hazardous properties, storage and handling, synonyms, chemical formula, chemical and physical properties, as well as shipping regulations for the United States.

VARNISHES see PAINTS, VARNISHES, LACQUERS AND INKS

WATER, SEWAGE AND SANITATION

K155 American Petroleum Institute. Division of Refining. Manual on Disposal of Refinery Wastes. Volume 4. Sampling and Analysis of Waste Water. New York, 1957. Looseleaf.

These procedures have all been laboratory tested, most of them being the product of cooperative testing of several equivalent procedures.

K156 American Society for Testing and Materials. Papers on Industrial Water and Industrial Waste Water. Philadelphia, 1963. 78p. (STP 337)

These papers contain information on sampling and testing industrial water and industrial waste water.

K157 Betz Laboratories Inc. Betz Handbook of Industrial Water Conditioning. 6th ed. Philadelphia, 1962. 425p.

The first section discusses industrial water treatment problems and processes. The second section deals with methods for control water analysis and their interpretation. Provides good basic background for the chemist working with industrial water problems.

K158 California. State Water Quality Control Board. Water Quality Criteria, edited by Jack Edward McKee and Harold W. Wolf. 2d ed. Sacramento, 1963. 548p.

This is a survey and evaluation of the literature as well as a compendium of data on water quality criteria. Contains an extensive list of references.

K159 Klein, Louis. River Pollution 1: Chemical Analysis. London, Butterworths, 1959. 624p.

Provides a chemical background and supplements current information on analytical methods as applied to river pollution problems arising from sewage and trade wastes.

K160 Prescott, Samuel Cate and others. Water Bacteriology with Special Reference to Sanitary Water Analysis. 6th ed. New York, Wiley, 1946. 368p.

The authors have accepted as basic the Standard Methods of Water Analysis of the American Public Health Association and have tried to provide here the historical and philosophical background for comprehension of the meaning of those methods.

K161 Sawyer, Clair N. Chemistry for Sanitary Engineers. New York, McGraw-Hill, 1960. 367p.

The second part of this book treats methods of analyzing water, sewage and industrial wastes and is very useful to a laboratory carrying out tests on these. The overall picture here is practical, but essential theory has not been neglected.

K162 Steel, E.W. Water Supply and Sewage. 4th ed. New York, McGraw-Hill, 1960. 655p.

Deals with the design, construction and operation of water and sewage works, water treatment methods for purification and the appendix contains the United States Public Health Service Drinking Water Standards.

WAXES see FATS, FATTY OILS AND WAXES

SECTION L

SERIALS

ANALYTICAL CHEMISTRY

L1 Analyst; the Journal of the Society for Analytical Chemistry. v.1- April 1877- Cambridge, England, W. Heffer. monthly.

Cumulative index issued every ten years for v.1-80 (1876/1955)

An authoritative journal which covers all branches of analytical chemistry. Also has book reviews.

L2 Analytical Chemistry. v.1- January 15, 1929- Washington, American Chemical Society. monthly.

1929-1948 Industrial and Engineering Chemistry, Analytical edition. Indexes 1929/1943; 1944/1958 and 1959/1963.

An indispensable journal covering the field of analysis, testing and quality control. Also reviews books. The April issue each year is devoted to reports of progress and reviews.

L3 Association of Official Agricultural Chemists. Journal. v.1- May 1915- Washington. 6 times a year.

Supersedes Convention of Agricultural Chemists.

Most of the journal is devoted to analytical methods in the field of agricultural chemistry and supplements its Official and Tentative Methods of Analysis, which is revised every five years.

ASPHALT

L4 Asphalt; a Quarterly Publication of the Asphalt Institute. v.1- April/June 1949- College Park, Maryland. quarterly.

Contains articles on developments in the use of asphalt and also lists the Asphalt Institute's new publications.

CARBONIZATION PRODUCTS see FUELS AND CARBONIZATION PRODUCTS

CELLULOSE AND PAPER

L5 Canadian Pulp and Paper Industry. v.1- August 1948- Vancouver, Mitchell Press. monthly.

v.1-2 no.8, August 1948-August 1949 as Western Pulp and Paper.

Contains technical papers and news of the Canadian pulp and paper industry.

L6 Pulp and Paper Magazine of Canada. v.1- 1903- Gardenvale, Que., National Business Publications. monthly.

v.33-36, March 1932-December 1935 as Pulp and Paper of Canada. v.33-35 also as new series.

Is the official organ of the Canadian Pulp and Paper Association Technical Section. Contains excellent technical articles on pulp and paper. In February an additional issue is published on the Association's convention.

L7 Tappi. v.32- 1949- New York, Technical Association of the Pulp and Paper Industry. monthly.

Supersedes the Association's Tappi Bulletin and Technical Association Papers, assuming volume numbering of the latter (v.1-31, 1918-1948)

Contains excellent technical articles and book reviews. Includes abstracts of United States patents on pulp and paper.

CEMENT AND CONCRETE

Much of the research in this field is published in journals on industrial chemistry or engineering; the most important specialized journals are listed below.

L8 American Concrete Institute. Journal. v.1- 1929- Detroit. monthly.

Contains good articles as well as a section, "Current reviews of significant contributions in foreign and domestic publications".

L9 Concrete and Constructional Engineering Including Prestressed Concrete. v.1- March 1906- London, Concrete Publications. monthly.

Contains good technical articles and book reviews.

L10 Magazine of Concrete Research. no.1- January 1949- London, Cement and Concrete Association. 3 times a year.

Specializes in technical articles on research in concrete; it is primarily concerned with English and European conditions and standards. Lists "Papers and Books on Cement and Concrete received in the Cement and Concrete Association Library".

L11 Portland Cement Association. Research and Development Laboratories. Journal. v.1- 1959- Skokie, Ill. 3 times a year.

Contains good research articles on concrete and related subjects.

L12 Prestressed Concrete Institute. Journal. v.1- 1956- Chicago. quarterly.

Good technical articles on prestressed concrete. Source of pre-prints of specifications.

L13 Public Roads; a Journal of Highway Research. v.1- May 1918- Washington, Government Printing Office. bi-monthly.

Suspended 1922-February 1924. v.1-20 no.4, 1918- June 1939 issued by U.S. Department of Agriculture. Bureau of Public Roads.

Contains articles on highway research and technical articles on concrete embodying the results of research of the U.S. Bureau of Public Roads.

