



DESCRIPTION

Basic coated electrode for nickel based 625 alloy

It is designed to match the composition and properties of 625 and used for welding of alloy 625, 825, 25-6MO, 9% Ni steels and a range of super austenitic stainless steels. This alloy is used for the high temperature strength and structural stability and is also used 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. Used in petrochemical and power generation plants and also for overlays on pumps, valves and shafts in offshore and marine environments.

SPECIFICATIONS

EN ISO 14172	E Ni 6625	AWS A5.11	ENiCrMo-3
Shielding	-	Positions	PA, PB, PC, PD, PE, PF
Current	DC+	Packaging Type	Carton box and tube.

ASME QUALIFICATIONS

		PREN
F-No (QW432)	43	52.19
A-No (QW442)	-	

CHEM. COMP. %	DEFAULT	MECHANICAL PROPERTIES	MIN. PER STANDARD	PRODUCT
C	0.02	Tensile strength R _m MPa	760	790
Mn	0.01	Yield strength R _{p0.2} MPa	420	430
Ni	65	Elongation A (L ₀ =5d ₀) %	22	30
Cr	21.5	Impact Charpy ISO-V	-	30J @ -196°C
Nb	3.6	Impact Charpy ISO-V	-	-
P	0.01			
S	0.006			
Mo	9.3			
Si	0.4			
Cu	0.005			
Fe	0.5			

WELDING PARAMETERS	2.5 mm	3.2 mm	4.0 mm	4.8 mm
Ampere	40A - 65A	70A - 100A	90A - 130A	120A - 160A
Voltage	-	-	-	-
Packaging	60 pcs/kg	29 pcs/kg	19 pcs/kg	13 pcs/kg
Packaging Type	Carton box and tube.	Carton box and tube.	Carton box and tube.	Carton box and tube.

NOTES

Pcs/kg is indicative, actual number may vary ± 5%.



The information contained in this technical data sheet is provided for information purposes only, based on data believed to be reliable at the date of publication, and does not constitute a warranty or contractual commitment. Actual performance may vary depending on operating and application conditions; it is the user's responsibility to verify the suitability of the product for the intended application. The manufacturer disclaims any liability for errors, omissions, or improper use. For the latest version, please refer to www.daikowelding.com.



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)

