

EXATON Product Data Sheet

W 'Tungsten inert gas arc welding'

Exaton Ni72HP

Prepared by	Qualified by	Approved by	Reg no	Cancelling	Reg date	Page
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REASON FOR ISSUE

Chem and mech prop updated.

GENERAL

Exaton Ni72HP is filler material for joining NiCrFe alloys, 9% Ni steels used at cryogenic temperatures, stainless steels to carbon steels, high service temperature NiCu alloys to carbon steels and NiCu alloys to nickel alloys. Exaton Ni72HP can be used in air up to 1175°C (2145°F) and in sulphur dioxide atmospheres up to 800°C (1470°F). Exaton Ni72HP is suitable for MIG, TIG, PAW and SAW and available as wire and rods. It is used for TIG-welding.

CLASSIFICATIONS Wire Electrode

SFA/AWS A5.14	ERNiCr-3
EN ISO 18274	S Ni 6082 (NiCr20Mn3Nb)

APPROVALS

CE	EN 13479
VdTÜV	00515

CHEMICAL COMPOSITION

All Weld Metal (%) Wire/Strip (%)

	Nom	Min	Max	Nom
C	<0.02		0.05	<=0.03
Si	0.01		0.30	0.1
Mn	3.2	2.5	3.5	3
P	<0.003		0.03	<=0.01
S	0.003		0.015	<=0.01
Cr	20	18.0	22.0	20.0
Ni	73	67.0		73
Mo	0.01			≤0.05
Co	<0.02			≤0.10
Nb	2.2			2.5
Cu	0.01		0.10	<=0.05
Al				0.4
Ti	0.4		0.75	0.4
Fe	≤1		3.0	<=1
N	0.03			≤0.05
Nb+Ta	2.5	2.0	3.0	2.6

MECHANICAL PROPERTIES OF WELD METAL

All Weld Metal

Properties	As welded	
	Min	Typ
Rp0.2 (MPa)	390	420
Rm (MPa)	550	660
A5 (%)		35
Z (%)		40
Charpy V at 20°C (J)		245
Charpy V at -196°C (J)		150

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OTHER DATA

CORROSION RESISTANCE - ALL-WELD METAL: Exaton Ni72HP has very good resistance to general corrosion, stress corrosion cracking, and due to its low carbon and high chromium contents, good resistance to intergranular corrosion.

RECOMMENDED WELDING DATA:

The parameters for TIG welding depend largely upon the base metal thickness and the welding application.

Electrode negative and a shielding gas of argon or helium should be used to prevent oxidation of the weld metal.

MICROSTRUCTURE - ALL-WELD METAL: Fully austenitic

Vickers, HV10 180

Creep rupture strength 5 x 10-5h

600°C 700°C 800°C

180MPa 53MPa 20MPa

Corrosion ASTM A 262 E,

Approved and no cracking in AW, PWHT and PWHT + Sens