



Standard Specification for Steel Strand, Indented, Seven-Wire Stress-Relieved for Prestressed Concrete¹

This standard is issued under the fixed designation A 886/A 886M; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope*

1.1 This specification covers seven-wire uncoated, indented, stress-relieved steel strand for use in pretensioned prestressed concrete construction. Grade 250I and Grade 270I have minimum ultimate strengths of 250 ksi [1725 MPa] and 270 ksi [1860 MPa], respectively, based on the nominal area of the strand.

1.2 Supplement I describes low-relaxation strand and relaxation testing for that product. Low-relaxation strand shall be furnished when specifically ordered and furnished in place of stress-relieved strand if mutually agreed to by the purchaser and supplier.

1.3 This specification is applicable for orders in either inch-pound units (as Specification A 886) or in SI units (as Specification A 886M).

1.4 The values stated in either inch-pound units or SI units are to be regarded separately as standards. Within the text, the inch-pound units are shown in parentheses. The values stated in each system are not exact equivalents; therefore, each system must be used independently of the other. Combining values from the two systems may result in nonconformance with the specification.

2. Referenced Documents

2.1 ASTM Standards:

A 370 Test Methods and Definitions for Mechanical Testing of Steel Products²

E 328 Methods for Stress Relaxation Tests for Materials and Structures³

2.2 U.S. Military Standards:

MIL-STD-129 Marking for Shipment and Storage⁴

MIL-STD-163 Steel Mill Products Preparation for Shipment and Storage⁴

2.3 U.S. Federal Standards:

Fed. Std. No. 123 Marking for Shipments (Civil Agencies)⁴

3. Terminology

3.1 Definitions of Terms Specific to This Standard:

3.1.1 *strand, n*—all strand shall be of the seven-wire type having a center wire enclosed tightly by six helically placed outer wires with uniform pitch of not less than 12 and not more than 16 times the nominal diameter of the strand.

4. Ordering Information

4.1 Orders for seven-wire stress-relieved strand under this specification should include the following information:

4.1.1 Quantity (meters [feet]),

4.1.2 Diameter of strand (millimeters [inches]),

4.1.3 Grade of strand,

4.1.4 Packaging,

4.1.5 ASTM designation and year of issue, and

4.1.6 Special requirements, if any.

NOTE 1—A typical ordering description is as follows: 25 600 m (84 000 ft) 12.70-mm (0.5-in.), Grade 1860I (2701) strand, in 3658-m (12 000-ft) spoolless packs to ASTM A 886/A 886M—_____.

5. Materials and Manufacture

5.1 *Base Metal*—The base metal shall be carbon steel of such quality that when it is drawn to wire, subjected to the indentation process, fabricated into strand, and then stress-relieved, it shall have the properties and characteristics prescribed in this specification.

5.2 *Wire*—The wire from which the strand is to be fabricated shall have a common dry-drawn finish.

NOTE 2—This product is a composite of seven wires and is produced to mechanical properties only, the chemistry of all wires or any individual wire is not pertinent to this application, and heat identity is not necessarily maintained. It is possible that wire from more than one heat may be used in the manufacture of a reel or pack. Traceability is based on pack identity as maintained and reported by the manufacturer.

5.3 *Indentations*—The outer wires shall have indentations designed to reduce longitudinal movement of the strand within the concrete, and conform to the provisions in Section 7. The

¹ This specification is under the jurisdiction of ASTM Committee A01 on Steel, Stainless Steel, and Related Alloys and is the direct responsibility of Subcommittee A01.05 on Steel Reinforcement.

Current edition approved Sept. 10, 2002. Published June 2003. Originally approved in 1988. Last previous edition approved in 1999 as A 886/A 886M – 99.

² *Annual Book of ASTM Standards*, Vol 01.03.

³ *Annual Book of ASTM Standards*, Vol 03.01.

⁴ Available from Standardization Documents Order Desk, Bldg. 4 Section D, 700 Robbins Ave., Philadelphia, PA 19111-5094, Attn: NPODS.