



ASM Aerospace Specification Metals Inc.



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AISI Type 430 Stainless Steel annealed and cold drawn bar, 25 mm diameter

Subcategory: Ferrous Metal; Metal; Stainless Steel; T 400 Series Stainless Steel

Close Analogs: Composition Notes: Iron content calculated as remainder.

Key Words: UNS S43000, AMS 5503, AMS 5627, ASME SA182, ASME SA240, ASME SA268, ASME SA479, ASTM A176, ASTM A182, ASTM A240, ASTM A268, ASTM A276, ASTM A314, ASTM A473, ASTM A479, ASTM A493, ASTM A511, ASTM A554, ASTM A580, ASTM A651, B.S. 430 S 15, ferritic, DIN 1.4016, AFNOR Z 8 C 17 (Fr), UNI X 8 Cr 17, JIS SUS 430, SS14 2320 (Sweden), FED QQ-S-763, FED QQ-S-766, FED STD-66, MIL SPEC MIL-S-862, SAE J405 (51430), ISO 683/13 8

Component	Wt. %
C	Max 0.12
Cr	14 - 18
Fe	79 - 87
Mn	Max 1
P	Max 0.04
S	Max 0.03
Si	Max 1

Physical Properties	Metric	English	Comments
Density	<u>7.8 g/cc</u>	0.282 lb/in ³	

Mechanical Properties

Hardness, Brinell	185	185	
Hardness, Knoop	206	206	Converted from Brinell Hardness.
Hardness, Rockwell B	90	90	Converted from Brinell Hardness.
Hardness, Vickers	194	194	Converted from Brinell Hardness.
Tensile Strength, Ultimate	<u>586 MPa</u>	85000 psi	
Tensile Strength, Yield	<u>483 MPa</u>	70100 psi	at 0.2% offset
Elongation at Break	<u>20 %</u>	20 %	in 50 mm
Modulus of Elasticity	<u>200 GPa</u>	29000 ksi	

Electrical Properties

Electrical Resistivity	6e-005 ohm-cm	6e-005 ohm-cm	at 20°C
Magnetic Permeability	600 - 1100	600 - 1100	annealed condition at RT

Thermal Properties

CTE, linear 20°C	10.4 µm/m-°C	5.78 µin/in-°F	from 0-100°C (32-212°F)
CTE, linear 250°C	11 µm/m-°C	6.11 µin/in-°F	at 0-315°C
CTE, linear 500°C	11.3 µm/m-°C	6.28 µin/in-°F	at 0-540°C, 11.9 µm/m-C at 0-650°C, 12.4 µm/m-C at 0-815°C
Specific Heat Capacity	0.46 J/g-°C	0.11 BTU/lb-°F	from 0-100°C (32-212°F)
Thermal Conductivity	26.1 W/m-K	181 BTU-in/hr-ft ² -°F	at 100°C, 26.3 at 500°C
Melting Point	1425 - 1510 °C	2600 - 2750 °F	
Solidus	1425 °C	2600 °F	
Liquidus	1510 °C	2750 °F	
Maximum Service Temperature, Air	815 °C	1500 °F	Continuous Service
Maximum Service Temperature, Air	870 °C	1600 °F	Intermittent Service

References for this datasheet.

Some of the values displayed above may have been converted from their original units and/or rounded in order to display the information in a consistent format. Users requiring more precise data for scientific or engineering calculations can click on the property value to see the original value as well as raw conversions to equivalent units. We advise that you only use the original value or one of its raw conversions in your calculations to minimize rounding error.