CHEMISTRY, ANALYTICAL see ANALYTICAL CHEMISTRY

CHEMISTRY, INDUSTRIAL see INDUSTRIAL CHEMISTRY

CONSTRUCTION

Just as for cement and concrete much research in this field is published in industrial chemistry and engineering journals and must be sought there. Consequently the periodicals listed in this section are chiefly those which contain information on tender calls and awards for construction jobs since these announcements are important leads for the firm seeking inspection and testing work. Daily newspapers should also be checked for current information on these matters.

L14 Building Research News. no.1- January 1962- Ottawa, National Research Council (Canada). Division of Building Research. quarterly.

As the title implies this periodical contains current information about building and supplements, the Division's annual publication, Building Research.

L15 Canadian Building Digest. no.1- January 1960- Ottawa, National Research Council (Canada). Division of Building Research. monthly.

Each digest deals with one topic and contains the latest technical information on it. Among the subjects covered are engineering site investigations, concrete house foundations, roof, window, wall, construction, etc.

L16 Daily Commercial News and Building Record. May 16, 1927- Toronto, Daily Commercial News. Daily except Saturday and Sunday.

Lists tenders, bidders and awards on construction jobs in Canada, and also publishes articles of interest to the contractor, engineer and building inspector.

L17 Foreign Projects Newsletter. v.1- 1958- Van Nuys, California, Richards, Lawrence. bi-weekly.

Lists new construction and industrial expansion outside the United States, and so covers Canada.

L18 Heavy Construction News. v.1- 1957- Toronto, Maclean-Hunter. weekly.

Reports Canadian construction projects and contains timely articles on projects in progress.

L19 Maclean Building Reports. 1911? Don Mills, Ont., Southam Business Publications. almost daily.

This is a card service rather than a journal which reports on business buildings, industrial buildings, residential buildings and engineering projects which are being planned, and then follows up these reports with additional information on general contractor, architect and firm awarded the contract. It is possible to subscribe to the section or sections required.

CORROSION

Information on corrosion will also be found in metallurgical journals.

L20 Corrosion; a Journal of Science and Engineering. v.1- March 1945- Houston, Texas, National Association of Corrosion Engineers. monthly.

Indexes 1945/1954; 1955/1959. Included abstracts until Corrosion Abstracts was started in 1962.

Devoted to technical and research articles on progress in corrosion control. This is the outstanding corrosion journal in North America.

L21 Materials Protection. v.1- 1962- Houston, Texas, National Association of Corrosion Engineers. monthly.

Emphasis is on protection of materials from corrosion; articles are less technical than those in Corrosion. Contains book reviews and news of the activities of the National Association of Corrosion Engineers.

COSMETICS AND PERFUMES

Information in this field will also be found in the pharmaceutical journals.

L22 Manufacturing Chemist and Aerosol News. v.1- July 1930- London, Grampian Press. monthly.

At the end of 1963 Chemical Products and Aerosol News merged with Manufacturing Chemist.

Covers material on drugs and cosmetics, has a regular feature on new products and materials, lists new patents and contains a section on book reviews.

L23 Society of Cosmetic Chemists. Journal. v.1- 1947- Easton, Pa. irregular.

Contains research articles, news of the Society of Cosmetic Chemists and book reviews.

DETERGENTS

L24 American Oil Chemists' Society. Journal. v.1- July 1924- Chicago. monthly.

v.1-3, 1924-1926 as Journal of Oil and Fat Industries, v.4-8 no.11, 1927-November 1931 Oil and Fat Industries, v.9-23, 1932-1946 as Oil and Soap.

Has an extensive abstract section which covers fats, oils, soaps, detergents and waxes. Includes a comprehensive annual review of literature on fats, oils and soaps.

DYES AND TEXTILE CHEMISTRY

L25 American Dyestuff Reporter; Textile Wet-Processing. v.1- October 1917- New York, Howes. fortnighly.

Many research papers on textiles, dyes and dyeing appear in this journal. Has excellent abstract and patent sections.

L26 America's Textile Reporter. v.1- 1887- Boston, Frank P. Bennett. weekly.

This was formerly the American Wool, Cotton and Financial Reporter, 1887-August 1891; September 1891-June 1896 as Wool and Cotton Reporter and Financial Gazette; June 1896-April 16, 1908 Wool and Cotton Reporter, April 23, 1908-October 1951 American Wool and Cotton Reporter.

Gives news of the American textile industry. Includes Annual Review Number.

L27 Canadian Textile Journal. v.1- 1883- Montreal. fortnighly.

v.1-24 as Canadian Journal of Fabrics.

Good technical articles as well as news of the Canadian textile industry are included.

L28 Textile Research Journal. v.1- February 1931- Princeton, Textile Research Institute. monthly.

v.1-2, 1931-September 1932 as the Institute's Bulletin, with running title: T.R.I. Bulletin; v.3-15 no.1, October 1932-January 1945 as Textile Research.

This is an outstanding technical journal for textile research.

L29 Textile World. v.1- 1888- New York, McGraw-Hill. monthly.

v.1-7 no.6, 1888-June 1894 as Textile Manufacturing World; v.7, no.7-v.11, July 1894- December 1896 Textile World; v.12-24, January 1897-March 1903 Textile World and Industrial Record, v.25-50, April 1903-November 1915 Textile World Record, v.51-59, no.5, December 1915-January 1921 Textile World Journal.

This is very useful for trade information of many kinds. Includes Annual Review and Forecast Number.

ELASTOMERS see RUBBER AND OTHER ELASTOMERS

ENGINEERING

L30 Civil Engineering; Magazine of Engineered Construction. v.1- October 1930- New York, American Society of Civil Engineers. monthly.

Concentrates on valuable technical articles geared to civil engineering. Also reviews books.

L31 Construction Methods and Equipment. v.1- July 1919- New York, McGraw-Hill. monthly.

Has good technical articles and includes a list of new manufacturers' catalogues and bulletins which cover construction equipment and materials.

L32 Engineering. v.1- January 5, 1866- London. weekly.

Contains valuable articles pertaining mostly to British and European developments in engineering with a few on chemistry. Has useful book review section.

L33 Engineering and Contract Record. v.1- 1890- Don Mills, Ont., Southam Business Publications. monthly.

v.1-19 no.19, 1890-May 6, 1908 as Canadian Contract Record; v.19 no.20-v.25, May 13, 1908-December 1911 Contract Record; v.26-47, no.21, 1912-May 1933 Contract Record and Engineering Review. Absorbed Canadian Architect and Builder May 1908 and continued its numbering. March 1964 incorporated Roads and Engineering Construction.

