



VBC Alloy 0002 18-8Nb (347S96 mod)

Designation and Description	High Quality Grade GTAW &GMAW solid welding filler wire Iron base	Issued: Jan/14	MSRR: 9500/2	AMS: 5680 J
		Revision: 01		
Cross Reference/ Conformance Specification	MSRR 9500/2 AMS 5680 OMat 306A AMS 5790 (Ref)	MSRR 6677 BS 2901 Part 2 1983 (Ref) AWS A5.9, ER 347 (Ref)		
Metallurgical Background Information	18-8 Nb is surface abraded to remove all process contaminants. This production route ensures that consistent surface purity for the welding wire is maintained. 18-8 Nb is a modified, austenitic stainless steel, stabilized with niobium and containing a small consistent amount of delta ferrite. It is used to weld Ti and Nb stabilised 321 and 347 SS and/or low carbon stainless alloys of similar composition. This version is used for elevated temperature, thin sheet applications			
Materials To Be Welded, Applications and Advice	MSRR 6522, 6523, 6524, 6525, 6527. S126, S127, S128S 2S129, 2S130. AMS 5510, 5570, 5576, 5559, 5512, 5575, 5654. Manufacture and overhaul of gas turbine thin gauge components on 321 and 347 base alloys. Hot gas ducting and liners subject to thermal cycling. To minimise hot-cracking susceptibility, apply small stringer beads with convex profile using argon shielding, ultra clean conditions and minimum heat input.			
Wire Chemistry WT% (as per AMS)	Carbon	0 - 0.08	Nickel	9.00 - 11.00
	Manganese	1.0 - 2.5	Molybdenum	0 - 0.5
	Silicon	0.25 - 0.65	Niobium	X10C - 1.00
	Sulphur	0 - 0.030	Iron	Balance
	Phosphorous	0 - 0.030	(Nickel is controlled to a lower level to promote the presence of a limited amount of delta ferrite)	
	Chromium	19.00 - 21.50		
Weld Properties	Tensile Strength 630 0.2% stress 470 Elongation 35 Hardness 160 HV	Note: standard 347(9500/207), weld filler metal would be expected to contain more delta ferrite than MSRR9500/2.		
Sizes and Forms of Supply	Straight Length: 2.2 kg Packs 36" / 914mm lengths, 0.5mm-4mm diameter Flag tagged	Spooled Wire: Precision layer wound with controlled cast and helix 300mm diameter standard, 0.15mm-3mm diameter		
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