

Fidelity Stainless



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316/L Square Bar

MATERIAL SPECIFICATIONS

PREPARED BY: H. POPE

REVISION DATE: 03/15/13

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| MATERIAL | STAINLESS SQUARE BAR 316/316L R/L 12-14' | COLD DRAWN |
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| SPECIFICATIONS | ALL SPECIFICATIONS WITH LATEST YEAR REVISIONS AISI 316,316L, UNS-S31600/S31603 ASTM A182, ASTM A193 B8M CL1, ASTM A262 PRACTICE E, ASTM A276 ASTM A314, ASTM A320 B8M CL1, ASTM A388, ASTM A479, ASTM A484 ASME SA182, ASME SA193 B8M CL1, ASME SA320 B8M CL1, ASME SA479 AMS 5648, AMS 5653, QQ-S-763F COND. A, MIL-S-862 B NACE MR 0175, NACE MR 0103, EN 10204-3.1 | |
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| <u>CHEMICAL ANALYSIS</u> | | <u>MECHANICAL PROPERTIES</u> | |
|--------------------------|-------------|------------------------------|-------------------------|
| Carbon (C) | .03 | Tensile Strength | to 1/2" 90/115 KSI |
| Chromium (Cr) | 16.00/18.00 | (U.T.S.) | over 1/2" 75 KSI |
| Cobalt (Co) | | Yield Strength | to 1/2" 45 KSI |
| Copper (Cu) | 1.00 | (Yield) | over 1/2" 30 KSI |
| Manganeses (Mn) | 2.000 | Elongation | to 1/2" 30% |
| Molybdenum (Mo) | 2.00/3.00 | (Ei. or Elong.) | over 1/2" 40% |
| Nickel (Ni) | 10.00/14.00 | Reduction of Area | to 1/2" 40% |
| Nitrogen (N) | .10 | (R.A. or Red.) | over 1/2" 50% |
| Phosphorous (P) | .045 | Hardness | 140/223 BHN Max |
| Silicon (Si) | 1.00 | (RB,RC,or BHN,HB) | aim 150-180 |
| Sulfur (S) | .03 | | |

All singular chemistry values are
MAXIMUM unless otherwise noted

All mechanical properties are
MINIMUM unless otherwise noted

OTHER TEST(S) AND/OR REQUIREMENTS

INTERGRANULAR CORROSION TEST (FREE FROM CONTINUOUS CARBIDE)
 AS PER ASTM A262-02 PRACTICE E
 MACRO ETCH TEST & MICRO STRUCTURE TO BE SATISFACTORY
 MERCURY FREE CONTAMINATION STATEMENT
 FREE FROM RADIOACTIVE CONTAMINATION
 NO WELDING OR WELD REPAIR STATEMENT
 REPORT GRAIN SIZE PER ASTM E112-96
 SOLUTION ANNEALED CONDITION A, PER ASTM A479 AT 1040C/1900F MINIMUM AND WATER QUENCHED
 FINISHED CONDITION, MELT AND HOT WORKING PRACTICES TO BE REPORTED
 GRADE AND HEAT NUMBERS MUST BE METAL STAMPED AT BOTH ENDS ON SIZES 1" DIA. AND LARGER
 COLOUR CODE GREEN
 BUNDLE WEIGHT - 2200 LBS MAXIMUM

IMPORTANT:

ORIGINAL CERTIFICATES OF CHEMICAL & PHYSICAL ANALYSIS REQUIRED TWO (2) WEEKS BEFORE
 SHIPMENT ARRIVES
 ALL TEST REPORTS MUST STATE COUNTRY OF ORIGIN
 TEST REPORTS MUST HAVE THE SIGNATURE NAME AND TITLE PRINTED
 ALL TEST REPORTS MUST BE SIGNED BY AUTHORIZED PERSON