Comprises articles on the Canadian engineering construction industry. Since its incorporation of Roads and Engineering Construction it has extended coverage of roadbuilding.

L34 Engineering Journal. v.1- May 1918- Montreal, Engineering Institute of Canada. monthly.

Contains technical articles and lists books received by the Engineering Institute.

L35 Engineering News-Record. v.1- April 1874- New York, McGraw-Hill. weekly.

v.1, no.1, April 1874 as Engineer and Surveyor, v.1 no.2-9, May-December 1874 Engineer, Architect and Surveyor, v.2-8, January 1875-May 1882 Engineering News, v.9-18, May 1882-February 1888 Engineering News and American Contract Journal, v.19-48, February 1888-August 21, 1902 Engineering News and American Railway Journal, v.48-77, August 28, 1902-March 29, 1917 Engineering News; a Journal of Civil Engineering and Construction.

Gives engineering news, convention dates, book reviews, contract tenders and awards in addition to cost of labour and materials by geographical regions for Canada and the United States in March, June, September and December.

FATS, FATTY OILS AND WAXES

L36 American Oil Chemists' Society. Journal. v.1- July 1924- Chicago. monthly.

v.1-3, 1924-1926 as Journal of Oil and Fat Industries, v.4-8 no.11, 1927-November 1931 Oil and Fat Industries, v.9-23, 1932-1946 as Oil and Soap.

This is a very useful journal which has extensive abstract section covering fats, oils, soaps, detergents and waxes. Includes a comprehensive annual review of literature on fats, oils and soaps.

FOODS

L37 Association of Official Agricultural Chemists. Journal. v.1- May 1915- Washington. 6 times a year.

For description see L3.

L38 Food Engineering. v.1- October 1928- Philadelphia, Chilton. monthly.

v.1-23, no.3, October 1928-March 1951 as Food Industries.

Is a good trade journal with regular sections on equipment and advances in food technology.

L39 Food Technology. v.1- 1947- Chicago, Institute of Food Technologists. monthly.

Contains technical articles on practical aspects of food production; includes also abstracts and book reviews.

L40 Journal of Agricultural and Food Chemistry. v.1- April 1953- Washington, American Chemical Society. bi-monthly.

Covers progress in research in the fields of food processing, fertilizers and pesticides.

L41 Journal of the Science of Food and Agriculture (including abstracts). v.1- 1950- London, Society of Chemical Industry. monthly.

Comprises original work on food and agriculture and includes an extensive abstracts section.

FOUNDATIONS AND SOIL MECHANICS

L42 Canadian Geotechnical Journal. v.1- September 1963- Toronto, c/o Civil Engineering Department, University of Toronto. quarterly.

This journal has the official sponsorship of the Associate Committee on Soil and Snow Mechanics of the National Research Council and of the Engineering Institute of Canada through the Geotechnical Division of its Committee on Technical Operations. The first issue was presented at the opening of the NRC/ASTM Soil Shear Conference in Ottawa on 9 September 1963. The papers deal mostly with soil mechanics, but also with associated subjects such as engineering geology, pedology, muskeg and the mechanics of snow and ice.

L43 Geotechnique; International Journal of Soil Mechanics. v.1- June 1948- London, Institution of Civil Engineers. quarterly.

Subject and author index for v.1-10 (1948/49-1960) is available.

This is an outstanding technical journal dealing with soil mechanics, and has a book review section.

FUELS AND CARBONIZATION PRODUCTS

Some of the research in this field also appears in industrial chemistry journals.

L44 Fuel; a Journal of Fuel Science. v.1- 1922- London, Butterworths. bi-monthly.

v.1-26, 1922-1947 as Fuel in Science and Practice. v.1 is supplement to Colliery Guardian.

Contains articles on fuel and combustion and book reviews.

L45 Institute of Fuel. Journal. v.1- December 1926- London. monthly.

v.1, no.1 as Institute of Fuel Proceedings. Cumulative index published every five years.

Contains book reviews and papers of chemical interest.

HIGHWAY ENGINEERING

L46 Engineering and Contract Record. v.1- 1890- Don Mills, Ont., Southam Business Publications. monthly.

For description see L33.

L47 Public Roads; a Journal of Highway Research. v.1- 1918- Washington, Government Printing Office. bi-monthly.

Suspended 1922-February 1924. v.1-20 no.4, 1918-June 1939 issued by U.S. Department of Agriculture, Bureau of Public Roads.

Contains articles on highway research and technical articles on concrete. Good source for traffic research information.

INDUSTRIAL CHEMISTRY

L48 American Chemical Society. Journal. v.1- 1879- Washington, semi-monthly.

One of the most important journals devoted to pure chemical research. Papers cover basic work in organic, physical and biological chemistry and their broad coverage helps the specialist in one field of chemistry to keep informed about the other fields. There are also informative reviews of new books on chemistry and related subjects.

L49 Canadian Chemical Processing. v.1- 1917- Don Mills, Ont., Southam Business Publications. monthly.

v.1-4 May 1917-December 1920 as Canadian Chemical Journal; v.5-21, 1921-37 Canadian Chemistry and Metallurgy; v.22-35 no.5, 1938-May 1951 Canadian Chemistry and Process Industries.

Covers all fields of industrial chemistry including from research work to trade literature.

L50 Canadian Journal of Chemical Engineering. v.35- 1957- Ottawa, Chemical Institute of Canada. bi-monthly.

Formerly the Canadian Journal of Technology (v.29, 1951-v.34, 1956) and before that section F of Canadian Journal of Research, v.1-28, May 1929-1950.

Features papers dealing with original scientific research.

L51 Canadian Journal of Chemistry. v.29- 1951- Ottawa, National Research Council (Canada). monthly.

This is a continuation of section B of the Canadian Journal of Research (1929-1950).

Publishes papers on the results of original scientific research.

L52 Chemical Age; a Weekly Journal of Chemical Engineering and Industrial Chemistry. v.1- June 1919- London, Benn Brothers. weekly.

Useful for information on developments in industrial and engineering chemistry.

L53 Chemical and Engineering News. v.1- 1923- Washington, American Chemical Society. weekly.

v.1-17, 1923-1939 as Industrial and Engineering Chemistry. News edition; v.18-19, 1940-41 as the Society's Journal. News Edition.

