



# UNITED STATES WELDING CORPORATION

<b>USW ALLOY DESIGNATION AND DESCRIPTION</b>	<b>2319</b>  <b>GTAW and GMAW SOLID WELDING WIRE ALUMINUM BASE</b>	ISO 9001 AS 9100	<b>DATA SHEET  4191</b>																												
		Revision A																													
<b>CROSS-REFERENCE CONFORMANCE SPECIFICATIONS</b>	MSRR 9500/45 AMS 4191 Alloy 2319  UNS A 92319 AWS A5.10 ER 2319, R 2319 USWC 4191 (C)																														
<b>METALLURGICAL BACKGROUND INFORMATION</b>	ALLOY 2319 is a solid welding wire produced conventionally and then surface cleaned to remove standard metal working lubricants.  ALLOY 2319 is one of the few Al-Cu alloy filler metals available. This heat treatable alloy is used to fabricate Al-Cu casting alloys which are then subject to PWHT.																														
<b>MATERIALS TO BE WELDED AND APPLICATIONS</b>	2219, 201, 206, 224, 2014, 2036, 2693, (2319 USA), H15, L119.  Al-Cu casting alloys.  Not to be used for welding 5xxx series alloys.																														
<b>WIRE CHEMISTRY WT%</b>	<table border="0"> <tr> <td>Copper</td> <td>5.8 - 6.8</td> <td>Silicon</td> <td>- 0.20</td> </tr> <tr> <td>Manganese</td> <td>0.20 0.40</td> <td>Zinc</td> <td>- 0.10</td> </tr> <tr> <td>Zirconium</td> <td>0.10 0.25</td> <td>Magnesium</td> <td>- 0.02</td> </tr> <tr> <td>Titanium</td> <td>0.10 0.20</td> <td>Beryllium</td> <td>- 0.0008</td> </tr> <tr> <td>Vanadium</td> <td>0.05 0.15</td> <td>Other impurities</td> <td>- 0.05 each max</td> </tr> <tr> <td>Iron</td> <td>- 0.30</td> <td>Other impurities</td> <td>- 0.15 total max</td> </tr> <tr> <td></td> <td></td> <td>Aluminum</td> <td>Balance</td> </tr> </table>			Copper	5.8 - 6.8	Silicon	- 0.20	Manganese	0.20 0.40	Zinc	- 0.10	Zirconium	0.10 0.25	Magnesium	- 0.02	Titanium	0.10 0.20	Beryllium	- 0.0008	Vanadium	0.05 0.15	Other impurities	- 0.05 each max	Iron	- 0.30	Other impurities	- 0.15 total max			Aluminum	Balance
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<b>WELD PROPERTIES</b>	Melting range 1009° - 1189°F      Density 2.77gm/cc Hardness range 122 - 153 HV																														
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<b>PACKAGING</b>	Sealed, air-evacuated, argon purged Vapor Barrier envelopes with desiccants ensure full protection from atmospheric contamination and prolonged shelf-life.																														
DFARS Compliant		www.usweldingcorp.com																													