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Designation: A 955/A 955M – 03a

Standard Specification for Deformed and Plain Stainless Steel Bars for Concrete Reinforcement[1]

This standard is issued under the fixed designation A 955/A 955M; 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 deformed and plain stainless steel bars for concrete reinforcement used in applications requiring resistance to corrosion or controlled magnetic permeability. The standard sizes and dimensions of deformed bars and their numerical designation shall be those listed in Table 1. The text of this specification references notes and footnotes which provide explanatory material. These notes and footnotes (excluding those in tables and figures) shall not be considered as requirements of the specification.

1.1.1 Supplementary requirement (S1) of an optional nature is provided. It shall apply only when specified by the purchaser. In order to obtain a controlled magnetic permeability product, steel conforming to Supplementary Requirement S1 should be ordered.

1.2 The chemical composition of the stainless steel alloy shall be selected for suitability to the application involved by agreement between the manufacturer and the purchaser. This is an important consideration in achieving the desired corrosion resistance and/or controlled magnetic permeability.

NOTE 1—The alloys shown in Table 2 have found the most use in North America. These and other stainless steel alloys specified in A 276 or other specifications are available for consideration in product selection. Consult with the steel manufacturer for stainless steel alloy availability.

1.3 Bars are generally of three minimum yield levels, namely, 40 000 [300 MPa], 60 000 [420 MPa], and 75 000 psi [520 MPa], designated as Grade 40 [300], Grade 60 [420], and Grade 75 [520], respectively.

1.4 Plain rounds in sizes up to and including 2 in. [50.8 mm] in diameter, when specified for dowels, spirals, structural ties, and supports, shall be furnished under this specification in Grade 40 [300], Grade 60 [420], and Grade 75 [520], respectively. Bending properties, when required, shall be by agreement between the manufacturer and purchaser. Requirements providing for deformations and marking shall not be applicable to plain bars.

1.5 Weldability of most stainless steel compositions is generally good, however, pre-weld or post-weld procedures, or both, are necessary. Where material is to be welded, a welding procedure suitable for the chemical composition and intended use or service shall be used. Retesting of physical properties should be considered following welding procedures depending upon the steel composition and welding operation involved.

NOTE 2—It is recommended that the user consult the manufacturer for information available from the Nickel Development Institute (NIDI) (Toronto, Canada).

1.6 This specification is applicable for orders in either inch-pound units (as Specification A 955) or in SI units (as Specification A 955M).

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

2. Referenced Documents

2.1 *ASTM Standards:*

A 6/A6M Specification for General Requirements for Rolled Structural Steel Bars, Plates, Shapes, and Sheet Piling[2]

A 262 Practices for Detecting Susceptibility to Intergranular Attack in Austenitic Stainless Steels[3]

A 276 Specification for Stainless Steel Bars and Shapes[3]

A 342 Test Methods for Permeability of Feebly Magnetic Materials[4]

A 370 Test Methods and Definitions for Mechanical Testing of Steel Products[3]

A 484/A484M Specification for General Requirements for Stainless Steel Bars, Billets, and Forgings[3]

A 510/A510M Specification for General Requirements for Wire Rods and Coarse Round Wire, Carbon Steel[3]

A 700 Practices for Packaging, Marking, and Loading

[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.

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[2] *Annual Book of ASTM Standards*, Vol 01.04.

[3] *Annual Book of ASTM Standards*, Vol 01.03.

[4] *Annual Book of ASTM Standards*, Vol 03.04.

***A Summary of Changes section appears at the end of this standard.**

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