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ENGINE

COMMITTEE

E. I. du Pont de Nemours & Co. (Inc.)

Wilmington, Delaware 19856

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ENGINEERING STANDARDS SUBCOMMITTEES MECHANICAL EQUIPMENT

This is part of a series of articles reporting responsibilities and activities of individual Standards subcommittees.

The first four Mechanical Equipment standards were issued in 1931 and covered drafting practices and decimal equivalents. The current subcommittee was organized in 1952, and now has 50 standards within its responsibility.

This total comprises the M-, DM-, T-, DT-, and ST-Sections of standards.

- M-Section covers selection, specification, and design of machinery, including drafting practices, fluid power diagrams, safety factors, component balancing, surface finishes, cylindrical fits, part details, and fastener selection.
- DM-Section lists mechanical formulas for machine design.
- T-Section provides mechanical power transmission information on selection of drives, shafting, and couplings.
- ST-Section provides specifications needed to purchase agitator drives and hydraulic power systems.
- DT-Section provides design information on speed reducers, shafting and couplings.

All of these sections are available in the Mechanical Combination which also includes related standards useful to persons designing, purchasing, or maintaining mechanical equipment.

In recent years, the subcommittee has deleted much of the handbook type of data formerly included and has developed standards with a higher level of technology to aid in the development of machine components. Typical of

these is DM2B, which provides design equations for machine components such as shafting, screw threads, flywheels, other rotating disks, cylinders subjected to pressure, and weldments.

Two new standards are being circulated on serial letter for comment. These are:

M2K — Material Hardness Specification and Measurement

DT1C — Hydraulic Power System Design

Copies of these are available from the Standards Section.

Because of increased need for precise equipment alignment, M15H is being revised for more precise design of sole plates to support critical machine components. Revisions also are underway to DT1A and ST1A to provide additional design information and more realistic specifications for agitator drives.

Each standard within the subcommittee's responsibility is identified by the number 36 which appears at the bottom of the first page.

MECHANICAL EQUIPMENT SUBCOMMITTEE

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DUP 1200133

NEW STANDARD ON ASBESTOS ISSUED

Engineering Standard S4T, Measurement and Control of Asbestos Dust Exposure, has been included in the April issue. The standard provides information and guidance on this subject. It has been in preparation for over two years by the Safety & Fire Protection Subcommittee with the assistance of Haskell Laboratory. The following general information may assist in the study and use of this standard.

- The standard provides guidance for any Company operation in which there may be exposure to asbestos dust, and conforms with OSHA regulations.
- It is expected that each plant will establish specific rules regarding any operation which creates asbestos dust so that personnel exposure is held within the prescribed limits. Sufficient dust sample counts must be made to show that exposure is within these limits.
- Company-wide specific rules, with two exceptions, are not yet feasible. The Safety & Fire Protection

Subcommittee will consider such rules at a later date if and when sufficient data are available.

- The two exceptions cover demolition and removal of asbestos insulation, and asbestos spraying. Both require supplied air respirators and special clothing. The standard assumes the dust concentration limits requiring such equipment will be exceeded whenever these operations are performed, an assumption also incorporated in the OSHA regulations. The assumption may prove incorrect for small jobs or for work handled under carefully controlled conditions. Again, the subcommittee will welcome monitoring data for future consideration of revisions.
- Medical requirements, such as examinations, records, and control included in OSHA regulations, have been noted but are not detailed in the standard. The Employee Relations Department has asked that these activities be handled by its Medical Division directly with the departments and plants involved.

Engineering Standards Program 1972 Annual Report

Several items in the 1972 Annual Report to the Engineering Standards Committee in March should be of interest to News Letter readers:

- 1972 production totaled 869 new, revised, or reaffirmed standards. At year end, there were 2,801 standards in use of which 96 percent have had complete reviews within the last five years.
- Portions of standards which are requirements of the Occupational Safety & Health Act (OSHA) were printed in red starting in February 1972. A total of 187 were issued in 1972.
- Estimated annual savings through the use of standards increased 12 percent reflecting primarily increased design and construction activity.
- The Engineering Standards Committee consists of 21 members representing every industrial department plus Central Research, Employee Relations, Engineering, and Remington Arms. They establish policies, provide general guidance, and administer the program within their departments. Sixty-nine plant coordinators promote the use of standards and provide valuable liaison at the plant sites. In addition, subcommittee membership now totals 80 from the industrial departments, 118 from Engineering, and 19 from other staff departments.

RESTRICTIONS LIFTED ON WELDING SPECIFICATIONS

For several years, approximately 75 percent of the welding specifications (SW-W Series) have contained a clause restricting their use to Company personnel only. These 86 standards contained procedures and processes which had been developed by Du Pont research or practice and were considered proprietary.

A recent re-examination of these standards and of the general level of technology in the welding industry has indicated a need to change this policy. Most commercial practices now incorporate the information previously considered proprietary. As a consequence, these standards are being revised to remove the restriction and encourage their use both in equipment procurement and in contract work. The revision program was begun in January 1973 and will be completed during the year. In the interim, users are encouraged to use the specifications where appropriate, waiving the restriction and adding the following in the body of the order or contract:

"The intent of this procedure is to assure welds of acceptable quality in Du Pont work. Vendors, contractors, or other users outside of Du Pont who apply this procedure are responsible for the quality of their welds. Adherence to applicable codes is required."

Possible questions on this change should be directed to: E. E. Finger, Standards Section, telephone 8-121-3875.

