



# UNITED STATES WELDING CORPORATION

<p align="center"><b>USW ALLOY DESIGNATION AND DESCRIPTION</b></p>	<p align="center"><b>TURBALOY® 17-22</b> MC-GRADE GTAW SOLID BARE WELDING WIRE IRON BASE</p>	<p align="center">ISO 9001 AS 9100</p>	<p align="center"><b>DATA SHEET</b></p> <p align="center"><b>6458</b></p>																																										
<p align="center"><b>CROSS-REFERENCE CONFORMANCE SPECIFICATIONS</b></p>	<table border="0"> <tr> <td>AMS 6458</td> <td>0.65Si 1.25Cr 0.5Mo 0.3V (0.28 - 0.33C)</td> </tr> <tr> <td>UNS K23015</td> <td>Non copper coated</td> </tr> <tr> <td>17-22 (A) S</td> <td>MIL-R-5632 Type VII</td> </tr> <tr> <td>USWC 6458 (V)</td> <td>Available in HQ-GRADE</td> </tr> </table>			AMS 6458	0.65Si 1.25Cr 0.5Mo 0.3V (0.28 - 0.33C)	UNS K23015	Non copper coated	17-22 (A) S	MIL-R-5632 Type VII	USWC 6458 (V)	Available in HQ-GRADE																																		
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<p align="center"><b>METALLURGICAL BACKGROUND INFORMATION</b></p>	<p>TURBALOY® 17-22 is produced by vacuum induction melting and remelting techniques. The final wire is manufactured by special lubricant-free, roller-die forming followed by surface abrasion and cleaning processes.</p> <p>These manufacturing processes ensure consistent metallurgical integrity of the alloy with the regard to control of trace elements and physical purity of the welding wire surface.</p> <p>17-22 is a high strength low alloy steel which is used for structural parts operating up to 800°F.</p> <p>TURBALOY® 17-22 is a matching filler metal for fabricating components of similar composition. The controlled level of impurities promotes improved toughness and reproducible high quality weldments. Ultra clean weldment preparation is beneficial for critical work.</p>																																												
<p align="center"><b>MATERIALS TO BE WELDED AND APPLICATIONS</b></p>	<p>AMS 6304, 6305, 6302, 6385, 17-22AS, 17-22AV, 6414 PWA 749, 768. AMS 6303, 6436 Turbine knife edge seal repair. Steam gas turbine structures and castings, aircraft brake units, compressor discs, Military equipment, missiles, rocket motor cases.</p> <p>Use ultra clean weldment preparation. Refer to PH &amp; PWHT chart.</p>																																												
<p align="center"><b>WIRE CHEMISTRY WT%</b></p>	<table border="0"> <tr> <td>Carbon</td> <td>0.28</td> <td>0.33</td> <td>Molybdenum</td> <td>0.40</td> <td>0.60</td> </tr> <tr> <td>Manganese</td> <td>0.45</td> <td>0.65</td> <td>Copper</td> <td>-</td> <td>0.35</td> </tr> <tr> <td>Silicon</td> <td>0.55</td> <td>0.75</td> <td>Vanadium</td> <td>0.20</td> <td>0.40</td> </tr> <tr> <td>Sulfur</td> <td>-</td> <td>0.008</td> <td>Oxygen</td> <td>-</td> <td>0.0025 (25ppm)</td> </tr> <tr> <td>Phosphorus</td> <td>-</td> <td>0.008</td> <td>Nitrogen</td> <td>-</td> <td>0.005 (50ppm)</td> </tr> <tr> <td>Chromium</td> <td>1.15</td> <td>1.35</td> <td>Hydrogen</td> <td>-</td> <td>0.0025 (25ppm)</td> </tr> <tr> <td>Nickel</td> <td>-</td> <td>0.25</td> <td>Iron</td> <td>-</td> <td>Balance</td> </tr> </table>			Carbon	0.28	0.33	Molybdenum	0.40	0.60	Manganese	0.45	0.65	Copper	-	0.35	Silicon	0.55	0.75	Vanadium	0.20	0.40	Sulfur	-	0.008	Oxygen	-	0.0025 (25ppm)	Phosphorus	-	0.008	Nitrogen	-	0.005 (50ppm)	Chromium	1.15	1.35	Hydrogen	-	0.0025 (25ppm)	Nickel	-	0.25	Iron	-	Balance
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<p align="center"><b>WELD PROPERTIES</b></p>	<p>CVN : 20.7 ft. lbs at 0°F, 70% shear (Minimum specification requirement: 15 ft lbs)</p>																																												
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<p align="center"><b>PACKAGING</b></p>	<p>Sealed, air-evacuated, argon purged Vapor Barrier envelopes with desiccants ensure full protection from atmospheric contamination and prolonged shelf-life.</p>																																												

DFARS Compliant

[www.usweldingcorp.com](http://www.usweldingcorp.com)

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