Gives up-to-date chemical news for the United States and foreign countries. Announces new equipment available, reviews new books and gives prices of chemicals.

L54 Chemical Engineering. v.1- September 1902- New York, McGraw-Hill. fortnightly.

v.1-2 as Electrochemical Industry; v.3-7, 1905-09 Electrochemical and Metallurgical Industry; v.8-18, 1910-June 1918 Metallurgical and Chemical Engineering; v.19-53, no.7, July 1918-July 1946 Chemical and Metallurgical Engineering.

Good source for developments in the chemical process industries, market statistics and general information. Includes some abstracts. June issue contains a special technical report while November issue reports on materials of construction.

L55 Chemical Society. Journal. v.1- 1847- London. monthly.

Supersedes its Memoirs and Proceedings. v.1-14 as Quarterly Journal; v.16-29 also as new series v.1-14. v.33-128, 1878-1925 in two parts, Transactions and Abstracts.

Highly technical and deals primarily with scientific research in the fields of inorganic, organic and physical chemistry.

L56 Chemical Week. v.19- May 13, 1926- New York, McGraw-Hill. weekly.

Continues in part, and assumes the numbering of Drug and Chemical Markets. v.19-33, no.3, 1926-September 1933 as Chemical Markets; v.33, no.4-v.67 no.6, October 1933-December 1950 Chemical Industries; v.68 no.1-19, January-May 1951 Chemical Industries Week.

A trade publication with emphasis on the business and economic phases of the chemical industries.

L57 Chemistry in Canada. v.1- April 1949- Ottawa, Chemical Institute of Canada. monthly.

Devoted to news and general information about chemistry in Canada.

L58 I & EC. v.1- 1909- Washington, American Chemical Society. monthly.

v.1-14, 1909-22 as Journal of Industrial and Engineering Chemistry.

Contains articles on new work of value to industrial chemists.

L59 Industrial and Engineering Chemistry. Fundamentals. v.1- 1962- Washington, American Chemical Society. quarterly.

Reports findings fundamental to the further development of industrial and engineering chemistry.

L60 --- Process Design and Development. v.1- 1962- Washington, American Chemical Society. quarterly.

Reports new findings which contribute to the design of new processes.

L61 --- Product Research and Development. v.1- 1962- Washington, American Chemical Society. quarterly.

Reports findings on new or improved chemical products.

L62 Journal of Applied Chemistry. v.1- 1951- London, Society of Chemical Industry. monthly.

Formerly the Society's Journal.

Contains an extensive section of abstracts which cover chemical engineering, industrial inorganic chemistry, industrial organic chemistry, fats and fibres, as well as original papers.

INKS see PAINTS, VARNISHES, LACQUERS AND INKS

INSPECTION see TESTING AND INSPECTION

LACQUERS see PAINTS, VARNISHES, LACQUERS AND INKS

LEATHER

L63 American Leather Chemists' Association. Journal. v.1- 1906- Cincinnati, Department of Leather Research, University of Cincinnati. monthly.

Indexes have been published for v.1-10, 1906-1915, v.11-20, 1916-1925.

This valuable journal publishes original papers and includes a comprehensive abstract section.

LUBRICANTS see PETROLEUM AND LUBRICANTS

METALLURGY

Papers on metallurgy often appear also in journals of general industrial chemistry.

L64 Canadian Metallurgical Quarterly. v.1- 1962- Ottawa, Canadian Institute of Mining and Metallurgy and the Mines Branch of the Department of Mines and Technical Surveys. quarterly.

Contains scientific articles on metals, many of which have not previously been published.

L65 Canadian Mining and Metallurgical Bulletin. v.1- 1908- Montreal, Canadian Institute of Mining and Metallurgy. monthly.

1908-13 as the Institute's Quarterly Bulletin; 1914-26 Monthly Bulletin.

Good technical articles on mining and metallurgy in Canada.

L66 Canadian Mining Journal. v.1- 1882- Gardenvale, Que., National Business Publications. monthly.

v.1-28, no.2, 1882-February 1907 as Canadian Mining Review; v.28, no.3, March 1907- also as ns. v.1-

Technical articles on Canadian mining.

L67 Engineering and Mining Journal. v.1- 1866- New York, McGraw-Hill. monthly.

v.1-7, 1866-June 1869 as American Journal of Mining; v.8-113, July 1869-March 1922 Engineering and Mining Journal; v.114-21, April 1922-June 1926 Engineering and Mining Journal-Press.

A trade journal that includes some metallurgy. June issue contains mining guidebook and buying directory.

L68 Iron Age. v.1- April 1859- Philadelphia, Chilton. weekly.

Supersedes Hardware-Man's Newspaper and American Manufacturer's Circular. v.6-10, April 1, 1868-December 1872 never published? v.104 no.15-19, October 9-November 6, 1919 as Iron Age Emergency Market Bulletin.

A leading trade journal which covers the metal market and has helpful book reviews.

L69 Journal of Metals. v.1- 1949- New York, Metallurgical Society, American Institute of Mining, Metallurgical and Petroleum Engineers. monthly.

A very important publication that surveys most of the new developments in scientific work on metallurgy in the United States.

L70 Metal Finishing; Devoted Exclusively to Metallic Surface Treatment. v.1- June 1903- Westwood, N.J., Metals and Plastics Publications. monthly.

Formed by the union of Aluminum World, Brass Founder and Finisher and Electroplaters' Review. v.1-38 no.5, June 1903-May 1940 as Metal Industry.

Includes abstracts.

L71 Northern Miner; a Weekly Newspaper Devoted to the Mining Industry of Canada. v.1- 1915- Toronto. weekly.

Gives current developments in the mining industry in Canada. Its articles may give leads to inspection and testing work which a firm may want to investigate.

NONDESTRUCTIVE TESTING

L72 Materials Evaluation. v.1- Summer 1942- Evanston, Ill., Society for Nondestructive Testing. monthly.

v.1-4, Summer 1942-Spring 1946 as Industrial Radiography; v.5-6, no.1 Summer 1946-Summer 1947 as Industrial Radiography and Non-Destructive Testing; v.6 no.2-v.21 no.6, Fall 1947-November/December 1963 as Nondestructive Testing.

Contains very good technical articles on nondestructive testing. Has section on current literature dealing with the subject.

PAINTS, VARNISHES, LACQUERS AND INKS

L73 American Paint Journal. v.1- 1916- St.Louis. weekly.

