

Flux cored wire for Hardox® wear plate

Tubular cored electrode arc welding

GENERAL PRODUCT DESCRIPTION

A multi-purpose all positional rutile flux cored wire for use with C1 or M21 shielding gas. Diameters less than 1.4mm are all-positional except vertical down.

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
- High deposition rate for maximum productivity
- Easy to remove slag

Shielding Gas: M21, C1 (EN ISO 14175)
Polarity: DC+

Alloy Type: C Mn
Fill Type: Rutile
Diff Hydrogen: < 5 ml/100g

CLASSIFICATIONS Weld Metal

SFA/AWS A5.36	E71T1-C1A0-CS2-H8
SFA/AWS A5.36	E71T1-M21A0-CS2-H8
EN ISO 17632-A	T 46 2 P C1 1 H5
EN ISO 17632-A	T 46 2 P M21 2 H5

APPROVALS

ABS	3YSA H5 (C1 & M21)	PV
ABS	3YSA H5 (C1 & M21)	PN
BV	SA3YM (C1)	SA3YM (M21)
CE	EN 13479	
DB	42.039.05 (M21 and C1)	
DNV	III YMS (C1)	III YMS (M21)
		PN
DNV	III YMS H5 (C1)	III YMS H5 (M21) PV
GL	3YS (C1 & M21)	
LR	3YS H5 (C1 & M21)	PN
LR	3YS H5 (C1 & M21)	PV
LR	3YS H5 (M21)*	
NAKS/HAKC	1.2 mm	
PRS	3YS H10 (C1 & M21)	
RINA	2Y S H5 (C1)	3Y S H5 (M21)
RS	3YMS H5 (C1)	3YHS H5 (M21)
RS	3YSH5 (C1 & M21)	PV
VdTÜV	07651	

APPROVAL COMMENT

*also with OK Backing Rectangular 13

CHEMICAL COMPOSITION

All Weld Metal (%)

C1 Shielding gas

	Min	Max
C	0.020	0.080
Si	0.30	0.80
Mn	1.00	1.50
P		0.025
S		0.025
Cr		0.20
Ni		0.50
Mo		0.20
V		0.08
Nb		0.05
Cu		0.30

MECHANICAL PROPERTIES OF WELD METAL

All Weld Metal

C1 Shielding gas

Properties	As welded		
	Min	Max	Typ
ReL (MPa)	460		497
Rm (MPa)	530	660	588
A5 (%)	22		27
Charpy V at -20°C (J)	54		110

Comments:

The hydrogen values are determined in accordance with the method given in ISO 3690. Welding parameters for hydrogen determination:

Wire diameter: 1.2mm Shielding gas: M21 Current: 250 amps Voltage: 29 V Stickout: 15mm, <5ml/100g.
Wire diameter: 1.6mm Shielding gas: M21, Current 350 amps, Voltage 29 V, Stickout: 20mm, <10ml/100g

ECONOMICS & CURRENT DATA

Dimension (mm)	Current (A)		W	η	H		Feed		U	
	Min	Max			Min	Max	Min	Max		
\emptyset			Nom	Nom						
1.2	110	300	20	85	1.3	5.8	3.2	14.5	21	32
1.4	130	320	20	85	1.4	6.3	3.0	12.5	22	32
1.6	150	360	20	85	2.0	6.2	3.0	11.0	24	34

- 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

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