



# UNITED STATES WELDING CORPORATION

<b>USW ALLOY DESIGNATION AND DESCRIPTION</b>	<b>4145</b>  <b>GTAW and GMAW SOLID WELDING WIRE ALUMINUM BASE</b>		<b>ISSUED</b> JANUARY 2007	<b>DATA SHEET</b>  <b>4184</b>  (2)																														
			REVISION NO. A																															
<b>CROSS-REFERENCE CONFORMANCE SPECIFICATIONS</b>	ALCUBRAZE MSRR 9500/35 716 AL	B AISi-3 USWC 4184(C) AMS 4184 ALLOY 4145	UNS A 94145 Fed-QQ-B655 Class FS-BAISI-3 AL-1																															
<b>METALLURGICAL BACKGROUND INFORMATION</b>	<p>ALLOY 4145 is a solid welding wire produced conventionally and then surface cleaned to remove standard metal working lubricants.</p> <p>ALLOY 4145 is an Al-Si-Cu welding alloy with low melting range which enables successful repair welds to be made in copper containing heat treatable Al-alloys.</p>																																	
<b>MATERIALS TO BE WELDED AND APPLICATIONS</b>	<p>Joining grades 201, 206, 224, 314, 330, 354, 355 to 6005, 6061, 6063, 6101, 6151, 6201, 6351, 6009, 6010, 6070. C355 A356, 357, 413, to 201, 206, 224, 319, 330, 354, 355, C355. LM4, LM16, LM20, LM25, LM99 to 6000 series as above and cast alloy combinations as shown. 2014, 2024. Repair of 2xxx wrought alloys and Al-Cu, Al-Si-Cu casting alloys.</p>																																	
<b>WIRE CHEMISTRY WT%</b>	<table> <tr> <td>Silicon</td> <td>9.3</td> <td>10.7</td> <td>Manganese</td> <td>-</td> <td>0.15</td> </tr> <tr> <td>Copper</td> <td>3.3</td> <td>4.7</td> <td>Magnesium</td> <td>-</td> <td>0.15</td> </tr> <tr> <td>Iron</td> <td>-</td> <td>0.8</td> <td>Other impurities</td> <td>-</td> <td>0.05 each max</td> </tr> <tr> <td>Zinc</td> <td>-</td> <td>0.20</td> <td>Other impurities</td> <td>-</td> <td>0.15 total max</td> </tr> <tr> <td>Chromium</td> <td>-</td> <td>0.15</td> <td>Aluminum</td> <td>-</td> <td>Balance</td> </tr> </table>				Silicon	9.3	10.7	Manganese	-	0.15	Copper	3.3	4.7	Magnesium	-	0.15	Iron	-	0.8	Other impurities	-	0.05 each max	Zinc	-	0.20	Other impurities	-	0.15 total max	Chromium	-	0.15	Aluminum	-	Balance
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<b>WELD PROPERTIES</b>	Melting range 968° - 1085°F		Density 2.74gm/cc																															
<b>SIZES AND FORMS AVAILABLE</b>	<b>STRAIGHT LENGTHS</b> 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.		<b>SPOOLED WIRE</b> 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.																															
<b>PACKAGING</b>	Sealed, air-evacuated, argon purged Vapor Barrier envelopes with desiccants ensure full protection from atmospheric contamination and prolonged shelf-life.																																	
<b>DISTRIBUTED BY:</b>																																		