

VBC Alloy 0205 410

Designation and Description	410 Stainless Steel	Issued: 03/2014	MSRR: 9500/205	AMS: 5776G
		Revision: 01		
Cross Reference/ Conformance Specification	MSRR9500/205 UNS S41001 AMS 5776G	12.5Cr 0.1C—Fe AWS A5.9 ER410 ASTM A313		
Metallurgical Background Information	410 is surface abraded to remove all process contaminants. This production route ensures that consistent surface physical purity for the welding wire is maintained. 410 is an air-hardening, martensitic stainless engineering alloy used for welding alloys of a similar composition.			
Materials To Be Welded, Applications and Advice	AMS 5867, 5504, 5591, 5609, 5612, 5611, 5505. AISI 410. ASTM A176, A240, A268, A511, A314, A479, A473, A580. Preheat to 200°C and post weld heat treatment generally required in order to obtain adequate ductility for many engineering applications. Low hydrogen conditions essential. High quality argon shielding gas required. <i>There are numerous modifications of the basic 410 12Cr steel, including MSRR9500/10, MSRR9500/5, AMS5821</i>			
Wire Chemistry WT% (as per AMS)	Carbon - 0.10 - 0.15%	Molybdenum - 0.05% max		
	Manganese - 1.0% max	Aluminium - 0.05% max		
	Silicon - 1.0% max	Tin - 0.05% max		
	Sulphur - 0.015% max	Nitrogen - 0.08% max		
	Phosphorous - 0.025% max	Copper - 0.50% max		
	Chromium - 11.5 - 13.5%	Iron - Balance		
	Nickel - 0.75% max			
Weld Properties	Melting Point 1532°C 410 Weld deposits can be very hard in the fast cooled, as-welded condition. Annealed Rb85, Aged Rc39.		Density 7.7 gm/cc	
Sizes and Forms of Supply	Straight Length: 2.5 kg Packs 36" / 914mm lengths Flag tagged 0.8 - 3.2mm diameter		Spooled Wire: Precision layer wound with controlled cast and helix 300mm diameter standard 0.8 - 1.6mm spool	

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