

Intherma® 310

EMR
SAHARA®

SMAW

CLASSIFICATION

AWS A5.4	E310-16	A-Nr	9	Mat-Nr	1.4842
ISO 3581-A	E 25 20 R 12	F-Nr	5		
		9606 FM	5		

TEMPERATURE RANGE

Pressurized parts : -20...+400°C
Oxidation resistance : to 1200°C

GENERAL DESCRIPTION

Rutile basic electrode for all position welding except vertical down
Fully austenitic weld metal with high Cr and Ni content for very high service temperature
High resistance against oxidation and scaling up to 1200°C
Weldable on AC and DC

WELDING POSITIONS (ISO/ASME)



PA/1G



PB/2F



PC/2G



PF/3Gu



PE/4G



PH/5Gu

CURRENT TYPE

AC/DC +

CHEMICAL COMPOSITION (W%), TYPICAL, ALL WELD METAL

C	Mn	Si	Cr	Ni	FN (acc.WRC 1992)
0.12	2.5	0.5	26.0	20.5	0

MECHANICAL PROPERTIES, TYPICAL, ALL WELD METAL

Condition	0.2% Proof strength [N/mm ²]	Tensile strength [N/mm ²]	Elongation [%]	Impact ISO-V(J) +20°C
Required: AWS A5.4 ISO 3581-A Typical values	not required min. 350 440	min. 550 min. 550 600	min. 30 min. 20 30	not required not required 80
AW				

PACKAGING AND AVAILABLE SIZES

Carton + PE foil	Diameter (mm)	2.5	3.2	4.0
	Length (mm)	350	350	350
Pieces / unit	Net weight/unit (kg)	145	150	100
		3.0	5.1	5.1

Identification Imprint: 310-16 / INTHERMA 310 Tip Color: dark green

Intherma®310: rev. C-EN25-01/02/16

All information in this data sheet is accurate to the best of our knowledge at the time of printing. