

Industeel CLC 17.12.2 L 2% Mo Containing 18 Cr & 10 Ni Austenitic Stainless Steel

Category : Metal , Ferrous Metal , Austenitic , Stainless Steel , T S30000 Series Stainless Steel

Material Notes:

Description: CLC 17-12-2L is one of the basic grade of the stainless steels range. 2% Molybdenum bearing ensures better corrosion resistance than CLC 18-9 L grade, particularly regarding to uniform and localized corrosion. Alloy CLC 17-12-2L is an austenitic microstructure grade, free of deleterious carbide precipitations in grain boundaries. The grade contains some residual ferrite (approx. 3%) after solution annealing (1050-1150°C & 1922-2102°F) and water quenching. Chemistry and heat treatments may be optimized in order to control the ferrite content. The CLC 17-2-2L steel resists to wet atmosphere or room temperature solutions containing some chloride or fluoride additions. The steel is not seawater resistant. The alloy may be used in diluted sulphuric acids at low temperature (= 330°C - 626°F) as well as in sour organic solutions. The grade is also well known for its higher ductility, particularly when considering cold forming. Information provided by manufacturer.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Industeel-CLC-17122-L-2-Mo-Containing-18-Cr-10-Ni-Austenitic-Stainless-Steel.php

Physical Properties	Metric	English	Comments
Density	7.95 g/cc	0.287 lb/in ³	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	580 MPa	84100 psi	Typical
	520 - 670 MPa	75400 - 97200 psi	Minimum Guaranteed
Tensile Strength, Yield	>= 220 MPa	>= 31900 psi	
	@Strain 0.200 %	@Strain 0.200 %	
	>= 260 MPa	>= 37700 psi	
	@Strain 1.00 %	@Strain 1.00 %	
	310 MPa	45000 psi	Typical
	@Strain 0.200 %	@Strain 0.200 %	
	350 MPa	50800 psi	Typical
	@Strain 1.00 %	@Strain 1.00 %	
Elongation at Break	45 %	45 %	
Modulus of Elasticity	200 GPa	29000 ksi	
	@Temperature 20.0 - 100 °C	@Temperature 68.0 - 212 °F	
Poissons Ratio	0.299	0.299	Calculated

Mechanical Properties	Metric	English	Comments
Shear Modulus	77.0 GPa	11200 ksi	
	@Temperature 20.0 - 100 Å°C	@Temperature 68.0 - 212 Å°F	
Charpy Impact	>= 187 J	>= 138 ft-lb	
	312 J	230 ft-lb	Typical
	>= 75.0 J	>= 55.3 ft-lb	
	@Temperature -269 Å°C	@Temperature -452 Å°F	
	125 J	92.2 ft-lb	Typical
	@Temperature -269 Å°C	@Temperature -452 Å°F	
Charpy Impact, Unnotched	230 J	170 ft-lb	Aged 2000 hrs at 450Å°C
	@Treatment Temp. 450 Å°C	@Treatment Temp. 842 Å°F	

Thermal Properties	Metric	English	Comments
CTE, linear	16.0 Åµm/m-Å°C	8.89 Åµin/in-Å°F	
	@Temperature 20.0 - 100 Å°C	@Temperature 68.0 - 212 Å°F	
	16.5 Åµm/m-Å°C	9.17 Åµin/in-Å°F	
	@Temperature 20.0 - 200 Å°C	@Temperature 68.0 - 392 Å°F	
	17.0 Åµm/m-Å°C	9.44 Åµin/in-Å°F	
	@Temperature 20.0 - 300 Å°C	@Temperature 68.0 - 572 Å°F	
	18.0 Åµm/m-Å°C	10.0 Åµin/in-Å°F	
	@Temperature 20.0 - 500 Å°C	@Temperature 68.0 - 932 Å°F	
Specific Heat Capacity	0.500 J/g-Å°C	0.120 BTU/lb-Å°F	
	@Temperature 20.0 - 100 Å°C	@Temperature 68.0 - 212 Å°F	
Thermal Conductivity	15.0 W/m-K	104 BTU-in/hr-ftÅ²-Å°F	
	@Temperature 20.0 - 100 Å°C	@Temperature 68.0 - 212 Å°F	

Component Elements Properties	Metric	English	Comments
Carbon, C	0.020 %	0.020 %	

Chromium, Cr Component Elements Properties	Metric	English	Comments
Iron, Fe	70.33 %	70.33 %	As remainder
Molybdenum, Mo	2.1 %	2.1 %	
Nickel, Ni	10.5 %	10.5 %	
Nitrogen, N	0.050 %	0.050 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0000750 ohm-cm	0.0000750 ohm-cm	
	@Temperature 20.0 - 100 Â°C	@Temperature 68.0 - 212 Â°F	

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