

Outokumpu 4565 High Performance Austenitic Stainless Steel

Category : Metal , Ferrous Metal , Austenitic , Pressure Vessel Steel , Stainless Steel

Material Notes:

Applications: Process equipment in chemical industry Bleaching equipment in the pulp and paper industry Flue-gas cleaning Desalination Seawater handling Heat exchangers Available in hot rolled plate (Quarto) form.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Outokumpu-4565-High-Performance-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	>= 240	>= 240	Hot rolled plate/Hot rolled strip/Cold rolled strip; EN 10003-1
Tensile Strength, Ultimate	825 MPa	120000 psi	Outokumpu Typical, Hot Rolled Plate (Quarto); EN 10002-1
	610 MPa	88500 psi	EN min.; EN 10002-5
	@Temperature 400 °C	@Temperature 752 °F	
	640 MPa	92800 psi	EN min.; EN 10002-5
	@Temperature 200 °C	@Temperature 392 °F	
Tensile Strength, Yield	640 MPa	92800 psi	EN min.; EN 10002-5
	@Temperature 300 °C	@Temperature 572 °F	
	750 MPa	109000 psi	EN min.; EN 10002-5
Tensile Strength, Yield	@Temperature 100 °C	@Temperature 212 °F	
	420 MPa	60900 psi	EN min.,RT; EN 10002-1
	@Strain 0.200 %	@Strain 0.200 %	
	440 MPa	63800 psi	Outokumpu Typical,Hot Rolled Plate (Quarto); EN 10002-1
	@Strain 0.200 %	@Strain 0.200 %	
Tensile Strength, Yield	480 MPa	69600 psi	Outokumpu Typical,Hot Rolled Plate (Quarto); EN 10002-1
	@Strain 1.00 %	@Strain 1.00 %	
	210 MPa	30500 psi	EN min.; EN 10002-5
	@Strain 0.200 %, Temperature 400 °C	@Strain 0.200 %, Temperature 752 °F	
	240 MPa	34800 psi	

Mechanical Properties	Metric	English	EN min.: EN 10002-5 Comments
	240 MPa	34800 psi	
	@Strain 1.00 %, Temperature 400 °C	@Strain 1.00 %, Temperature 752 °F	EN min.; EN 10002-5
	270 MPa	39200 psi	
	@Strain 1.00 %, Temperature 300 °C	@Strain 1.00 %, Temperature 572 °F	EN min.; EN 10002-5
	270 MPa	39200 psi	
	@Strain 0.200 %, Temperature 200 °C	@Strain 0.200 %, Temperature 392 °F	EN min.; EN 10002-5
	310 MPa	45000 psi	
	@Strain 1.00 %, Temperature 200 °C	@Strain 1.00 %, Temperature 392 °F	EN min.; EN 10002-5
	350 MPa	50800 psi	
	@Strain 0.200 %, Temperature 100 °C	@Strain 0.200 %, Temperature 212 °F	EN min.; EN 10002-5
	400 MPa	58000 psi	
	@Strain 1.00 %, Temperature 100 °C	@Strain 1.00 %, Temperature 212 °F	EN min.; EN 10002-5
Elongation at Break	55 %	55 %	Outokumpu Typical, Hot Rolled Plate (Quarto); EN 10002-1
Modulus of Elasticity	190 GPa	27600 ksi	RT
	165 GPa	23900 ksi	
	@Temperature 400 °C	@Temperature 752 °F	
Impact Test	>= 90.0 J	>= 66.4 ft-lb	Hot rolled plate/Hot rolled strip/Cold rolled strip; EN 10045-1

Thermal Properties	Metric	English	Comments
CTE, linear	14.5 µm/m-°C	8.06 µin/in-°F	
	@Temperature 100 °C	@Temperature 212 °F	
	16.8 µm/m-°C	9.33 µin/in-°F	
	@Temperature 400 °C	@Temperature 752 °F	
Specific Heat Capacity	0.450 J/g-°C	0.108 BTU/lb-°F	RT
Thermal Conductivity	12.0 W/m-K	83.3 BTU-in/hr-ft²-°F	RT
	18.0 W/m-K	125 BTU-in/hr-ft²-°F	

Thermal Properties	@Temperature 400 °C Metric	@Temperature 752 °F English	Comments
Component Elements Properties	Metric	English	Comments
Carbon, C	0.020 %	0.020 %	
Chromium, Cr	24 %	24 %	
Iron, Fe	48.53 %	48.53 %	
Manganese, Mn	5.5 %	5.5 %	
Molybdenum, Mo	4.5 %	4.5 %	
Nickel, Ni	17 %	17 %	
Nitrogen, N	0.45 %	0.45 %	
Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0000920 ohm-cm	0.0000920 ohm-cm	RT
Processing Properties	Metric	English	Comments
Annealing Temperature	1120 - 1170 °C	2050 - 2140 °F	Solution Annealing

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