



Standard Specification for Deformed and Plain, Low-Carbon, Chromium, Steel Bars for Concrete Reinforcement¹

This standard is issued under the fixed designation A1035/A1035M; 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 low-carbon, chromium, steel bars, in cut lengths and coils for concrete reinforcement. These bars are furnished in three alloy types depending on the chromium range content. The standard sizes and dimensions of deformed bars and their number designations are given in [Table 1](#).²

1.2 Bars are of two minimum yield strength levels as defined in [9.2](#): namely, 100 000 psi [690 MPa], and 120 000 psi [830 MPa] designated as Grade 100 [690] and Grade 120 [830], respectively.

1.3 Bars are furnished to three different chemical compositions, designated as Alloy Type CL, CM, and CS. Chemical compositions are shown in [Table 2](#).

1.4 Plain bars, in sizes up to and including 2.25 in. [57.2 mm] 2½ in. [63.5 mm] in diameter in coils and cut lengths, when ordered shall be furnished under this specification in Grade 100 [690] and Grade 120 [830]. For ductility properties (elongation and bending), test provisions of the nearest smaller nominal diameter deformed bar size shall apply. Requirements providing for deformations and marking shall not be applicable.

NOTE 1—Welding of the material in this specification should be approached with caution since no specific provisions have been included to enhance its weldability. When this steel is to be welded, a welding procedure suitable for the chemical composition and intended use or service should be used.

NOTE 2—Designers need to be aware that design codes and specifications may not recognize the use of the No. 20 [64] bar, the largest bar size included in this specification. Structural members reinforced with No. 20 [64] bars may require approval of the building official or other appropriate authority and require special detailing to ensure adequate performance at

service and factored loads.

1.5 Requirements for alternate bar sizes are presented in [Annex A1](#). The requirements in [Annex A1](#) only apply when specified by the purchaser (see [4.2.4](#)).

1.6 A supplementary requirement (S1) is provided for use where bend testing of bar designation Nos. 14 and 18 [43, 57], and bar designation Nos. 40, 50, and 60 in [Annex A1](#), is required by the purchaser. The supplementary requirement applies only when specified in the purchase order.

1.7 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.

1.8 This specification is applicable for orders in either inch-pound units (as Specification A1035) or in SI units (as Specification A1035M).

1.9 The values stated in either inch-pound units 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 may not be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in non-conformance with the specification.

2. Referenced Documents

2.1 ASTM Standards:³

- [A6/A6M Specification for General Requirements for Rolled Structural Steel Bars, Plates, Shapes, and Sheet Piling](#)
- [A370 Test Methods and Definitions for Mechanical Testing of Steel Products](#)
- [A510/A510M Specification for General Requirements for Wire Rods and Coarse Round Wire, Carbon Steel, and Alloy Steel](#)
- [A700 Guide for Packaging, Marking, and Loading Methods for Steel Products for Shipment](#)
- [A751 Test Methods, Practices, and Terminology for Chemical Analysis of Steel Products](#)

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 Oct. 15, 2016. Published October 2016. Originally approved in 2004. Last previous edition approved in 2016 as A1035/A1035M – 16a. DOI: 10.1520/A1035_A1035M-16B.

² MMFX Technologies Corporation has several patented materials (US Patents #6,273,968, #6,709,534, #7,118,637, #7,214,278) that meet this specification. Interested parties are invited to submit information regarding the identification of an alternative(s) to this patented item to the ASTM International Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee,¹ which you may attend.

³ For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.