EXATON Product Data Sheet

E 'Manual metal-arc welding'

Exaton 22.12.HTR

Prepared by	Qualified by	Approved by	Reg no	Cancelling	Reg date	Page
A-C Thorsson	P-O Oskarsson	Tapio Huhtala	EN009169	EN008857	2020-05-13	1 (2)

REASON FOR ISSUE

Product description amended.

GENERAL

Exaton 22.12.HTR is a covered electrode with rutile-acid coating. It gives a chromium-nickel weld metal that is scaling resistant in air up to 1150°C (2102°F). Spray transfer gives a bead with a finely rippled surface. There is little spatter and very good slag removal.

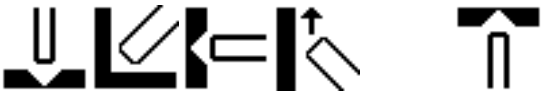
Exaton 22.12.HTR is intended primarily for welding the high temperature steels Sandvik 253MA (1) and Avesta 253MA, UNS S30815. It is also suitable for welding other high temperature steels, such as AISI 309 and EN 1.4828.

(1): 253MA is a trademark owned by Outokumpu Stainless.

Min AC OCV: 65
Polarity: AC, DC+

Alloy Type: CrNi stainless
Coating Type: Rutile
Ferrite Content: FN 4- 10

WELDING POSITIONS



1 2 3 4 6

CLASSIFICATIONS Electrode

EN ISO 3581-A E Z 23 10 N R 12

APPROVALS

CE

CHEMICAL COMPOSITION

All Weld Metal (%)

	Min	Max	Nom
C	0.06	0.08	0.06
Si	1.40	1.80	1.5
Mn	0.50	0.90	0.6
P		0.030	0.021
S		0.020	0.007
Cr	22.0	24.0	23
Ni	10.0	11.0	10.5
Mo		0.5	0.14
Cu		0.20	0.08
N	0.15	0.20	0.16
PREN			25
FN WRC-92			6

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MECHANICAL PROPERTIES OF WELD METAL

	ISO	
	As welded	
Properties	**Min**	**Typ**
Rp0.2 (MPa)	520	540
Rm (MPa)	680	720
A5 (%)	30	35
Charpy V at 20°C (J)		55

ECONOMICS & CURRENT DATA

Dimension (mm)	Current (A)		W	η	N	B	H	T	U	Welding
Ø x Length	Min	Max								Positions
2.5 x 300	50	90	1.7	96	0.55	104	0.8	44	26	1,2,3,4,6
3.2 x 350	70	110	3.4	97	0.55	54	1.0	66	25	1,2,3,4,6
4.0 x 350	85	150	5.1	99	0.56	35	1.3	77	26	1,2,3,4,6

W = Weight (kg / 100 electrodes)

η = Efficiency (g weld metal x 100 / g core wire)

N = Effective value (kg weld metal / kg electrodes)

B = Changes (number of electrodes / kg weld metal)

H = Deposit rate at 90% of max current (kg weld metal / hour arc time)

T = Fusion time at 90% of max current (s / electrode)

U = Arc voltage (V)

OTHER DATA

Hardness data:

As welded condition, all weld metal, transverse cross section of an ISO joint, measurements done along a horizontal (5 indents) - and vertical line (10 indents), 2 samples tested, 219 - 270 HV10, average 249 HV10.

Thermal data:

Interpass temperature: max. 150°C (302°F)

Heat input: max. 1.5 kJ/mm

Post weld heat treatment: None

Packaging: The electrodes are delivered in VacPac.

Redrying 300°C (572°F), 2h.