



UNITED STATES WELDING CORPORATION

USW ALLOY DESIGNATION AND DESCRIPTION	2319 GTAW and GMAW SOLID WELDING WIRE ALUMINUM BASE	ISSUED JANUARY 2007	DATA SHEET 4191 (6)																																			
		REVISION NO. A																																				
CROSS-REFERENCE CONFORMANCE SPECIFICATIONS	MSRR 9500/45 AMS 4191 Alloy 2319 UNS A 92319 AWS A5.10 ER 2319, R 2319 USWC 4191 (C)																																					
METALLURGICAL BACKGROUND INFORMATION	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.																																					
MATERIALS TO BE WELDED AND APPLICATIONS	2219, 201, 206, 224, 2014, 2036, 2693, (2319 USA), H15, L119. Al-Cu casting alloys. Not to be used for welding 5xxx series alloys.																																					
WIRE CHEMISTRY WT%	<table border="0"> <tr> <td>Copper</td> <td>5.8 - 6.8</td> <td>Silicon</td> <td>-</td> <td>0.20</td> </tr> <tr> <td>Manganese</td> <td>0.20 0.40</td> <td>Zinc</td> <td>-</td> <td>0.10</td> </tr> <tr> <td>Zirconium</td> <td>0.10 0.25</td> <td>Magnesium</td> <td>-</td> <td>0.02</td> </tr> <tr> <td>Titanium</td> <td>0.10 0.20</td> <td>Beryllium</td> <td>-</td> <td>0.0008</td> </tr> <tr> <td>Vanadium</td> <td>0.05 0.15</td> <td>Other impurities</td> <td>-</td> <td>0.05 each max</td> </tr> <tr> <td>Iron</td> <td>- 0.30</td> <td>Other impurities</td> <td>-</td> <td>0.15 total max</td> </tr> <tr> <td></td> <td></td> <td>Aluminum</td> <td></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
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																																		
WELD PROPERTIES	Melting range 1009° - 1189°F Density 2.77gm/cc Hardness range 122 - 153 HV																																					
SIZES AND FORMS AVAILABLE	<table border="0"> <tr> <td style="text-align: center;">STRAIGHT LENGTHS</td> <td style="text-align: center;">SPOOLED WIRE</td> </tr> <tr> <td>2.2 kg (5 lb) packs.</td> <td>Precision layer wound & with controlled cast & helix.</td> </tr> <tr> <td>914 mm (36") lengths.</td> <td>300 mm (12") diameter spools standard.</td> </tr> <tr> <td>Flag tagged for traceability.</td> <td>200 mm, 100 mm and proprietary spool sizes on request</td> </tr> <tr> <td>(Double tagging and other lengths on request).</td> <td>request</td> </tr> <tr> <td>Wide range of diameters.</td> <td>Wide range of diameters and spool weights.</td> </tr> </table>			STRAIGHT LENGTHS	SPOOLED WIRE	2.2 kg (5 lb) packs.	Precision layer wound & with controlled cast & helix.	914 mm (36") lengths.	300 mm (12") diameter spools standard.	Flag tagged for traceability.	200 mm, 100 mm and proprietary spool sizes on request	(Double tagging and other lengths on request).	request	Wide range of diameters.	Wide range of diameters and spool weights.																							
STRAIGHT LENGTHS	SPOOLED WIRE																																					
2.2 kg (5 lb) packs.	Precision layer wound & with controlled cast & helix.																																					
914 mm (36") lengths.	300 mm (12") diameter spools standard.																																					
Flag tagged for traceability.	200 mm, 100 mm and proprietary spool sizes on request																																					
(Double tagging and other lengths on request).	request																																					
Wide range of diameters.	Wide range of diameters and spool weights.																																					
PACKAGING	Sealed, air-evacuated, argon purged Vapor Barrier envelopes with desiccants ensure full protection from atmospheric contamination and prolonged shelf-life.																																					
DISTRIBUTED BY:																																						