

DATASHEET Roda Alloy 825 – MIG – TIG

Description and Applications

Roda Alloy 825 is used in corrosive environments below 540°C (1000°F) because it's resistant to reducing acids, H₃PO₄, H₂SO₄, and also to chloride-ion stress-corrosion cracking, thanks to Nickel together with Molybdenum and Copper.

As filler metal is used for welding Ni-Fe-Cr-Mo-Cu alloy to itself using TIG and MIG processes; a typical use is for pipes and tubes in UNS N08825 (ASTM B423) used in offshore oil platforms.

Roda Alloy 825 can also be used to overlay cladding where similar chemical composition is required or to protect carbon and low alloys steel.

Approximate equivalent with other standards

Rodacciai Denomination	Roda Alloy 825
EN ISO 18274:2010	NI8065 (NiFe30Cr21Mo3)
AWS A5.14/A5.14M	ERNiFeCr-1
DIN Werkstoff Nr.	2.4858

Filler metal properties

Typical Chemical composition (nominal) in %

C	Mn	Si	S	P	Cr	Ni	Mo	Cu	Al	Ti	Fe
0.02	0,65	0,30	0,002	0,020	22.50	43.5	3.15	2.50	0,10	0,80	27.0

Expected minimum mechanical properties as welded

Yield strength, Rp 0,2	MPa min	240
Tensile strength, Rm	MPa min	560
Elongation, A5	% min	28

Welding parameters

Diameter	Process	Volt	Ampere	Gas
1,0	MIG	26-29	150-190	75% Ar + 25% He
1,2	MIG	28-32	180-220	75% Ar + 25% He
1,6	MIG	29-33	200-250	75% Ar + 25% He
1,6	TIG	14-18	90-130	100% Ar
2,4	TIG	15-20	120-175	100% Ar
3,2	TIG	15-20	150-220	100% Ar

Typically no preheat is required, interpass temperature is kept to 150°C maximum and no PWHT is required.

Sizes and marking

Standard sizes : diam. 1,00 – 1,20 – 1,60 – 2,00 – 2,40 – 3,20 and 4,00 mm

Tolerances on diameter : + 0,01 / - 0,04 mm

Packaging forms

TIG

White carton boxes of 5 kg.

Red, white or blue coloured cardboard tubes of 5 kg. Wooden crates of 250 kg.

MIG

Blue metallic wire baskets BS300 of 15 kg.

Plastic spools D300 of 12,5 kg for diam. 0,80 mm and of 15 kg for the other diameters. Plastic spools D200 of 5 kg.

Drum packaging of about 150 kg for diameter 0,80 mm and of about 250 kg for the other diameters.

Diameters : 0,80 – 0,90 – 1,00 – 1,20 – 1,60 mm.