BIBLIOGRAPHY

References on Noise Control: General Texts, Handbooks, and Manuals

General Articles

Industry Specific

Equipment Specific

Case Histories

New Installations

Specifications

Materials

References on Noise Control Treatments: By Type

References on Noise Problem Measurement, Analytical Procedures, and Problem-Solving Aides

References on Noise Control Program Management: Articles of General Interest to Managers of Noise Control Projects

References on Hearing Protectors: General

Effects of Use

References on Hearing Conservation Programs

The engineering section of this manual was prepared by an experienced consultant. It is written without equations, but with many charts, graphs, and tables. Although the many examples are taken from foundry technology, the control techniques are quite general in application. There are many compact case histories, together with data on the noise reductions obtained. The point of view is very practical.


This practical book is written from the point of view of the practicing noise control engineer/consultant. A minimum amount of mathematics is used; many examples and exercises are given. The chapters on enclosures, fans, gears, silencers, and vibration control are quite useful. A feature of the book is the compact case histories, for which photographs and drawings amply describe the techniques used.


This commissioned report summarizes measurement instruments and procedures, explicit noise reduction techniques, new plant design for low noise, and source characteristics. The appendices have detailed information on noise control materials, levels from machinery, and addresses of suppliers of noise control materials.


Although old, this is still the fundamental reference handbook for the noise control engineer. Of particular interest are these sections: 13, vibration isolation; 14, vibration damping; 21, acoustical filters and mufflers; 23, gear noise; 24, bearing noise; 25, fan noise; 26, noise in water and steam systems; 27, heating and ventilating system noise; and 30, electric motor and generator noise. Of course, recent developments in acoustical materials and measuring equipment are missing, but the fundamentals are unchanged.

This book is an excellent source of data on measurement of sound pressure and calculation of sound power levels. Valuable details are given on sound analysis techniques, characteristics of many types of acoustical instruments, and a summary of noise reduction procedures. An especially useful section covers precautions to be observed to ensure that valid data are required.


This book is a practical guide to industrial noise and vibration control. The text is well illustrated and discusses the important topics with a minimum of mathematical treatment. The text suffers a bit from imbalance — some topics are discussed only briefly, whereas others are discussed in depth. Information contained in the detailed sections, particularly those on the use of glass and lead materials, contains a good deal of valuable data. The reader will benefit from the discussions on noise legislation and personal safety devices. This book also contains a number of illustrative case histories pertaining to, for example, electric utility and refinery noise, paper rewinders, jet engine test cells, and several other common noise problems.


Although the instrument section is outdated, the described measurement techniques are still applicable. Considerable data are given on ear plugs and muffs. The chapter on engineering control is very practical; it is copiously illustrated and describes many useful techniques. A most valuable section on examples presents compact, illustrated case histories in which the noise reduction obtained is given, usually with octave-band spectra.


The chief contribution of this book is a detailed description of practical techniques, backed by analysis; for the "in situ" measurements required for calculating sound power. Every professional noise control engineer should be aware of these techniques. The sections on noise sources and reduction procedures have a great deal of directly useful information, especially for enclosure design.


Excellent summary of procedures.
Noise and Its Control, Pollut. Eng.

This reprint of very readable 1973 articles summarizes characteristics of machine noise sources and noise control techniques. It will provide a general background to the problems.


This is the major modern reference source for the noise control engineer. The treatment is often mathematical, but there are plenty of illustrative worked-out problems. Especially useful are the treatments of transmission loss of simple and complex panels; mufflers and silencers; sound in rooms; vibration isolation; and sound power measurement.


This book contains a good deal of technical information on acoustics, noise control, and especially vibration and vibration control. However, there is also much clearly written practical advice in the text on principles of noise and vibration control and measurement techniques. Readers may find the sections on criteria and hearing conservation particularly enlightening and useful. A case history for new plant installation is included as the final section of the text.


This book presents much practical noise control information in graphs and tables, with a minimum of mathematics. Especially useful are data on cost estimating, a listing of suppliers of noise control products, means of source location, silencers, and check lists for management of noise control. There are many useful worked-out problems. A comprehensive list is supplied for all the standard methods of measurement that a professional noise control engineer should use.


This practical book has almost no mathematics and relies almost completely on tables, charts, and graphs for its data. The author, an experienced acoustical consultant, provides a great deal of directly useful information on materials selection, noise characteristics of machinery, design of noise control means, and translation of subjective reactions to noise into causes and solutions.

Report No. 2549, Bolt Beranek and Newman Inc., 50 Moulton Street, Cambridge, MA 02138.

Criteria for a Recommended Standard: Occupational Exposure to Noise, Department of Health Education and Welfare, NIOSH No. 73-11001, August 14, 1972.


NOISE CONTROL: INDUSTRY SPECIFIC

Chemical and Process Industry


Good listing of sources, control procedures. Also where to measure OSHA levels.


Many small changes, including avoiding turbulence, are described.

Food Processing Industry


Text provides overview of particular details of noise control of concern to food processors (e.g., sanitary requirements) and data and solutions to specific noise problems for the various kinds of food processing industry. Scattered throughout the text are useful notes on acoustic principles and sources of noise control products. The report includes results of a literature search on noise control in food plants in Ch. 5.

