



DAIKOWS 625



NICKEL ALLOYS
625

DESCRIPTION

Solid wire for Nickel based 625 alloy

This wire rod is used for its high temperature strength and structural stability and for its resistance to general corrosion, pitting, crevice and stress corrosion cracking in severe chloride media. Useful properties from -269°C to above 550°C are achieved. It is used for welding of alloy 625, alloy 825, alloy 25-6MD, and a range of high alloy austenitic and super austenitic stainless steels. It is also used for surfacing of steel, for welding 9% Ni steels, and for welding various corrosion-resistant alloys such as alloy 20. Widely used in oil and gas production and processing.

SPECIFICATIONS

EN ISO 18274	S Ni 6625	AWS A5.14	ERNiCrMo-3
Certifications	CE	Shielding	DAIKOFLUX 960-W
Positions	PA, PB, PC	Current	DC/AC
Packaging Type	K415 spool and drums.		

ASME QUALIFICATIONS

		PREN
F-No (QW432)	43	51.7
A-No (QW442)	-	

CHEM. COMP. %	DEFAULT	MECHANICAL PROPERTIES	MIN. PER STANDARD	PRODUCT
C	0.01	Tensile strength R _m MPa	760*	780
Mn	0.01	Yield strength R _{p0.2} MPa	0	440
Ni	65	Elongation A (L ₀ =5d ₀) %	0	40
Cr	22	Impact Charpy ISO-V	-	90J @ -196°C
Nb	3.6	Impact Charpy ISO-V	-	-
Al	0.01	WELDING PARAMETERS 2.4 mm		
P	0.003	Ampere		300A - 410A
S	0.001	Voltage		27V - 33V
Mo	9	Packaging		Ø 1,6÷3,2mm
Si	0.07	Packaging Type		K415 spool and drums.
Cu	0.02			
Fe	0.4			
Ti	0.2			

NOTES

SAW mechanical properties depend on wire/flux combination, refer to flux TDS.



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625

DESCRIPTION

APPLICATION

Designed with an optimized composition for the alloy 625, this subfamily is particularly indicated for resisting general corrosion, pitting, crevice corrosion, and stress corrosion cracking in chlorine-rich environments. These features result from high levels of Cr, Mo, and Nb, which not only provide superior mechanical strength but also position this alloy at the top of standard nickel-based alloys. Its properties are maintained over a wide range of temperatures, from -269 °C to over 1000 °C. This alloy is also ideal for welding heat-resistant alloys such as Inconel 601, Incoloy 800/800H, and their combinations with other alloys, typically used in furnace equipment, petrochemical plants, and power plants. Additional applications include: corrosion-resistant weld overlays for alloys such as 825, Hastelloys G and G3, alloy 28, 904L, and superaustenitic stainless steel 6%Mo 254SMo. It is also used for overlays on pumps, valves, and shafts, especially in offshore and marine environments where high pitting resistance (PRE = 50) and good tolerance to dilution are crucial. Perfect for welding on high-strength ferrous alloys, including 9% nickel cryogenic steels, and for refurbishing matrices requiring rapid hardening and robustness. No preheating is required, and the maximum allowed interpass temperature is 250 °C. As for superaustenitic alloys, the interpass temperature must be maintained at a maximum of 100 °C.

ALLOY TYPE

Consumables matching the nickel base 625 alloy with typical composition of Ni-21%Cr-9%Mo-3.5%Nb.

MICROSTRUCTURE

In the as-welded condition this nickel base weld metal consists of solid-solution strengthened austenite with carbides.

MATERIALS

Also suitable to join 9%Ni steels.

EN W.Nr.: 2.4856

ASTM: A494 CW-6MC, 904L

UNS: N06625, S31254

PROPRIETARY: Inconel® 625, 601 (Special Metals), Nicrofer 6020hMo, 6022hMo (VDM), 254SMO (Outokumpu), Incoloy® 800H, 825 (Special Metals)

