

VBC Alloy 9240 17-4 PH

Designation and Description	17-4PH GTAW/GMAW Solid Welding Wire Iron Based	Issued: Mar/14 Revision: 00	MSRR: N/A	AMS: 5825G
Cross Reference/ Conformance Specification	AMS 5825G AWS A5.9 ER630 UNS S17480			
Metallurgical Background Information	17-4 PH is a martensitic precipitation hardening engineering alloy with excellent strength and corrosion resistance. It is surface abraded to remove all process contaminants. This production route ensures that consistent surface physical purity is maintained. It has a modified analysis to eliminate the ferrite phase.			
Materials To Be Welded, Applications and Advice	It is used to weld similar alloys. The materials are commonly used in jet engine parts, military equipment, hovercraft, missile fittings, oil fields valves, chemical plant components etc. Used to weld FV520B. Welds respond to standard heat treatment cycles including solution treatment followed by aging. Preheating is not required. ASTM A564, A705, A693. AMS 5643, 5622, 5398, 5342, 5343, 5344, 5604, 5528, 5568 Welds may be used as welded, welded and aged, welded and solution heat-treated and aged depending on the application and the size of the weld. For heavy section and high restraint, 15/5PH (VBC Alloy 9155) will give improved toughness properties.			
Wire Chemistry WT% (as per AMS)	Carbon – 0.05% max	Nickel – 4.50-5.0%		
	Manganese – 0.25-0.75%	Niobium – 0.15 – 0.30%		
	Silicon – 0.75% max	Copper – 3.25 – 4.0%		
	Phosphorous – 0.025% max	Molybdenum – 0.75%		
	Sulphur – 0.025% max	Iron – Balance		
	Chromium – 16.0-16.75%			
Weld Properties	Hardness, aged at 550°C: 330HV (35R _c) Maximum Hardness: R _c 48		Density: 7.8gm/cc	
Sizes and Forms of Supply	<u>Straight Length</u> 2.2 kg Packs 36" / 1000mm lengths 0.6mm – 3.2mm diameter Flag tagged		<u>Spoiled Wire</u> Precision layer wound with controlled cast and helix 300mm diameter standard 0.5mm – 2.4mm diameter	
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