Contains news of the paint industry and statistics.

L74 Oil, Paint and Drug Reporter. v.1- 1871- New York, Schnell Publishing. weekly.

This is good for trade information and statistics. August issue contains Buyer's Directory.

PAPER see CELLULOSE AND PAPER

PERFUMES see COSMETICS AND PERFUMES

PETROLEUM AND LUBRICANTS

L75 Canadian Petro Engineering; Oil and Gas Technology for Producting, Processing and Management. v.1- 1960- Don Mills, Ont., Southam Business Publications. monthly.

Incorporated Canadian Oil and Gas Industries in January 1964.

Has articles on the oil and gas industries in Canada as well as petrochemicals. December issue contains directory of equipment and chemicals for Canada's petroleum industry.

L76 Oil and Gas Journal. v.1- 1902- Tulsa, Okla., Petroleum Publishing. weekly.

v.1-8, 1902-May 1910 as Oil Investors' Journal.

Deals with the technology of the oil industry: pipelines, refining, petrochemicals, exploration and production.

L77 Oilweek. v.1- 1952- Calgary, Myers' Oil News. weekly.

Incorporated Oil in Canada in October 1963 (v.14, no.35, October 14, 1963)

Contains news of the oil industry in Canada.

L78 Petroleum. v.1- 1938- London, Leonard Hill. monthly.

Covers news of the petroleum industry around the world and has technical articles and book reviews.

PHARMACEUTICALS

L79 Canadian Pharmaceutical Journal. v.1- 1868- Toronto, Canadian Pharmaceutical Association. semimonthly.

Covers Canadian pharmaceutical news and has a small section of scientific articles.

L80 Drug Merchandising. v.1- 1920- Toronto, Maclean-Hunter. monthly.

v.1-5, 1920-24 as Druggists' Weekly.

This is a trade publication for the drug companies and contains very little general technical information.

L81 Journal of Pharmaceutical Sciences. v.1- 1912- Washington, American Pharmaceutical Association. monthly.

Known as Journal v.1-28, 1912-1939; then continued in two editions - Scientific and Practical. The Scientific edition merged with Drug Standards in 1961.

Is a leading journal in the field containing technical and research articles, drug standards and book reviews.

PLASTICS see SYNTHETIC RESINS AND PLASTICS

RUBBER AND OTHER ELASTOMERS

L82 Rubber Age. v.1- March 26, 1917- New York, Palmerton Publishing. monthly.

This is a very useful trade journal which gives factual articles on rubber manufacturing. Has book reviews.

L83 Rubber Chemistry and Technology. v.1- April 1928- Lancaster, Pa., Division of Rubber Chemistry, American Chemical Society. 5 times a year.

Collective indexes 1928-1937.

This is a major technical journal which contains good research articles. Translations from Russian and other journals are a special feature.

SANITATION see WATER, SEWAGE AND SANITATION

SEWAGE see WATER, SEWAGE AND SANITATION

SOAP see DETERGENTS

SOIL MECHANICS see FOUNDATIONS AND SOIL MECHANICS

SUGAR

L84 International Sugar Journal; a Technical and Commercial Periodical Devoted entirely to the Sugar Industry. v.1- 1899- London. monthly.

Supersedes Sugar Cane. Subtitle varies.

Contains valuable papers on the sugar industry and includes good abstract and book review sections.

SYNTHETIC RESINS AND PLASTICS

L85 Canadian Plastics. v.1- August 1943- Don Mills, Ont., Southam Business Publications. monthly.

Contains articles on new developments in plastics with special reference to Canada.

L86 Modern Plastics. v.1- October 1925- New York. monthly.

v.1-3 no.4, 1925-April 1927 as Plastics; v.3 no.5-v.8, May 1927-January 1933 Plastics and Molded Products; v.9-11 no.2, March 1933-August 1934 Plastic Products.

This is a useful trade journal that includes some abstracts. Subscription includes annual Modern Plastics Encyclopedia - published in September - which attempts to cover technological developments during the year.

TESTING AND INSPECTION

L87 Applied Materials Research; an International Journal of the Properties and Testing of Engineering Materials. v.1- April 1962- London, Heyworth. quarterly.

v.1, no.1-2, April-July 1962 as Materials Research.

Covers the development of techniques for controlling the quality of engineering materials and contains original research papers from time to time.

L88 Canadian Standards Association. CSA News Bulletin. v.1, no.1- April 1961- Ottawa. quarterly.

v.1-12, no.1, March 31, 1927-March 1938 as C.E.S.A. Bulletin; v.12, no.2-v.18, no.1, June 1938-March 1944 Quarterly Bulletin of the Canadian Engineering Standards Association; v.18, no.2 June 1944-v.34, no.4 January 1961 as Quarterly Bulletin of Canadian Standards Association.

Gives information on work being done on new and revised Canadian Standards.

L89 Magazine of Standards. no.50-56, June-December 1930; v.2- 1931- New York, American Standards Association. monthly.

nos.1-49 mimeographed sheets sent to members only, v.2 also called no.57-68, no.1-v.3 no.6, - June 1932 as A.S.A. Bulletin, v.3 no.7-v.4 no.6, July 1932-June 1933 Industrial Standardization, v.4 no.7-v.19, July 1933-1948 Industrial Standardization and Commercial Standards Monthly, v.20-24, 1949-1953 Standardization.

Contains news on American and international standards.

L90 Materials Research & Standards. v.1- 1961- Philadelphia, American Society for Testing and Materials. monthly.

Known as the ASTM Bulletin from 1921 to 1960.

Covers specifications and methods of testing engineering materials. Contains authoritative technical articles and reviews new ASTM and other technical publications. Lists Office of Technical Services Reports that have been made available to the public.

TEXTILE CHEMISTRY see DYES AND TEXTILE CHEMISTRY

VARNISHES see PAINTS, VARNISHES, LACQUERS AND INKS

WATER, SEWAGE AND SANITATION

L91 American Water Works Association. Journal. v.1- March 1914- New York. monthly.

Supersedes its Proceedings v.1-33, 1881-1913. Has collective indexes 1881/1939; 1940/1944.

Publishes authoritative technical articles; an excellent abstract section and new AWWA specifications.

L92 Canadian Municipal Utilities. v.78- 1940- Don Mills, Ont., Southam Business Publications. monthly.

