

DATASHEET Rodalloy 625 – MIG – TIG

Description and Applications

Rodalloy 625 is developed for welding of Alloys 625 at working temperature from -269°C to above 1000°C.

It's suitable for welding heat resisting alloys (as Incoloy 800/800H) with other alloys for power generation and petrochemical plants and furnace equipment.

It's also suitable for overmatching corrosion-resistant welds in Alloy 825, 6%Mo superaustenitic stainless 254SMo, Alloy 28, 904L, and for overlays on valves, pumps and shafts in marine and offshore equipment where high pitting resistance (PRE>50) and tolerance to weld metal dilution is required.

In addition to the above materials, Rodalloy 625 can be used as filler metal for cladding and welding dissimilar base metals such as Ni-Cr-Mo alloys to stainless and carbon steels.

Approximate equivalent with other standards

Rodacciai Denomination	Rodalloy 625
EN ISO 18274:2010	NI6625 (NiCr22Mo09Nb)
AWS A5.14/A5.14M	ERNiCrMo-3
DIN Werkstoff Nr.	2.4831

Filler metal properties

Typical Chemical composition (nominal) in %

C	Mn	Si	S	P	Cr	Ni	Mo	Cu	Al	Ti	Fe	Nb+Ta
0,02	0,20	0,20	0,005	0,005	22,0	63,0	8,5	0,06	0,20	0,20	<0,5	3,50

Expected minimum mechanical properties as welded

Temperature		20°C	-196 °C
Yield strength, Rp 0,2	MPa min	480	
Tensile strength, Rm	MPa min	750	
Elongation, A5	% min	35	
Impact energy, ISO – V	J min	110	65
PRE	min	50	

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

Welding positions down hand, horizontal/vertical, vertical upward, overhead

Wall thickness max. 30 mm

Highest operating temperature, in the short term range, as for base metal, but not higher than 1000 °C

Lowest operating temperature, as for base metal, but not lower than - 269°C

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.