

Alloy 740H

CATEGORY GMAW-GTAW Solid wires

TYPE Solid Nickel based (GMAW) welding wire with precipitation hardening weld deposit.

APPLICATIONS A Superalloy Specifically Designed For Advanced Ultra Supercritical Power Generation. Potential applications include advanced power production boiler tubes and diesel engine exhaust valves.

PROPERTIES Alloy 740H is a nickel-base, precipitation hardenable superalloy that offers a unique combination of high strength and creep resistance at elevated temperatures along with resistance to coal ash corrosion. The alloy was originally targeted for use as A-USC boiler tubes in the superheater sections of these plants but was then adapted for application as a material for the steam headers to which the boiler tubes are connected.

CLASSIFICATION AWS A 5.14: ER NiCrCo-1 (proposed)
UNS: N07740
EN ISO 18274:

SUITABLE FOR Inconel alloy 740H

APPROVALS CE approved

WELDING POSITIONS:



WELD METAL ANALYSIS ACC. AWS %

Ni	Cr	Co	Al	Ti	Nb	Fe	C	Mn	Mo	Si	Cu	B
Rem	23.5-25.5	15-22	0.2-2.0	0.5-2.5	0.5-2.5	<3.0	0.005-0.08	<1.0	<2.0	<1.0	<0.5	0.0006-0.006

MECHANICAL PROPERTIES

Heat Treatment	R _{p0,2} (N/mm ²)	R _m (N/mm ²)	A ₅ (%)	Impact Energy (J) ISO-V			Hardness HRC / HV
				-20°C	-40°C	-196°C	
PWHT	750	1050	20				

WELDING PARAMETERS / PACKING

D (mm)	Welding Parameters		Packing (kg) spool K-300
	Voltage (V)	Current (A) (pulsed)	
0,9	23-26	90-130	13,6
1,14	26-28	110-180	13,6

REDRYING TEMPERATURE not required

GAS ACC. EN ISO 14175: I1, Ar/He (75-25)