Formerly part of Canadian Engineer; v.78-87, 1940-1949 as Water and Sewage; v.88 no.1-8, 1950 Water and Sanitation; v.88 no.9-v.91 September 1950-1953 Municipal Utilities; v.92-v.97 no.2, 1954-February 1959 as Municipal Utilities Magazine; v.97 no.3, March 1959- became Canadian Municipal Utilities.

Contains information on Canada's municipal water and sewage works both existing and projected.

WAXES see FATS, FATTY OILS AND WAXES

INDEX TO AUTHORS AND SUBJECTS
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INDEX TO AUTHORS AND SUBJECTS

Each entry corresponds to number in the guide.

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American Pharmaceutical Association. The National Formulary, I40.

American Public Health Association. Standard Methods for the Examination of Dairy Products, Bacteriological, Bioassay and Chemical, I25. Standard Methods for the Examination of Water and Wastewater Including Bottom Sediments and Sludges, I49.

American Road Builders' Association. Soil Tests, K72.

American Society for Metals. Metals Handbook, v.1. Properties and Selection of Metals, K109.

American Society for Testing and Materials. ASTM-IP Petroleum Measurement Tables, K124. ASTM Standards in Building Codes, I17. ASTM Standards Relating to Petroleum Products and Lubricants, I38. ASTM Symposium on Laboratory Shear Testing of Soils, K73. Book of ASTM Standards, I1, I6, I7, I8, I12, I13, I20, I21, I23, I28, I29, I31, I32, I33, I37, I44, I45. Directory of Laboratories - Commercial and Institutional, F13. Five-Year Bibliography on Fatigue 1950-1954, B22. Manual on Hydrocarbon Analysis, K125. Manual on Industrial Water and Industrial Waste Water, I50. Paper and Paperboard, K16. Papers on Industrial Water and Industrial Waste Water, K156. Procedures for Testing Soils, K74. References on Fatigue, B23. Significance of Tests and Properties of Concrete and Concrete Aggregate, K23. Symposium on Field Tests and Measurements for Soils and Foundation Engineering, K75. Symposium on Load Tests for Bearing Capacity of Soils, K76. Symposium on Methods of Testing Building Constructions, K31. Symposium on the Identification and Classification of Soils, K77. Triaxial Testing of Soils and Bituminous Mixtures, K78.

American Society of Mechanical Engineers. ASME Handbook: Metals Properties, K110.

American Standards Association. [American Standards] I2.

American Water Works Association. Water Quality and Treatment, I51.

American Wood-Preservers' Association. Manual of Recommended Practice, I9.

Analytical Chemistry, K1, K2, K3, K4, K5, K6, K7, K8, K9, L1, L2, L3.

Anderson, H.V. Chemical Calculations, K106.

Apps, E.A. Ink Technology for Printers and Students, K120.

U.S. (Army). Corps of Engineers. Handbook for Concrete and Cement, I15. List of Publications of the U.S. Army Engineer Waterways Experiment Station Available for Purchase, B17.

U.S. Bureau of Reclamation. Concrete Manual; a Manual of Control of Concrete Construction, K28. Earth Manual; a Guide to the Use of Soils as Foundations and as Construction Materials for Hydraulic Structures, K95.

U.S. Department of Agriculture. Soil Survey Manual, K96.

U.S. Department of Defense. Cross-Index of Chemically Equivalent Specifications and Identification Code (Ferrous and Nonferrous Alloys), K114.

U.S. Department of the Army. Roads and Airfields, K102.

U.S. Forest Products Laboratory. Wood Handbook, K20.

U.S. General Services Administration. Directory of U.S. Government Inspection Services and Testing Laboratories, F17.

U.S. General Services Administration. Federal Supply Service. Index, I5.

U.S. Highway Research Board. Highway Research Record, K103.

U.S. Interstate Commerce Commission. Agent T.C. George's Tariff no.15, I48.

U.S. Library of Congress. Reference Department. General Reference and Bibliography Division. International Scientific Organizations; a Guide to their Library, Documentation and Information Services, F24.

U.S. Library of Congress. Reference Department. Science and Technology Division. Directories in Science and Technology; a Provisional Checklist, F25. A List of Scientific and Technical Serials Currently Received by the Library of Congress, B14.

U.S. National Bureau of Standards. Polimetry, Saccharimetry and Sugars, K145.

U.S. Office of Domestic Commerce. National Associations of the United States, F26.

U.S. Office of Federal Register. Food and Drugs revised as of January 1, 1964, K70, K135.

U.S. Office of Technical Services. Directory of National Associations of Businessmen, F27.

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Fuel; A Journal of Fuel Science, L44.

Geotechnique, L43.

Heavy Construction News, L18.

Highway Research Abstracts, C10.

I & EC, L58.

Industrial and Engineering Chemistry. Fundamentals, L59.

Industrial and Engineering Chemistry. Process Design and Development, L60.

Industrial and Engineering Chemistry. Product Research and Development, L61.

Institute of Fuel. Journal, L45.

International Sugar Journal, L84.

Iron Age, L68.

Journal of Agricultural and Food Chemistry, L40.

Journal of Applied Chemistry, L62.

Journal of Metals, L69.

Journal of Pharmaceutical Sciences, L81.

Journal of the Science of Food and Agriculture, L41.

Library Journal, B7.

Maclean Building Reports, L19.

Magazine of Concrete Research, L10.

Magazine of Standards, L89.

Manufacturing Chemist and Aerosol News, L22.

Materials Evaluation, L72.

Materials Protection, L21.

Materials Research & Standards, L90.

Metal Finishing, L70.

Modern Plastics, L86.

National Research Council (Canada). Library. Recent Additions to the Library, B10.

National Research Council (Canada). Division of Building Research. Recent Additions to the Building Research Library, B19.

Northern Miner, L71.

Oil and Gas Journal, L76.

Oil, Paint and Drug Reporter, L74.

Oilweek, L77.

Petroleum, L78.

Portland Cement Association. Research and Development Laboratories. Journal, L11.

Prestressed Concrete Institute. Journal, L12.

Public Roads, L13, L47.

Pulp and Paper Magazine of Canada, L6.

Road Abstracts, C11.

Rubber Age, L82.

Rubber Chemistry and Technology, L83.

Society of Cosmetic Chemists. Journal, L23.

Tappi, L7.

Textile Research Journal, L28.

Textile World, L29.

