



G-TECH 310H

SMAW

SUPERAUSTENITIC STEELS
310H

DESCRIPTION

High C basic coated 310 electrode

Basic electrode developed for welding or repairing high alloy heat and corrosion resistant castings of the same general composition. It can be used to weld HK40 base material for centrifugally cast tubes operating at approx. 1000° C . Applications include components for petrochemical and chemical plants and components for cement, ceramic and steel industries. Ease of slag removal reduces post-welding cleaning operations to a minimum.

SPECIFICATIONS

ISO 3581-A	E 25 20 H B	AWS A5.4	E310H-15
DIN	-	Werkstoff Number	-
Certifications	-	Shielding	-
Positions	PA, PB, PC, PD, PE, PF	Current	DC+;

ASME QUALIFICATIONS

F-No (QW432)	5
A-No (QW442)	-

FERRITE

-

PREN

26.33

HARDNESS

-

CHEM. COMP. %

DEFAULT

C	0.4
Mn	1.7
Ni	21
Cr	26
P	0.02
S	0.01
Mo	0.1
Si	0.5
Cu	0.05

MECHANICAL PROPERTIES

	MIN	VARIANT
Tensile strength R _m MPa	550	760
Yield strength R _{p0.2} MPa	350	550
Elongation A (L ₀ =5d ₀) %	20	18
Impact Charpy ISO-V	-	-
Impact Charpy ISO-V	-	-

WELDING PARAMETERS

	2.5 mm	3.2 mm	4 mm	
Ampere	50A - 80A	80A - 110A	110A - 150A	150A -
Voltage	-	-	-	
Packaging	56 pcs/kg	29 pcs/kg	19 pcs/kg	12 p
Packaging Type	Carton box	Carton box	Carton box	Carto

V 01/2024



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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APPLICATION

It stands as a meticulously engineered welding solution crafted specifically for the welding of HK40, a recognized standard material extensively used in centrifugally cast tubes that operate within the temperature range of approximately 1000°C. This particular alloy finds prominent application in critical components, notably reformer and steam cracker coils, strategically deployed in chemical and petrochemical plants. The versatility of G-TECH 310H extends beyond its role in centrifugally cast tubes, encompassing a spectrum of components across diverse industries. These include billet skids, calcinating tubes, kiln nose segments, conveyor rolls, and various furnace structural items, particularly in the cement, ceramic, and steel sectors. One notable feature of G-TECH 310H is its operational efficiency, eliminating the need for both preheating and post-weld heat treatment (PWHT). This attribute not only streamlines the welding process but also enhances the overall applicability and convenience of this welding solution in a range of high-temperature applications.

ALLOY TYPE

0.4%C-25%Cr-20%Ni (310H) austenitic cast alloy for heat resisting service.

MICROSTRUCTURE

In the as-welded condition the weld metal microstructure consists of austenite with eutectic and secondary carbides.

MATERIALS

EN W.Nr.: 1.4846 (X40CrNi 25 21), 1.4848 (G-X40CrNiSi 25 20).

ASTM: SA351 gr. HK40, A608 gr. HK40.

PROPRIETARY: H20 (Doncasters Paralloy), Thermalloy 47 (Duraloy), Lloyds T47 (LBA), HR6 (Cronite).

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