

Outokumpu 904L 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), 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-904L-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	>= 180	>= 180	Hot rolled plate/Hot rolled strip/Cold rolled strip; EN 10003-1
Tensile Strength, Ultimate	600 MPa	87000 psi	Outokumpu Typical, Hot Rolled Plate (Quarto); EN 10002-1
	440 MPa	63800 psi	EN min.; EN 10002-5
	@Temperature 300 °C	@Temperature 572 °F	
Tensile Strength, Yield	460 MPa	66700 psi	EN min.; EN 10002-5
	@Temperature 200 °C	@Temperature 392 °F	
	500 MPa	72500 psi	EN min.; EN 10002-5
Tensile Strength, Yield	@Temperature 100 °C	@Temperature 212 °F	
	220 MPa	31900 psi	EN min.,RT; EN 10002-1
	@Strain 0.200 %	@Strain 0.200 %	
Tensile Strength, Yield	260 MPa	37700 psi	Outokumpu Typical, Hot Rolled Plate (Quarto); EN 10002-1
	@Strain 0.200 %	@Strain 0.200 %	
	300 MPa	43500 psi	Outokumpu Typical, Hot Rolled Plate (Quarto); EN 10002-1
Tensile Strength, Yield	@Strain 1.00 %	@Strain 1.00 %	
	125 MPa	18100 psi	EN min.; EN 10002-5
	@Strain 0.200 %, Temperature 400 °C	@Strain 0.200 %, Temperature 752 °F	
Tensile Strength, Yield	145 MPa	21000 psi	EN min.; EN 10002-5
	@Strain 0.200 %, Temperature 300 °C	@Strain 0.200 %, Temperature 572 °F	

Mechanical Properties	155 MPa Metric	22500 psi English	Comments EN min.; EN 10002-5
	@Strain 1.00 %, Temperature 400 °C	@Strain 1.00 %, Temperature 752 °F	
	175 MPa	25400 psi	EN min.; EN 10002-5
	@Strain 1.00 %, Temperature 300 °C	@Strain 1.00 %, Temperature 572 °F	
	175 MPa	25400 psi	EN min.; EN 10002-5
	@Strain 0.200 %, Temperature 200 °C	@Strain 0.200 %, Temperature 392 °F	
	205 MPa	29700 psi	EN min.; EN 10002-5
	@Strain 0.200 %, Temperature 100 °C	@Strain 0.200 %, Temperature 212 °F	
	205 MPa	29700 psi	EN min.; EN 10002-5
	@Strain 1.00 %, Temperature 200 °C	@Strain 1.00 %, Temperature 392 °F	
	235 MPa	34100 psi	EN min.; EN 10002-5
	@Strain 1.00 %, Temperature 100 °C	@Strain 1.00 %, Temperature 212 °F	
Elongation at Break	50 %	50 %	Outokumpu Typical, Hot Rolled Plate (Quarto); EN 10002-1
Modulus of Elasticity	195 GPa	28300 ksi	RT
	166 GPa	24100 ksi	
	@Temperature 400 °C	@Temperature 752 °F	
Poissons Ratio	0.30	0.30	RT
Shear Modulus	75.0 GPa	10900 ksi	calculated
Impact Test	>= 60.0 J	>= 44.3 ft-lb	Hot rolled plate/Hot rolled strip/Cold rolled strip; EN 10045-1

Thermal Properties	Metric	English	Comments
CTE, linear	15.8 µm/m-°C	8.78 µin/in-°F	
	@Temperature 100 °C	@Temperature 212 °F	
	16.9 µm/m-°C	9.39 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-ft ² -°F	RT

Thermal Properties	18.0 W/m-K Metric	125 BTU-in/hr-ft ² -°F English	Comments
	@Temperature 400 °C	@Temperature 752 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	0.010 %	0.010 %	
Chromium, Cr	20 %	20 %	
Copper, Cu	1.5 %	1.5 %	
Iron, Fe	49.19 %	49.19 %	
Molybdenum, Mo	4.3 %	4.3 %	
Nickel, Ni	25 %	25 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.000100 ohm-cm	0.000100 ohm-cm	RT

Processing Properties	Metric	English	Comments
Annealing Temperature	1080 - 1160 °C	1980 - 2120 °F	Solution Annealing

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