APPENDIX A

A SELECTED LIST OF ADDRESSES OF ASSOCIATIONS SOCIETIES AND OTHER ORGANIZATIONS

APPENDIX A

A SELECTED LIST OF ADDRESSES OF ASSOCIATIONS, SOCIETIES AND OTHER ORGANIZATIONS

The following is a selected list of some of the associations, societies and other organizations which publish scientific and technical material, specifications and standards. As the publications of these organizations are required from time to time it was thought useful to have their addresses and also the abbreviations by which some of them are known. It is advisable to have in the library lists of their publications which are usually free. Each catalogue will mention how to obtain the desired material and also if payment is required to accompany the order. A few of the organizations such as the American Standards Association, the American Water Works Association, the National Research Council (Canada) and the United States Government Printing Office sell coupons and these may be used for payment of their publications.

AACC American Association of Cereal Chemists
1955 University Ave.,
St. Paul 4, Minn.

AASHO American Association of State Highway Officials
917 National Press Building
Washington, D.C. 20004

AATCC American Association of Textile Chemists and Colorists
P.O. Box 886
Durham, N.C.

ACS American Chemical Society
1155 Sixteenth Street N.W.,
Washington, D.C. 20036

ACI American Concrete Institute
P.O. Box 4754, Redford Station
22400 West Seven Mile Road
Detroit, Mich. 48219

ACPA American Concrete Pipe Association
228 North Lasalle Street
Chicago, Ill. 60601

ACIL American Council of Independent Laboratories, Inc.,
1026 Seventeenth Street, N.W.,
Washington, D.C. 20036

AGA American Gas Association
420 Lexington Ave.,
New York, N.Y. 10017

AIME American Institute of Mining, Metallurgical and Petroleum Engineers, Inc.,
345 East 47th Street
New York, N.Y. 10017

AISC American Institute of Steel Construction, Inc.,
101 Park Ave.,
New York, N.Y. 10017

AITC American Institute of Timber Construction
1757 K Street N.W.,
Washington, D.C. 20006

AISI American Iron and Steel Institute
150 East Forty-Second Street
New York, N.Y. 10017

ALCA American Leather Chemists' Association
Department of Leather Research
University of Cincinnati
Cincinnati 21, Ohio

AOCS American Oil Chemists' Society
35 East Wacker Drive
Chicago, Ill. 60601

API American Petroleum Institute
1271 Avenue of the Americas
New York, N.Y. 10020

APhA American Pharmaceutical Association
2215 Constitution Ave., N.W.,
Washington, D.C. 20037

APHA American Public Health Association
1790 Broadway
New York, N.Y. 10019

AREA American Railway Engineering Association
59 East Van Buren Street
Chicago, Ill. 60605

ARBA American Road Builders' Association
600 World Center Building
Washington, D.C. 20006

ASM American Society for Metals
Metals Park, Ohio

ASTM American Society for Testing and Materials
1916 Race Street
Philadelphia, Pa. 19103

ASCE American Society of Civil Engineers
345 East Forty-Seventh Street
New York, N.Y. 10017

ASME American Society of Mechanical Engineers
345 East Forty-Seventh Street
New York, N.Y. 10017

ASA American Standards Association
10 East Fortieth Street
New York, N.Y. 10016

AWWA American Water Works Association
2 Park Avenue
New York, N.Y. 10016

AWS American Welding Society, Inc.,
345 East Forty-Seventh Street
New York, N.Y. 10017

AWPA American Wood-Preservers' Association
839 Seventeenth Street, N.W.,
Washington, D.C. 20006

AAMA Architectural Aluminum Manufacturers' Association
35 East Wacker Drive
Chicago, Ill.

Asphalt Institute
Asphalt Institute Building
College Park, Maryland

In Canada the Asphalt Institute publications are distributed by the oil companies. A few of the books have been translated into French, but these have to be obtained from the publisher and the Institute can supply this information.

Associate Committee on Soil and Snow Mechanics
National Research Council
Ottawa 2, Ont.

AAR Association of American Railroads
59 East Van Buren Street
Chicago, Ill. 60605

Association of American Railroads
Bureau of Explosives
63 Vesey Street
New York, N.Y. 10007

AAPT Association of Asphalt Paving Technologists
1224 East Engineering Building
Ann Arbor, Mich.

ACCTLC Association of Canadian Commercial Testing Laboratories and Consultants
see
Canadian Testing Association

Association of Consulting Engineers of Canada
160 Eglinton Avenue East
Room 103
Toronto 12, Ont.

AISE Association of Iron and Steel Engineers
1010 Empire Building
Pittsburgh, Pa. 15222

AOAC Association of Official Agricultural Chemists
Box 540, Benjamin Franklin Station
Washington, D.C. 20044

BCLMA British Columbia Lumber Manufacturers Association
302 - 550 Burrard Street
Vancouver 1, B.C.

BIS British Information Services
80 Elgin Street
Ottawa 4, Ont.

BS British Standards Institute
(Order through Canadian Standards Association)
235 Montreal Road
Ottawa 7, Ont.

BRI Building Research Institute
1725 De Sales Street, N.W.,
Washington, D.C. 20006

BPR Bureau of Public Roads
U.S. Department of Commerce
Washington, D.C. 20402

Canada. Department of Public Printing and Stationery
see
Queen's Printer

Canadian Concrete Pipe Institute
Suite 601
55 York Street
Toronto 1, Ont.

CCA Canadian Construction Association
151 O'Connor Street
Ottawa 4, Ont.

CEA Canadian Electrical Association
35 York Street
Montreal 6, Que.

CEMA Canadian Electrical Manufacturers Association
10 Price Street
Toronto 5, Ont.

CGA Canadian Gas Association
55 Scarsdale Road
Don Mills, Ont.

CGRA Canadian Good Roads Association
270 MacLaren Street
Ottawa 4, Ont.

CGSB Canadian Government Specifications Board
c/o National Research Council
Ottawa 2, Ont.

CIM Canadian Institute of Mining and Metallurgy
906 Drummond Building
Montreal 2, Que.

CISC Canadian Institute of Steel Construction
388 Yonge Street
Toronto 1, Ont.

CITC Canadian Institute of Timber Construction
88 Argyle Street
Ottawa 4, Ont.

CLA Canadian Lumbermen's Association
27 Goulbourn Avenue
Ottawa 2, Ont.

CPhA Canadian Pharmaceutical Association
221 Victoria Street
Toronto 2, Ont.

