

Outokumpu 4435 Cr-Ni-Mo Austenitic Stainless Steel

Category : Metal , Ferrous Metal , Austenitic , Stainless Steel

Material Notes:

Applications: Wet corrosion resistance and general service. Available in hot rolled plate (Quarto), hot rolled strip/sheet (CPP), cold rolled strip/sheet, cold rolled narrow strip, bar, and rod forms.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Outokumpu-4435-Cr-Ni-Mo-Austenitic-Stainless-Steel.php

Physical Properties	Metric	English	Comments
Density	8.00 g/cc	0.289 lb/in ³	RT

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	150	150	Outokumpu Typical, 20°C, Hot rolled plate (Quarto)/Cold rolled strip/sheet; EN 10003-1
Tensile Strength, Ultimate	570 MPa	82700 psi	Outokumpu Typical, Hot Rolled Plate (Quarto); EN 10002-1
	370 MPa	53700 psi	EN min.; EN 10002-5
	@Temperature 300 °C	@Temperature 572 °F	
	380 MPa	55100 psi	EN min.; EN 10002-5
	@Temperature 200 °C	@Temperature 392 °F	
	420 MPa	60900 psi	EN min.; EN 10002-5
	@Temperature 100 °C	@Temperature 212 °F	
	840 MPa	122000 psi	EN min; EN 10002-5
	@Temperature -80.0 °C	@Temperature -112 °F	
	1200 MPa	174000 psi	EN min; EN 10002-5
	@Temperature -196 °C	@Temperature -321 °F	
Tensile Strength, Yield	220 MPa	31900 psi	EN min.,RT; EN 10002-1
	@Strain 0.200 %	@Strain 0.200 %	
	270 MPa	39200 psi	Outokumpu Typical, Hot Rolled Plate (Quarto); EN 10002-1
	@Strain 0.200 %	@Strain 0.200 %	
	310 MPa	45000 psi	Outokumpu Typical, Hot Rolled Plate (Quarto); EN 10002-1
	@Strain 1.00 %	@Strain 1.00 %	
	100 MPa	14500 psi	

Mechanical Properties	Metric @Strain 0.200 %, Temperature 500 °C	English @Strain 0.200 %, Temperature 932 °F	EN min.: EN 10002-5 Comments
	108 MPa	15700 psi	
	@Strain 0.200 %, Temperature 400 °C	@Strain 0.200 %, Temperature 752 °F	EN min.; EN 10002-5
	119 MPa	17300 psi	
	@Strain 0.200 %, Temperature 300 °C	@Strain 0.200 %, Temperature 572 °F	EN min.; EN 10002-5
	128 MPa	18600 psi	
	@Strain 1.00 %, Temperature 500 °C	@Strain 1.00 %, Temperature 932 °F	EN min.; EN 10002-5
	135 MPa	19600 psi	
	@Strain 1.00 %, Temperature 400 °C	@Strain 1.00 %, Temperature 752 °F	EN min.; EN 10002-5
	137 MPa	19900 psi	
	@Strain 0.200 %, Temperature 200 °C	@Strain 0.200 %, Temperature 392 °F	EN min.; EN 10002-5
	145 MPa	21000 psi	
	@Strain 1.00 %, Temperature 300 °C	@Strain 1.00 %, Temperature 572 °F	EN min.; EN 10002-5
	165 MPa	23900 psi	
	@Strain 0.200 %, Temperature 100 °C	@Strain 0.200 %, Temperature 212 °F	EN min.; EN 10002-5
	165 MPa	23900 psi	
	@Strain 1.00 %, Temperature 200 °C	@Strain 1.00 %, Temperature 392 °F	EN min.; EN 10002-5
	200 MPa	29000 psi	
	@Strain 1.00 %, Temperature 100 °C	@Strain 1.00 %, Temperature 212 °F	EN min.; EN 10002-5
	275 MPa	39900 psi	
	@Strain 0.200 %, Temperature -80.0 °C	@Strain 0.200 %, Temperature -112 °F	EN min.; EN 10002-5
	350 MPa	50800 psi	
	@Strain 0.200 %, Temperature -196 °C	@Strain 0.200 %, Temperature -321 °F	EN min.; EN 10002-5
	355 MPa	51500 psi	
	@Strain 1.00 %, Temperature -80.0 °C	@Strain 1.00 %, Temperature -112 °F	EN min.; EN 10002-5

Mechanical Properties	450 MPa Metric	65300 psi English	Comments
	@Strain 1.00 %, Temperature -196 °C	@Strain 1.00 %, Temperature -321 °F	EN min., EN 10002-3
Elongation at Break	55 %	55 %	Outokumpu Typical, Hot Rolled Plate (Quarto); EN 10002-1
	35 %	35 %	EN min
	@Temperature -196 °C	@Temperature -321 °F	
	40 %	40 %	EN min
	@Temperature -80.0 °C	@Temperature -112 °F	
Modulus of Elasticity	200 GPa	29000 ksi	RT
	165 GPa	23900 ksi	
	@Temperature 500 °C	@Temperature 932 °F	
	172 GPa	24900 ksi	
	@Temperature 400 °C	@Temperature 752 °F	
	179 GPa	26000 ksi	
	@Temperature 300 °C	@Temperature 572 °F	
	186 GPa	27000 ksi	
	@Temperature 200 °C	@Temperature 392 °F	
	194 GPa	28100 ksi	
	@Temperature 100 °C	@Temperature 212 °F	
Poissons Ratio	0.30	0.30	RT
Shear Modulus	77.0 GPa	11200 ksi	calculated
Impact Test	>= 60.0 J	>= 44.3 ft-lb	Hot rolled plate/Cold rolled strip/sheet, 10x10mm test pieces; EN 10045-1

Thermal Properties	Metric	English	Comments
CTE, linear	16.0 µm/m-°C	8.89 µin/in-°F	
	@Temperature 100 °C	@Temperature 212 °F	
	17.5 µm/m-°C	9.72 µin/in-°F	
	@Temperature 400 °C	@Temperature 752 °F	
Specific Heat Capacity	0.500 J/g-°C	0.120 BTU/lb-°F	RT
Thermal Conductivity	15.0 W/m-K	104 BTU-in/hr-ft²-°F	RT

Thermal Properties	Metric	English	Comments
	@Temperature 400 °C	@Temperature 752 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	0.020 %	0.020 %	
Chromium, Cr	17.3 %	17.3 %	
Iron, Fe	67.48 %	67.48 %	
Molybdenum, Mo	2.6 %	2.6 %	
Nickel, Ni	12.6 %	12.6 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0000750 ohm-cm	0.0000750 ohm-cm	RT

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