

RAW MATERIALS / FERROUS

FNHA-2-A-701.00

COLD DRAWN SQUARE AISI 1018**1. SCOPE**

This specification defines the requirements for Cold Drawn Steel Bar conforming to AISI chemistry specifications and ASTM A29 dimensional tolerances.

2. APPLICATION

This specification includes material requirements, ordering information and quality requirements to be used by Engineering, Purchasing and Manufacturing.

3. DRAWING SPECIFICATIONS

3.1 C.D. Square Bar AISI 1018

3.2 Material Code 204 - Cold Drawn, Flat (Versatile Only)

4. RELATED SPECIFICATIONS**4.1 REFERENCE STANDARDS**

ASTM A29 - Standard Specifications for Steel Bar, Carbon and Alloy, Hot Wrought and Cold Finished, General Requirements.

ASTM A108 - Standard Specifications for Steel Bar, Carbon, Cold Finished, Standard Quality.

86050124(FNHA-2-A-027.00) - General Requirements for Carbon and Alloy Steel Bars, Hot Rolled and Cold - Finished

86603432(FNHA-2-A-701.01)Material List 9842960
WS 50.03 material Ck 15

4.2 This standard replaces the following company standard:

Versatile

MS - 610.

5. ORDERING INFORMATION

5.1 AISI 1018 Steel.

5.2 Cold Drawn Bar, Standard Quality.

5.3 Dimensions (size, bar length, and whether cut length or random length).

5.4 Condition: Cold drawn.

6. CHEMICAL COMPOSITION FOR AISI 1018 AND CK 15 STEEL

Carbon,%	0.10 to 0.20
Manganese,%	0.30 to 0.90
Phosphorus,%	0.040 maximum
Sulfur,%	0.050 maximum
Lead - not permitted	

7. DIMENSIONAL TOLERANCES

7.1 Size tolerances for Cold Drawn Squares - see Table 1.

7.2 Length tolerance for cut lengths + 2" / - 0, unless otherwise specified by part number drawing.

7.3 Straightness tolerances for Cold Drawn Squares - see Table 2.

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8.0 MECHANICAL PROPERTIES

Tensile Strength, psi, typical	64 000
Yield Strength, psi, typical	54 000
Elongation in 2", typical %	15
Reduction in Area, typical %	40
Rockwell B Hardness, typical	72
Brinnell Hardness, typical	126

TABLE 1. Size Tolerance for 1018 C.D. Squares

Size, inches	Cold Drawn Tolerance from Specified Size, Minus only, inches
To 3/4, incl.	0.002
Over 3/4 to 1 1/2, incl.	0.003
Over 1 1/2 to 2 1/2, incl.	0.004
Over 2 1/2 to 4, incl.	0.006

TABLE 2. Straightness Tolerance for 1018 C.D. Squares

Size, inches	Length, feet	Straightness Tolerance, inches, Maximum Deviation from Straightness in any 10 ft. Portion of Bar
Less than 5/8	Less than 15	3/16
Less than 5/8	15 and over	5/16
5/8 and over	Less than 15	1/8
5/8 and over	15 and over	3/16



NAME

STD AISI 1018 CD SQ

PART NUMBER

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