CPPA Canadian Pulp and Paper Association
Technical Section
2280 Sun Life Building
Montreal 2, Que.

CRCA Canadian Roofing Contractors' Association
3405 Cote des Neiges
Montreal 25, Que.

CSA Canadian Standards Association
235 Montreal Road
Ottawa 7, Ont.

CTAA Canadian Technical Asphalt Association
536 Broughton Street
Victoria, B.C.

CTA Canadian Testing Association
Suite 706
696 Yonge Street
Toronto 5, Ont.

CWB Canadian Welding Bureau
1393 Yonge Street
Toronto 7, Ont.

Cement and Concrete Association
52 Grosvenor Gardens
London, S.W.1, England

Cement Statistical and Technical Association
P.O. Box 245
Malmo 1, Sweden

CIC Chemical Institute of Canada
48 Rideau Street
Ottawa 2, Ont.

Chemical Rubber Company
Publications Division
2310 Superior Avenue
Cleveland, Ohio 44114

Chemical Society
Burlington House
Piccadilly
London, W.1, England

CBTI Clay Brick and Tile Institute
4824 Yonge Street
Willowdale, Ont.

CS Commercial Standards
Commodity Standards Division
Office of Technical Services
U.S. Department of Commerce
from
Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402
(Order should be accompanied by cheque, money order or Government Printing Office coupons)

Concrete Publications Ltd.,
14 Dartmouth Street
London, S.W.1, England

CRSI Concrete Reinforcing Steel Institute
228 North Lasalle Street
Chicago, Ill. 60601

CPEQ Corporation of Professional Engineers of Quebec
1600 Pine Avenue West
Montreal, Que.

Corrugated Metal Pipe Institute
Suite 207, Crestview Plaza
South Service Road
Port Credit, Ont.

DBR Division of Building Research
National Research Council
Ottawa 2, Ont.

EIC Engineering Institute of Canada
2050 Mansfield Street
Montreal 2, Que.

EJC Engineers Joint Council
345 East Forty-Seventh Street
New York, N.Y. 10017

HRB Highway Research Board
2101 Constitution Avenue
Washington, D.C. 20418

IES Illuminating Engineering Society
345 East Forty-Seventh Street
New York, N.Y. 10017

IEEE Institute of Electrical and Electronics Engineers
345 East Forty-Seventh Street
New York, N.Y. 10017

IFT Institute of Food Technologists
176 West Adams Street
Chicago, Ill. 60603

IP Institute of Petroleum
26 Portland Place
London, W.1, England

Institution of Civil Engineers
Great George Street
London, S.W.1, England

Robert Snow Means Company
P.O. Box 36,
Dexbury, Mass. 02332

Military Specifications and Standards
from
The Commanding Officer
Naval Supply Depot
5801 Tabor Avenue
Philadelphia 20, Pa.,
Attn: Code CDS

NACE National Association of Corrosion Engineers, Inc.,
980 M & M Building
Houston, Texas 77002

NBCA National Bituminous Concrete Association
1145 Nineteenth Street, N.W.,
Washington, D.C. 20006

NBS National Bureau of Standards
U.S. Department of Commerce
Washington, D.C. 20402

NCSA National Crushed Stone Association
1415 Elliot Place N.W.,
Washington, D.C. 20007

NEMA National Electrical Manufacturers Association
155 East Forty-Fourth Street
New York, N.Y. 10017

NFPA National Fire Protection Association
60 Batterymarch Street
Boston, Mass. 02110

NRMCA National Ready Mixed Concrete Association
900 Spring Street
Silver Spring, Md. 20910

NRC National Research Council (Canada)
Ottawa 2, Ont.

NSGA National Sand and Gravel Association
900 Spring Street
Silver Spring, Md. 20910

NSA National Slag Association
613 Perpetual Building
Washington, D.C. 20004

OTS Office of Technical Services
U.S. Department of Commerce
Washington, D.C. 20235

Plywood Manufacturers Association of British Columbia
201 - 550 Burrard Street
Vancouver 1, B.C.

PCA Portland Cement Association
1010 St. Catherine Street West
Montreal 2, Que.

PCI Prestressed Concrete Institute
205 West Wacker Drive
Chicago, Ill. 60606

Quebec Ready Mixed Concrete Association
Suite 8-A, Norgate Office Building
1179 Decarie Boulevard
Montreal 9, Que.

Quebec Road Builders' Association
(Association des Constructeurs de Routes du Quebec)
100 Carre d'Youville
Quebec City, Que.

Queen's Printer
Ottawa, Ont.
or
Queen's Printer
1182 St. Catherine Street West
Montreal, Que.
or
Queen's Printer
36 Adelaide Street East
Toronto, Ont.

Society for Analytical Chemistry
14 Belgrave Square
London, S.W.1, England

SNT Society for Nondestructive Testing
914 Chicago Avenue
Evanston, Ill. 60202

SAE Society of Automotive Engineers, Inc.,
485 Lexington Avenue
New York, N.Y. 10017

Society of Chemical Industry
14 Belgrave Square
London, S.W.1, England

Society of the Plastics Industry (Canada) Inc.,
55 York Street
Toronto 1, Ont.

SFSA Steel Founders' Society of America
606 Terminal Tower
Cleveland, Ohio 44113

SJI Steel Joist Institute
1346 Connecticut Avenue N.W.,
Washington, D.C. 20036

SSPC Steel Structures Painting Council
4400 Fifth Avenue
Pittsburgh, Pa. 15213

Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402
(Order should be accompanied by cheque, money order or
U.S. Government Printing Office coupons)

TAPPI Technical Association of the Pulp and Paper Industry
155 East Forty-Fourth Street
New York, N.Y. 10017

Terrazzo, Tile and Marble Association of Canada
1727 A Bayview Avenue
Toronto 17, Ont.

Textile Research Institute Inc.,
Box 625
Princeton, N.J.

ULC Underwriters' Laboratories of Canada
7 Crouse Road
Scarborough, Ont.

U.S. (Army) Corps of Engineers
Waterways Experiment Station
CE Post Office Box 631
Vicksburg, Miss. 39181

U.S. Bureau of Reclamation
Denver Federal Center
Denver, Colo. 80225

U.S. Federal Specifications, Standards and Handbooks
from
General Services Administration Region 3
Federal Supply Service
Printed Materials Supply Division
General Services Regional Office Building
Washington, D.C. 20407
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APPENDIX B

BIBLIOGRAPHY

APPENDIX B

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