Foundry Industry


Metal Working Industry

Workshop on the Control of Metal Sawing Noise in the Aluminum Industry, the Aluminum Assoc. Inc. from Metal Sawing Noise Control, Chicago, IL. June 9-10, 1976.

Mining Industry


Power Industry


Ships


Steel Industry


Textile Industry


Other Industries


308
NOISE CONTROL: EQUIPMENT SPECIFIC

Air Moving Equipment


The definitive treatment of air conditioning noise.


Descriptive. Covers concepts of noise control in air conditioning, cooling towers, gas turbines, blowers, internal combustion engines, jet engines.


This engineering guide provides alignment charts for estimating octave-band levels from centrifugal fans.


Treatment of ducts, mechanical rooms.


This is a forerunner of the author's book on machinery noise. The emphasis is on air moving machinery.

Compressors


The chief noise sources are discussed thoroughly, and a few noise control suggestions are offered.

Cooling Towers


Most of noise from fans. Estimation procedures given. No noise control suggestions.


Describes characteristics of the noise, gives a detailed estimating procedure, and describes effect of intake and discharge silencers.

Drives and Transmissions


Electrical Equipment


This British book is devoted chiefly to noise from electrical machinery. Much attention is paid to the design of duct silencers.
Engines


Gears


Grinders


Heaters, Furnaces, and Flares


**Hydraulic Equipment**


Exhaustive and informative treatment, with excellent list of noise reduction techniques.


Mechanical Equipment


Metal Working Equipment


Absorption, partial and total enclosures are discussed. Control at the source is also considered.


Describes development use of stock tubes with damping.

Pneumatic Tools


Power Plant Equipment


**Pulp and Paper Equipment**


Case histories on riveting hammer, paper shredder.

**Pumps**


Emphasizes selection and proper operating point.


**Punch Presses and Other Impact Equipment**


Case histories on multiside punch-press riveting machine.


Suggests changes in die, stock, snubbers, perforated plates, enclosures.

Textile Industry Equipment


Turbines


Defines NEMA noise limit curves, noise reduction for regenerator equipment, use of silencers.

Valves and Regulators


Woodworking Equipment


Miscellaneous


NOISE CONTROL: CASE HISTORIES


Case histories on ejector chutes, tote boxes, chipping hammer, air nozzles, and air compressors.


Describes results and barrier treatment for bottle filling lines that had been causing an OSHA noise problem.


Excellent and compact summary of procedures, costs. Case histories on grinders, automatic screw machines.


Case histories on multislide punch press, riveting machine.


Case histories from industrial acoustics on cutoff saw, looms, punch press, power transformer, process steamboiler.


Case histories on riveting hammer, paper shredder.


This article provides an intensely practical summary of characteristics of a wide variety of noise sources and of procedures for noise control. There are many illustrations and examples.

Gives data on effect of noise of fan type, variable inlet vanes, blade angle, and operating point on fan characteristics.


NOISE CONTROL: SPECIFICATIONS


NOISE CONTROL: MATERIALS


Gives noise levels, sanitary constraints on absorption materials, and isolator selection.


Discussion of many materials, advantages and shortcomings.


Compendium of Materials for Noise Control. HEW Publication No. (NIOSH) 75-165.
NOISE CONTROL TREATMENTS: BY TYPE

Barriers


Enclosures


For moderate amounts of transmission loss, lightweight panels can suffice. Paper describes characteristics of plastics, foams, aluminum, and safety glass.


Mufflers


Gives results for many different configurations, tuning from 100 to 800 Hz.


Describes types and attenuation frequency characteristics. Useful data on materials resistant to high temperatures, flow velocities.

Operator Booths


Processor Modifications

Room Treatment


Lagging/Wrapping


Exhaustive study of many pipe lagging systems for reducing radiating noise, under controlled conditions. Excellent reference.

Vibration Isolation


Discusses real-life parameters that must be considered.

Damping


Describes a panel of two layers of steel bonded by a lossy adhesive. Excellent damping is obtained.


Comparison of noise radiated from damped and undamped machine surfaces.
NOISE PROBLEM MEASUREMENT, ANALYTICAL PROCEDURES, AND PROBLEM-SOLVING AIDS


Mean square velocity of acceleration correlates well with sound power.


Uses damped, absorbent-lined tube in front of sound level meter to reduce pickup of undesired sound for close-in measurements.


Valuable and practical information on techniques for locating noise sources.


Uses rotational periodicity to locate sources in bearings, electrical equipment, fans. Briefly considers control means.


Two microphones correlated by a multiplier allow the direction of a sound source to be found.


Discusses errors from being in near field, from finite number of measurements, from measurement error, and from room reflections. Latter are unimportant if area ratio (total absorption in room)/(area of measuring surfaces) is greater than 10.


HEARING PROTECTORS: GENERAL


HEARING PROTECTORS: EFFECTS OF USE

Performance


"Ear Protector Ratings," J.V. Tobias and F.M. Irons. FAA Civil Aero Medical Inst., December 1973, Oklahoma City, OK.


Speech Communication


Bibliographies


Hearing Conservation Programs


"Industrial Noise and Hearing Protection." Wausau: Safety and Health Services, Employers Insurance of Wausau, N.Y.


