

Latrobe Lescalloy® HY-TUF VAC-ARC High Strength Alloy Steel

Category : Metal , Ferrous Metal , Alloy Steel , Low Alloy Steel , Carbon Steel , Medium Carbon Steel

Material Notes:

LESCALLOY HY-TUF VAC-ARC steel is a high strength low alloy steel. It is typically used in the 220/240 ksi (1517/1655 MPa) tensile strength range. At this strength level, the alloy has good ductility, fracture toughness and impact strength. It is vacuum arc remelted to provide optimum cleanliness and preferred ingot structure for superior mechanical properties. This alloy is most frequently used for aircraft landing gear, flap tracks and other structural applications. Heat Treatment - 940°C - One hour, air cooled; 871°C - One hour, oil quenched; 288°C - Two hours, air cool. 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-HY-TUF-VAC-ARC-High-Strength-Alloy-Steel.php

Physical Properties	Metric	English	Comments
Density	7.78 g/cc	0.281 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	45	45	1" from quench end; Jominy End Quench Hardenability
	47	47	1/2" from quenched end; Jominy End Quench Hardenability
	47	47	1/8" from quenched end; Jominy End Quench Hardenability
Tensile Strength, Ultimate	1520 MPa	220000 psi	
Tensile Strength, Yield	1276 MPa	185100 psi	
Elongation at Break	5.0 %	5.0 %	
Reduction of Area	30 %	30 %	
Fracture Toughness	>= 110 MPa-m ^{1/2}	>= 100 ksi-in ^{1/2}	

Thermal Properties	Metric	English	Comments
CTE, linear	11.3 µm/m-°C	6.28 µin/in-°F	
	@Temperature 18.0 - 93.0 °C	@Temperature 64.4 - 199 °F	
Thermal Conductivity	37.49 W/m-K	260.2 BTU-in/hr-ft ² -°F	

Component Elements Properties	Metric	English	Comments
Carbon, C	0.25 %	0.25 %	

Component Elements Properties	Metric	English	Comments
Iron, Fe	94.4 %	94.4 %	
Manganese, Mn	1.35 %	1.35 %	
Molybdenum, Mo	0.40 %	0.40 %	
Nickel, Ni	1.8 %	1.8 %	
Silicon, Si	1.5 %	1.5 %	

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