



G-TECH 310Mo

SMAW

SUPERAUSTENITIC STEELS

310

DESCRIPTION

Rutile coated electrode for 310 2%Mo bearing stainless steels

It is used widely in diverse welding industries. It has excellent weldability and conductivity properties. It is suitable for joining corrosion-proof, resistant against sulphuric acid, highly heat-proof and nonscaling CrNi steels which are subject to service temperatures up to 1200°C. The weld metal alloy is highly hotcrack- proof. Keep temperature as low as possible during welding. Annealing to 250°C and post-weld tempering to 700°C is required on ferritic base materials. Excellent weldability with a spatter free arc, self-releasing slag producing a very smooth bead appearance.

SPECIFICATIONS

ISO 3581-A	E Z 25 20 3 R 12	AWS A5.4	E310Mo-16
DIN	-	Werkstoff Number	-
Certifications	-	Shielding	-
Positions	PA, PB, PC, PD, PE, PF	Current	DC+, AC

ASME QUALIFICATIONS	FERRITE	PREN	HARDNESS
F-No (QW432)	5	-	33.91
A-No (QW442)	-		

CHEM. COMP. %	DEFAULT	MECHANICAL PROPERTIES	MIN	VARIANT		
C	0.1	Tensile strength R _m MPa	550	580		
Mn	2.8	Yield strength R _{p0.2} MPa	0	400		
Ni	20	Elongation A (L ₀ =5d ₀) %	28	40		
Cr	25	Impact Charpy ISO-V	-	70J @ 20°C		
P	0.02	Impact Charpy ISO-V	-	-		
S	0.01					
		WELDING PARAMETERS	2.5 mm	3.2 mm	4 mm	
Mo	2.7	Ampere	50A - 80A	80A - 110A	110A - 150A	150A -
Si	0.6	Voltage	-	-	-	
Cu	0.1	Packaging	56 pcs/kg	29 pcs/kg	19 pcs/kg	12 pcs/kg
		Packaging Type	Carton box	Carton box	Carton box	Carton box

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The information in this datasheet is the result of detailed research and is considered accurate as of the publication date. However, we cannot guarantee its complete accuracy, and it is subject to change without notice. Actual results may vary due to many factors like welding procedures, material composition, temperature conditions, bevel configuration, and specific manufacturing techniques. We accept no liability for any errors or omissions in this datasheet. For the most current information, please visit www.daikowelding.com.





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DESCRIPTION

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APPLICATION

Utilized for welding comparable wrought or cast 25%Cr-20%Ni (310) parent alloys with up to 0.25% carbon, this consumable is crafted to maximize resistance to solidification cracking and microfissuring. In the Mn version, the weld metal incorporates a manganese range elevated to 2-5%. The high alloy content of type 310 imparts valuable oxidation resistance, effective up to peak temperatures of approximately 1200°C, making it well-suited for applications like heat shields, furnace parts, and ducting. These consumables are versatile, accommodating mixed welding and dissimilar joints, even those requiring post-weld heat treatment (PWHT). It's important to note that the relatively high thermal expansion coefficient may induce thermal fatigue in transition joints subjected to thermal cycling, leading to a preference for nickel-base consumables in such cases. Additional applications include buffer layers and surfacing. The fully austenitic weld metal is beneficial for specialized applications requiring low magnetic permeability (typically <1.01). 310 weld metals inherently maintain toughness down to -196°C, making them suitable for cryogenic installations. No preheat is required. It is advisable to keep the interpass temperature below 150°C and the heat input below 1.5 kJ/mm, particularly crucial for high heat input processes such as SAW.

ALLOY TYPE

25%Cr-20%Ni (310) stainless steel.

MICROSTRUCTURE

Fully austenitic.

MATERIALS

EN W. N.: 1.4826 (GX40CrNiSi22-10), 1.4828 (X15CrNiSi2012), 1.4837 (GX40CrNiSi25-12), 1.4840 (GX15CrNi2520), 1.4841 (X15CrNiSi25-21), 1.4846 (X40CrNi25-21), 1.4847 (X8CrNiAlTi20-20), 1.4848 (GX40CrNiSi25-20), 1.4335 (X1CrNi25-21), 1.4435 (X2CrNiMo18-14-3), 1.4446 (X1CrNiMoN22-25-3), 1.4547 (X3CrNiMoTi25-25).

ASTM: 310, 310S, CK20, 305, 314, 725LN, 316L.

UNS: S31000, S31008, S31050, S31603.

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