

VBC Alloy 0216 FM 82

Designation and Description	GTAW Solid Welding Wire Nickel Base	Issued: Jan/2016	MSRR: 9500/216	AMS:5836D
		Revision: 01		
Cross Reference/ Conformance Specification	MSRR 9500/216 AMS 5836 D Omat 3/170 BS EN ISO 18274:2010 NiCr20Mn3Nb/Ni6082 Mil 21562 Type RN82, EN82	BS2901-5:1990 NA35 AWS A5.14/5.14M:2005 ERNiCr-3 DIN 1736:1985 2.4806 UNS Number N06082 JIS YNiCr-3		
Metallurgical Background Information	<p>FM 82 is surface abraded to remove all process contaminants. This production route ensures that consistent surface physical purity for the welding wire is maintained.</p> <p>FM 82 is a Ni-Cr-Nb single-phase, austenitic type alloy used for joining alloys of similar composition. The Nb content offsets hot-cracking tendency.</p>			
Materials To Be Welded, Applications and Advice	<p>Alloys 600 and 800 and many nickel super alloy MRO applications</p> <p>Dissimilar combinations of stainless and ferritic steels to high nickel alloys.</p> <p>AMS 5665, 5540 ASTM B163, B166, B167, B168 (UNS N° 6600) RPS 184 group 3 – group 5; group 7 – group 5</p>			
Wire Chemistry WT% (as per AWS)	Carbon – 0.10% max	Niobium – 2.0 – 3.0%		
	Manganese – 2.5 – 3.5%	Cobalt – 0.12% max		
	Silicon – 0.50% max	Titanium – 0.75% max		
	Phosphorous – 0.03% max	Tantalum – 0.30% max		
	Sulphur – 0.015% max	Iron – 3.0% max		
	Chromium – 18.0 – 22.0%	Copper – 0.50% max		
	Nickel – 67.0% min	Residuals – 0.50% max		
Weld Properties	<p>Hardness 160 VN Tensile Strength 655 MPa</p> <p>Often used interchangeably with 9500/3 applications</p>			
Sizes and Forms of Supply	<p>Straight lengths</p> <p>2.5 kg packs</p> <p>1000mm/36" lengths</p> <p>Flag tagged for traceability</p>	<p>Spoiled Wire</p> <p>Precision Layer Wound and with controlled cast and helix</p> <p>12" Spools (300mm)</p>		

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