



UNITED STATES WELDING CORPORATION

USW ALLOY DESIGNATION AND DESCRIPTION	4011 (A357) GTAW and GMAW SOLID WELDING WIRE ALUMINUM BASE	ISSUED JANUARY 2007	DATA SHEET 1602 (11)																																				
		REVISION NO. A																																					
CROSS-REFERENCE CONFORMANCE SPECIFICATIONS	AMS 4219 USW 1602 USWC 1602 (C) UNS A13570 A357.0 AWS A5.10 R.A357 																																						
METALLURGICAL BACKGROUND INFORMATION	<p>ALLOY 4011 is a solid welding wire produced conventionally and then surface cleaned to remove standard metal working lubricants.</p> <p>ALLOY 4011 is an Al-Si-Mg welding alloy for use on casting alloys of similar composition. It is Be-free.</p>																																						
MATERIALS TO BE WELDED AND APPLICATIONS	AMS 4219 A 357, 357.0, 357.2 BSL169																																						
WIRE CHEMISTRY WT%	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Silicon</td> <td style="width: 10%;">6.5</td> <td style="width: 10%;">7.5</td> <td style="width: 10%;">Copper</td> <td style="width: 10%;">-</td> <td style="width: 10%;">0.20</td> </tr> <tr> <td>Magnesium</td> <td>0.40</td> <td>0.70</td> <td>Manganese</td> <td>-</td> <td>0.10</td> </tr> <tr> <td>Titanium</td> <td>0.04</td> <td>0.20</td> <td>Other impurities</td> <td>-</td> <td>0.05 each max</td> </tr> <tr> <td>Iron</td> <td>-</td> <td>0.20</td> <td>Other elements</td> <td>-</td> <td>0.15 total max</td> </tr> <tr> <td>Zinc</td> <td>-</td> <td>0.10</td> <td>Beryllium</td> <td>0.04</td> <td>0.07</td> </tr> <tr> <td></td> <td></td> <td></td> <td>Aluminum</td> <td></td> <td>Balance</td> </tr> </table> <p>Beryllium-free version of AMS 4219</p>			Silicon	6.5	7.5	Copper	-	0.20	Magnesium	0.40	0.70	Manganese	-	0.10	Titanium	0.04	0.20	Other impurities	-	0.05 each max	Iron	-	0.20	Other elements	-	0.15 total max	Zinc	-	0.10	Beryllium	0.04	0.07				Aluminum		Balance
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WELD PROPERTIES	Melting range 1029° - 1135° F Density 2.69gm/cc																																						
SIZES AND FORMS AVAILABLE	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; vertical-align: top;"> STRAIGHT LENGTHS 2.2 kg (5 lb) packs. 914 mm (36") lengths. Flag tagged for traceability. (Double tagging and other lengths on request). Wide range of diameters. </td> <td style="width: 50%; vertical-align: top;"> SPOOLED WIRE Precision layer wound & with controlled cast & helix. 300 mm (12") diameter spools standard. 200 mm, 100 mm and proprietary spool sizes on request Wide range of diameters and spool weights. </td> </tr> </table>			STRAIGHT LENGTHS 2.2 kg (5 lb) packs. 914 mm (36") lengths. Flag tagged for traceability. (Double tagging and other lengths on request). Wide range of diameters.	SPOOLED WIRE Precision layer wound & with controlled cast & helix. 300 mm (12") diameter spools standard. 200 mm, 100 mm and proprietary spool sizes on request Wide range of diameters and spool weights.																																		
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PACKAGING	Sealed, air-evacuated, argon purged Vapor Barrier envelopes with desiccants ensure full protection from atmospheric contamination and prolonged shelf-life.																																						
DISTRIBUTED BY:																																							