

## GLOSSARY OF TERMS FOR TESTING AND THIRD PARTY CERTIFICATION

### Lloyd's Register of Shipping continued

A common request is for Lloyd's Register witness proof test and magnetic particle inspection with certification. However, certification may require design review, material tests or product verification to statutory or customer requirements.

**When specifying Lloyd's Register of Shipping certification, know the code, standard, statute or customer requirement (i.e., Code for Lifting Appliances in a Marine Environment, etc.).**

### Federal Specifications & Military Standard

The Federal Specifications & Military Standards' documents specify dimensional, performance and test requirements for products. Some specifications define particular testing that is not normally performed on standard items. Crosby products, when identified in the latest Crosby General Catalog, will meet the requirements when tested by the party awarded the government contract. Certification is usually covered by a Crosby Standard Certificate of Conformance

### ISO 9001

A standard defining a manufacturer's or service organization's Quality Management System requiring third party certification. ISO 9001, the most comprehensive ISO certification level, involves the design, development, production and shipping of products. ISO 9001 requires that all procedures, work instructions, processes and additional activities be documented.

Attainment of ISO 9001 forms the basis for meeting other world standards and provides customers with documented proof of Crosby's ability to consistently provide product quality and performance.

### National Association of Chain Manufacturers (NACM)

A U.S. Standard specifying dimensional and performance criteria for graded chain.

### American Society for Testing and Materials (ASTM)

American Society for Testing and Materials, established in 1898, is the largest voluntary standards development system in the world. ASTM Standards cover:

**Inspection Methods (Certificates Required)** — i.e., Magnetic Particle, Ultrasonic, Dye Penetrant, X-Ray, Hardness, etc.

**Processes (Standard Certificate of Conformance)** — i.e., Hot Dip Galvanizing, Electroplate, Mechanical Galvanizing, etc.

**Material Properties (Tensile Test Report Required)** — i.e., Specification for Steel Forging, Carbon and Alloy for General Industrial Use (A668), Specification for Steel, Closed-Impression Die Forgings for General Industrial Use (A521), etc.

**Material Test Methods** — Covers Tensile and Charpy impact test specimens and test methods, i.e., Test Methods of Tension Testing of Metallic Materials (E8), A370 Test Methods and Definitions for Mechanical Testing of Steel Products (A370), etc.

### American National Standards Institute (ANSI)

American National Standards Institute established in 1916 develops product specific performance standards for items such as cranes, hooks, slings, screw threads, etc., usually covered with a standard Certificate of Conformance

## Crosby Standard Testing Upon Request

\***Crosby Proof Test with Third Party Witness** — Receive load test certification signed, documented and serial number traceable to these agencies: ABS, DNV, Lloyds, B.V., RINA, Germanischer Lloyd, etc.

\***Crosby Proof Test with I.L.O. Certificate** — Standard load test performed and documented on International Labor Organization Form 4 (I.L.O. Form 4). Certified and traceable by serial number. The certificates are maintained at Crosby.

\***Crosby Standard Certificate of Conformance** — Part number, description, date and statement of conformity to Crosby literature available at time of manufacture.

\***Crosby Magnetic Particle Inspection with Certification** — ASTM E-709 wet or dry method standard at Crosby. Customer can require other types. Certified and traceable to serial number.

\***Crosby Ultrasonic Inspection with Certification** — ASTM A-609 for castings, ASTM A-388 for forging standard at Crosby. Customer can require other types. Certified and traceable to serial number.

\***Crosby X-Ray with Certification** — Customer provides x-ray technique and level of acceptance.

\***Crosby Dye Penetrant Inspection with Certification** — A liquid penetrant examination to ASTM E-165. Other types of Dye Penetrant certification is available at time of order. Certified and traceable to serial number.

\***Crosby Material Tensile Test with Certification** — Tensile test performed per ASTM A370. Test report documents Tensile Strength, Yield Strength, Elongation, and Reduction of Area.

\***Crosby Material Chemical with Certification** — Chemical certification provided by steel mill or foundry. Traceable to heat number, heat letters and PIC code.

\***Crosby Charpy Impact Test with Certification** — Impact Test per ASTM A370 or ASTM E8 at temperature, location, and energy absorbed requirement as defined by customer or applicable specification

\*A charge will be applied. Crosby certification is available when requested at time of order.

The items listed above are for standard certification. Additional certification is available and must be requested at time of order.