

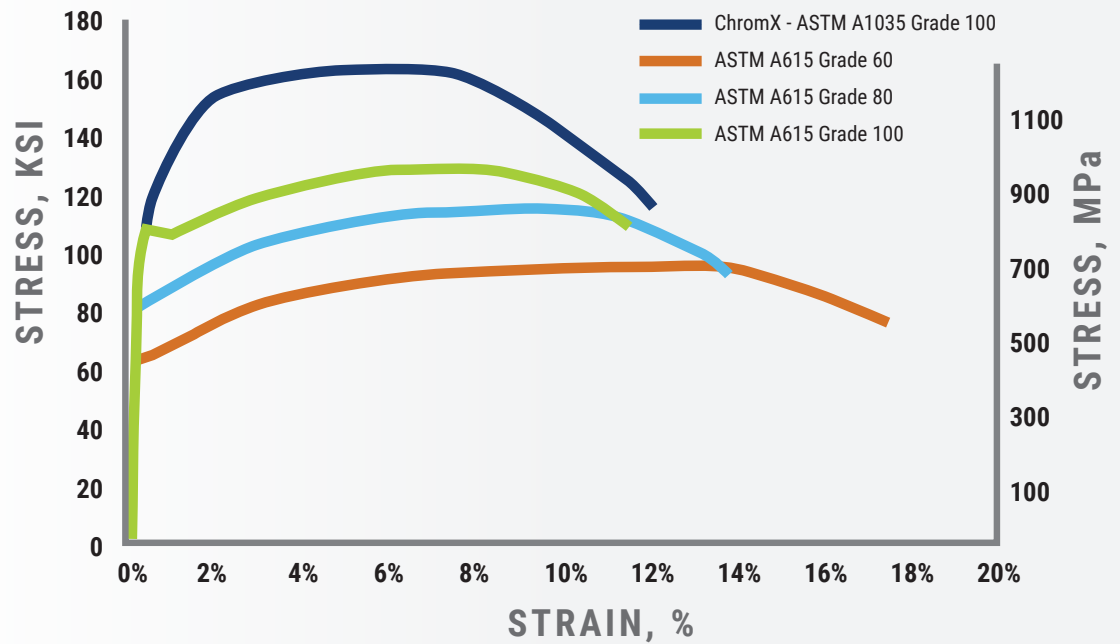
## ChromX<sup>®</sup> 9100, 4100 and 2100 conforming to ASTM A1035/A1035M

Designation: A1035/A1035M - 16b  
 Standard Specification for Uncoated, Deformed and Plain,  
 Low-Carbon, Chromium, Steel Bars for Concrete Reinforcement



**DESIGN ACCORDING  
 TO ACI 318-19 CODE**

Typical Stress-Strain  
 Curves for ChromX<sup>®</sup>  
 (9100, 4100, and  
 2100 conforming to  
 ASTM A1035/  
 A1035M) Grade 100  
 [690] vs ASTM A615  
 Grades 60 [420], 80  
 [550] and 100 [690]



### Tensile Properties ChromX<sup>®</sup> (9100, 4100, and 2100 conforming to ASTM A1035/A1035M) Grade 100 [690] vs ASTM A615 Grades 60 [420], 80 [550] and 100 [690]

Tensile Properties	ASTM A615 Grade 60	ASTM A615 Grade 80	ASTM A615 Grade 100	ASTM A1035 Grade 100
Min. Yield Strength, ksi	60	80	100	100
Min. Tensile Strength, ksi	80	100	115	150
Min. Elongation, %	9	7	7	7
Min. Tensile/Yield (T/Y Ratio)	-	-	1.10	1.25

## Chemical Constituents, Maximum Amount\* (Weight %)

Element	ChromX® 9100 ASTM A1035 CS	ChromX® 4100 ASTM A1035 CM	ChromX® 2100 ASTM A1035 CL
Carbon	0.15%	0.20%	0.30%
Chromium	8.0 to 10.9%	4 to 7.9%	2.0 to 3.9%
Manganese	1.5%	1.5%	1.5%
Nitrogen	0.05%	0.05%	0.05%
Phosphorus	0.035%	0.035%	0.035%
Sulfur	0.045%	0.045%	0.045%
Silicon	0.50%	0.50%	0.50%

\* Maximum unless range indicated

### Availability

Rebar: #3 - #11, #14 & #18

Coil: #3 & #4

Smooth Round Dowels: 11/4 & 11/2 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 <sup>2</sup> (mm <sup>2</sup> )	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 (43.0)	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)

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 - ChromX® steel.



it's what's **inside** that counts

Phone: 480.396.7124  
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[cmc.com/chromx](http://cmc.com/chromx)

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