EXATON Product Data Sheet

W 'Tungsten inert gas arc welding'

Exaton Ni60

Prepared by	Qualified by	Approved by	Reg no	Cancelling	Reg date	Page
Per-Ake Bjornstedt	P-O Oskarsson	Per-Ake Bjornstedt	EN009145	EN009123	2020-04-16	1 (2)

REASON FOR ISSUE

DNV-GL disconnected.

GENERAL

Exaton Ni60 welding wire is suitable for joining nickel-chromium-molybdenum nickel alloys and chromiumnickel-molybdenum steels with very high corrosion resistance in oxidizing, aqueous and high temperature environments such as 6Mo-steels, UNS N06625 (2.4856) and corresponding grades. It is also suitable for joining stainless steels and nickel alloys for high-temperature service.

Exaton Ni60 can also be used for dissimilar joining of stainless steels to nickel alloys, for overlay welding and is available as both wire and rod.

Applications for Exaton Ni60 are found in cryogenics, components subject to high temperature service up to 980°C (1800°F) such as aircraft ducting, engine exhaust systems, power boilers and recovery boilers and a diversity of seawater applications. The combination of strength and corrosion resistance over a wide range of temperatures is utilized in reaction vessels, line pipe distillation columns and heat exchangers. It is used for TIG welding.

CLASSIFICATIONS Wire Electrode		APPROVALS	
SFA/AWS A5.14	ERNiCrMo-3	BV	ERNiCrMo-3
EN ISO 18274	S Ni 6625 (NiCr22Mo9Nb)	CE	EN 13479
Werkstoffnummer	2.4856	VdTÜV	19478

CHEMICAL COMPOSITION

	All Weld Metal (%)	Wire/Strip (%)		
	Nom	Min	Max	Nom
C	<=0.03		0.04	0.02
Si	0.15		0.25	0.1
Mn	0.1		0.30	0.02
P	<=0.015		0.02	0.003
S	0.010		0.015	0.002
Cr	22	21.0	23.0	22
Ni	>=60	58.0		65
Mo	9	8.0	10.0	9
Nb		3.2	4.1	3.4
Cu	0.5		0.40	0.03
Al	0.1	0.01	0.40	0.1
Ti	0.2		0.40	0.2
Fe	<=1		1.0	0.3
Nb+Ta	3.5		4.15	3.5
Others tot			0.50	

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MECHANICAL PROPERTIES OF WELD METAL

All Weld Metal

	As welded	
Properties	**Min**	**Typ**
Rp0.2 (MPa)		650
Rm (MPa)	760	840
A5 (%)		34
Z (%)		50
Charpy V at 20°C (J)		150
Charpy V at -40°C (J)		120
Charpy V at -196°C (J)		100

Comments:

Hardness = 220HV

OTHER DATA

CORROSION RESISTANCE: Exaton Ni60 shows very good resistance to pitting corrosion, intergranular corrosion (corrosion rate <0.4 mm/year when tested acc. to ASTM G28 A) and is almost immune to stress corrosion cracking in chloride-containing environments.

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.