

## Latrobe Lescalloy® 15-5 VAC-ARC Precipitation Hardening Stainless Steel

Category : Metal , Ferrous Metal , Martensitic , Stainless Steel , Precipitation Hardening Stainless

### Material Notes:

LESCALLOY 15-5 VAC-ARC steel is a precipitation hardening martensitic stainless steel commonly considered to be a compositional modification of 17-4 with minimal delta ferrite. A wide range of mechanical properties is available via simple aging within a 900-1150°F temperature range. Vacuum arc remelting provides low gas content, superior cleanliness and optimum transverse properties. Information Provided by Timken Latrobe Steel. Timken sold Latrobe in December 2006. They are now Latrobe Specialty Steels Co.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Latrobe-Lescalloy-15-5-VAC-ARC-Precipitation-Hardening-Stainless-Steel.php](http://www.lookpolymers.com/polymer_Latrobe-Lescalloy-15-5-VAC-ARC-Precipitation-Hardening-Stainless-Steel.php)

Physical Properties	Metric	English	Comments
Density	7.81 g/cc	0.282 lb/in <sup>3</sup>	

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	277 - 352	277 - 352	H1150 - 620°C at 4 hr
	311 - 375	311 - 375	H1075 - 580°C at 4 hr
	388 - 444	388 - 444	H900 - 480°C at 1 hr
Tensile Strength, Ultimate	931 MPa	135000 psi	Tempered at 1150°F, 4hr
	>= 931 MPa	>= 135000 psi	H1150 Condition - 620°C at 4 hr
	1000 MPa	145000 psi	Tempered at 1075°F, 4hr
	>= 1000 MPa	>= 145000 psi	H1075 Condition - 580°C at 4 hr
	1310 MPa	190000 psi	Tempered at 900°F, 1hr
	>= 1310 MPa	>= 190000 psi	H900 Condition - 480°C at 1 hr
Tensile Strength, Yield	724 MPa	105000 psi	Tempered at 1150°F, 4hr
	860 MPa	125000 psi	Tempered at 1075°F, 4hr
	1170 MPa	170000 psi	Tempered at 900°F, 1hr
	>= 724 MPa	>= 105000 psi	H1150 Condition - 620°C at 4 hr
	@Strain 0.200 %	@Strain 0.200 %	
	>= 860 MPa	>= 125000 psi	H1075 Condition - 580°C at 4 hr
	@Strain 0.200 %	@Strain 0.200 %	
	>= 1170 MPa	>= 170000 psi	H900 Condition - 480°C at 1 hr
	@Strain 0.200 %	@Strain 0.200 %	

Mechanical Properties	Metric	English	Comments
Elongation at Break	10 %	10 %	H900 Condition - 480°C at 1 hr Tempered at 900°F, 1hr
	13 %	13 %	Tempered at 1075°F, 4hr
	>= 13 %	>= 13 %	H1075 Condition - 580°C at 4 hr
	>= 16 %	>= 16 %	H1150 Condition - 620°C at 4 hr
	16 %	16 %	Tempered at 1150°F, 4hr
Reduction of Area	>= 35 %	>= 35 %	H900 Condition - 480°C at 1 hr
	35 %	35 %	Tempered at 900°F, 1hr
	35 - 50 %	35 - 50 %	Tempered at 1150°F, 4hr
	45 %	45 %	Tempered at 1075°F, 4hr
	>= 45 %	>= 45 %	H1075 Condition - 580°C at 4 hr
	>= 50 %	>= 50 %	H1150 Condition - 620°C at 4 hr
Modulus of Elasticity	197 GPa	28500 ksi	Tension
Poissons Ratio	0.272	0.272	
Shear Modulus	77.2 GPa	11200 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	11.0 Åµm/m-Å°C	6.11 Åµin/in-Å°F	
	@Temperature 21.0 - 204 Å°C	@Temperature 69.8 - 399 Å°F	
	11.7 Åµm/m-Å°C	6.50 Åµin/in-Å°F	
	@Temperature 21.0 - 427 Å°C	@Temperature 69.8 - 801 Å°F	
Specific Heat Capacity	0.460 J/g-Å°C	0.110 BTU/lb-Å°F	
	@Temperature 0.000 - 100 Å°C	@Temperature 32.0 - 212 Å°F	

Component Elements Properties	Metric	English	Comments
Carbon, C	0.040 %	0.040 %	
Chromium, Cr	14.75 %	14.75 %	
Copper, Cu	3.5 %	3.5 %	

Iron Fe Component Elements Properties	75.61 % Metric	75.61 % English	Comments
Manganese, Mn	0.70 %	0.70 %	
Nb + Ta	0.30 %	0.30 %	
Nickel, Ni	4.75 %	4.75 %	
Silicon, Si	0.35 %	0.35 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0000769 ohm-cm	0.0000769 ohm-cm	

## Contact Songhan Plastic Technology Co.,Ltd.

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