

Characteristics and Applications:

Hobart TNH-28 is an iron-powder low hydrogen type electrode for the welding of low temperature service steel. Due to consist of 2.5% Ni, the impact toughness at -60°C is excellent. Hobart TNH-28 is an excellent all-position electrode with stable arc, small spatter and good slag protection. Hobart TNH-28 produces weld metals with low hydrogen content, excellent resistance to brittle fracture and good mechanical properties. The deposition rate will increase because of much iron powder contained in the coating. Its features make the product being applied to shipbuilding, structural fabrication, bridge structure, pressure vessel and suitable for high carbon steels, low Mn alloy steels, high tensile (540-610 N/mm²) steels, cast steels, low temperature steel pipes, aluminum killed steels, ASTM A352 Gr.LC2/A420 Gr.WPL9/A707 Gr.L4/A757 Gr.B2N.

Notes on Usage:

1. Be sure to clean up the contaminations on the base metal to avoid porosity and crack.
2. Dry the electrodes at 350-400°C for 60 minutes before using.
3. Take the back-step method to prevent blowholes at the arc starting.
4. Maintain short arc length. Moving range should be controlled within 3 times of the wire's dia when you are welding with weave method.
5. Do not exceed the operating range recommended. That might decrease the impact toughness.
6. Pre-heat at 50~100°C while in welding thick plate.

Typical Chemical Composition of Weld Metal (wt%)

	C	Mn	Si	P	S	Ni	Mo	Cr	V	Nb	Cu
AWS	≤0.12	≤1.25	≤0.80	≤0.03	≤0.03	2.00-2.75	-	-	-	-	-
EN ISO	-	≤1.4	-	-	-	1.8-2.6	≤0.02	≤0.2	≤0.05	≤0.05	≤0.3
Typical value	0.046	0.9	0.36	0.02	0.004	2.5	0.002	0.025	0.015	0.004	0.005

Typical Mechanical Properties of Weld Metal

	Yield strength MPa(ksi)	Tensile strength MPa(ksi)	Elongation %	Charpy V-Notch J (ft-lbf) -60°C (-75°F)	Post weld condition
AWS	≥460(67)	≥550(80)	≥19	≥27(20)	PWHT
EN ISO	≥460(67)	530-680(77-99)	≥17	≥47(35)	AW
Typical value	536(78)	621(90)	30	90(66)	605°Cx1hr

Welding Position



Sizes and Recommended Operating Range (AC Or DC<+>)

Diameter (mm)		3.2	4.0	5.0
Length (mm)		350	450	450
Current (Amps)	F	100-140	140-180	180-230
	V&OH	90-130	120-160	-