

W 'Tungsten inert gas arc welding'

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

Product name changed from Sandvik to Exaton.

## GENERAL

Exaton Ni59 is a nickel-chrome-molybdenum alloy of type alloy 59. It is a versatile alloy with excellent wet corrosion resistance for the most demanding applications. It combines excellent corrosion resistance in oxidizing and reducing media, has excellent resistance in chloride containing media and to localized corrosion environments. Exaton Ni59 has excellent thermal stability compared to other common nickel alloys and has therefore outstanding resistance to intermetallic precipitation during welding. Applications for Exaton Ni59 are found in aggressive and contaminated corrosive media including scrubbers for flue gas desulfurisation (FGD), chemical process plants and in severe offshore and petrochemical environments.

Exaton Ni59 is used for joining matching alloys or dissimilar joining to other nickel alloys such as UNS N10276 (2.4819), type UNS N06022 (2.4602), UNS N06625 (2.4856) and N08825 (2.4858). It provides strong, tough, Nb free weld metal for dissimilar welds in super-austenitic and super-duplex stainless steel joints or combinations of these with nickel alloys. Exaton Ni59 can be used for surfacing.

Applications for Exaton Ni59 are found in contaminated mineral acid environments such as sulfuric acid, hydrochloric acid, phosphoric acid, nitric acid etc. Components in sulfuric acid coolers, digesters and bleachers. Chemical, petrochemical, marine, pharmaceutical, energy production and pollution control.

Exaton Ni59 is approved in ISO15156/MR0175 (highest test level VII in sour-gas environments).

Exaton Ni59 is used to weld most of the nickel alloys such as alloy 59, C-22, C-276 etc. It can also be used for joining nickel alloys with duplex stainless steels, super duplex stainless steels and hyper duplex stainless steels. It is used for TIG welding.

## CLASSIFICATIONS Wire Electrode

SFA/AWS A5.14	ERNiCrMo-13
EN ISO 18274	S Ni 6059 (NiCr23Mo16)
Werkstoffnummer	2.4605

## APPROVALS

CE EN 13479

## APPROVALS (SPECIFIC)

VdTÜV 09184 MV

## CHEMICAL COMPOSITION

### Wire/Strip (%)

	Nom
C	<=0.01
Si	<=0.1
Mn	<=0.5
P	<=0.015
S	<=0.01
Cr	23
Ni	59
Mo	15.5
Co	<=0.3
Al	0.3
Fe	<=0.5

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**MECHANICAL PROPERTIES OF WELD METAL****All Weld Metal**

<b>Properties</b>	<b>As welded</b>	<b>Typ</b>
Rp0.2 (MPa)	470	
Rm (MPa)	750	
Z (%)	45	
Charpy V at 20°C (J)	170	
Charpy V at -196°C (J)	130	
	Comments: Elongation, A = 40	

**OTHER DATA**

**CORROSION RESISTANCE:** Exaton Ni59 shows very good resistance to pitting corrosion, intergranular corrosion (corrosion rate <0.9 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.

**WELD METAL CHARACTERISTICS:** The microstructure is fully austenitic.