MECHANICAL PROPERTIES MMFX$_2$ (ASTM A1035/A1035M)

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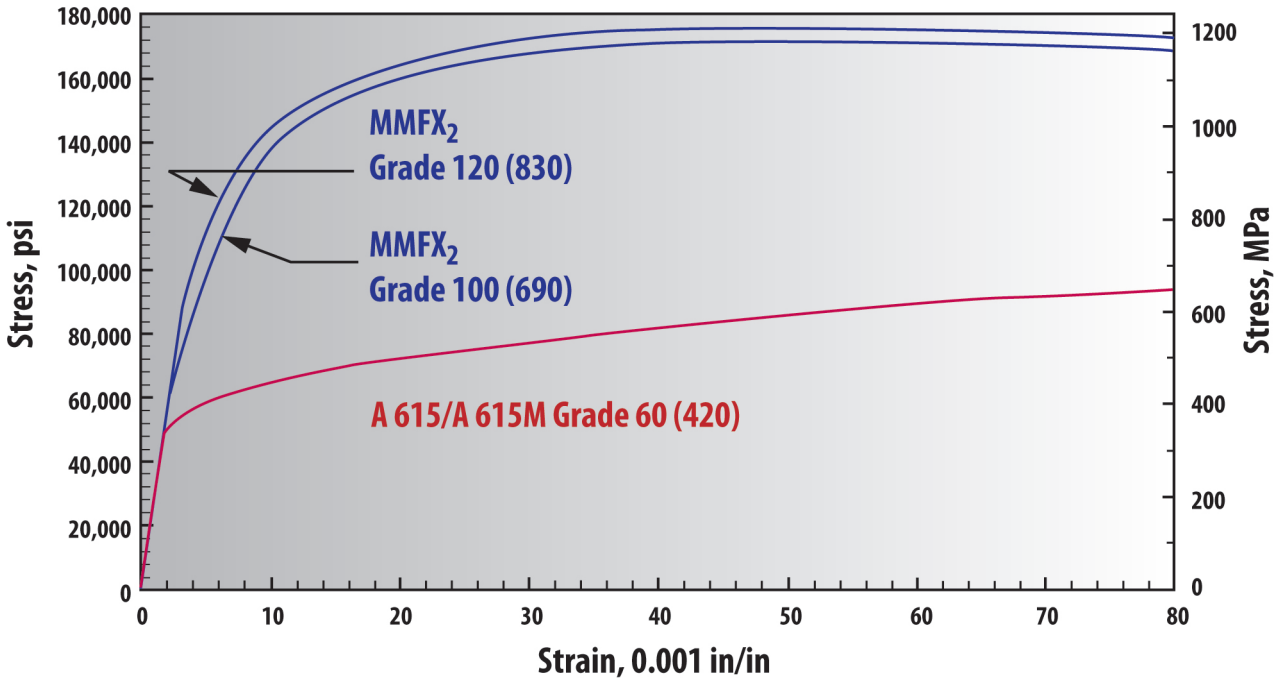
Standard Specification for Uncoated, Corrosion-Resistant, Deformed and Plain, Low-Carbon, Chromium, Steel Bars for Concrete Reinforcement

Typical Stress-Strain Curves for MMFX$_2$ (ASTM A1035/A1035M) Reinforcing Bars



Tensile Properties of MMFX$_2$ (ASTM A1035/A1035M) Reinforcing Bars

Tensile Properties Requirements	Grade 100 [690]	Grade 120 [830]
Tensile strength, min, psi [MPa]	150,000 [1030]	150,000 [1030]
Yield strength (0.2% offset, min, psi [MPa]	100,000 [690]	120,000 [830]
Stress corresponding to an extension under load of 0.0035 in./in. (0.0035mm/mm), min. psi [MPa]	80,000 [550]	90,000 [620]
Elongation in 8 in. [203.2 mm], min.%:		
- Bar Designation No. 3 through 11 [10 through 36]	7	7
- Bar Designation No. 14, 18, [43, 57]	6	--

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Chemical Constituents (Weight %)

Element	ASTM A1035/A1035M Maximum Amount *	Typical MMFX$_2$
Carbon	0.15%	0.08%
Chromium	8 to 10.9%	9%
Manganese	1.5%	0.5%
Nitrogen	0.05%	0.05%
Phosphorus	0.035%	0.035%
Sulfur	0.045%	0.045%
Silicon	0.50%	0.50%

*Maximum unless range indicated.

AVAILABILITY

REBAR: #3 - #11, #14, & #18
COIL: #3 & #4

SMOOTH ROUND DOWELS:
1-1/4 & 1-1/2 inch diameter

CUSTOM MILL-CUT LENGTHS:
Available by special order of 25 tons or greater and a minimum length of 20'

Physical Properties per ASTM A1035/A1035M

Bar Designation No.	Diameter in [mm]	Cross-Sectional Area, in^2 [mm^2]	Weight, lb/ft [kg/m]
3 [10]	0.375 [9.5]	0.11 [71]	0.376 [0.560]
4 [13]	0.500 [12.7]	0.20 [129]	0.668 [0.994]
5 [16]	0.625 [15.9]	0.31 [199]	1.043 [1.552]
6 [19]	0.750 [19.1]	0.44 [284]	1.502 [2.235]
7 [22]	0.875 [22.2]	0.60 [387]	2.044 [3.042]
8 [25]	1.000 [25.4]	0.79 [510]	2.670 [3.973]
9 [29]	1.128 [28.7]	1.00 [645]	3.400 [5.060]
10 [32]	1.270 [32.3]	1.27 [819]	4.303 [6.404]
11 [36]	1.410 [35.8]	1.56 [1006]	5.313 [7.907]
14 [43]	1.693 [43.0]	2.25 [1452]	7.65 [11.38]
18 [57]	2.257 [57.3]	4.00 [2581]	13.60 [20.24]

Physical Properties per BS 4449

Nominal diameter mm	Cross Sectional area mm^2	Mass per meter kg
10	78.5	0.617
12	113	0.888
16	201	1.58
20	314	2.47
25	491	3.85
32	804	6.31
40	1257	9.86
50	1963	15.4

Concrete structures stand on the strength of steel. That is why top project managers, engineers and fabricators use the strongest rebar on the market today:

MMFX$_2$ Steel. Today's Steel Standard.