

Stainless steel solid wire for Hardox® wear plate

Gas-shielded metal-arc welding

GENERAL PRODUCT DESCRIPTION

A continuous solid corrosion resisting chromium-nickel-manganese wire for welding of austenitic stainless alloys of 18% Cr, 8% Ni, 7% Mn types.

Stainless steel solid wire for Hardox wear plate with higher silicon content improves the welding properties, such as wetting. The product is a variant with a higher Mn content to make the weld metal less sensitive to hot cracking. When used for joining dissimilar materials the corrosion resistance is of secondary importance. The alloy is used in a wide range of applications across the industry such as joining of austenitic, manganese, work hardenable steels as well as armour plate and heat resistant steels.

KEY BENEFITS

- Developed especially for avoiding hydrogen cracks
- Excellent performance in Hardox® wear plate
- Stable arc with very low amount of spatter
- Possible to weld directly on primed surface
- Very high resistance of hot cracks
- High ductility
- Excellent for buffer layers before hard facing with Duroxite

Shielding Gas: M12, M13 (EN ISO 14175) **Alloy Type:** Austenitic (18 % Cr - 8 % Ni - 7 % Mn)

CLASSIFICATIONS Weld Metal

EN ISO 14343-A G 18 8 Mn
SFA/AWS A5.9 ER307 mod
Werkstoffnummer ~1.4370

APPROVALS

CE EN 13479
DB 43.039.10
NAKS/HAKC
VdTÜV 05420'

CHEMICAL COMPOSITION

	All Weld Metal (%)	Wire/Strip (%)	
	Nom	Min	Max
C	0.10		0.20
Si	1	0.6	1.2
Mn	6.5	5.5	7.5
P	0.010		0.030
S	0.020		0.020
Cr	18.5	17.0	20.0
Ni	8.5	7.0	10.0
Mo	0.1		0.5
Cu	0.1		0.5
N			0.08
Others tot			0.50

MECHANICAL PROPERTIES OF WELD METAL

All Weld Metal

Properties	As welded	
	Min	Typ
Rp0.2 (MPa)	350	450
Rm (MPa)	500	640
A4 – A5 (%)	25	41
Charpy V at 20°C (J)		130

ECONOMICS & CURRENT DATA

Dimension (mm)	Current (A)		W	η Nom	H		Feed		U	
	Min	Max			Min	Max	Min	Max	Min	Max
Ø			Nom							
0.8	55	160	12		1.0	4.1	4.0	17.0	15	24
0.9	65	220	12		1.1	5.4	3.5	18.0	15	28
1.0	80	240	15		1.0	6.0	4.0	16.0	15	28
1.2	100	300	18		1.6	7.5	3.0	14.0	15	29
1.6	230	375	22		5.2	8.6	5.5	9.0	23	31

- W** = Gas consumption (l / min)
- η = Recovery, g weld metal / 100g wire (%)
- H** = Deposit rate (kg weld metal / hour arc time)
- Feed** = Feeding rate (m/min)
- U** = Arc voltage (V)

For fast and easy calculations of heat input and mechanical properties please use the Weldcalc downloadable app available for Iphone/Android or run it from the web on <https://extern.ssab.com>

For more information also see Welding of Hardox® available from www.ssab.com/download-center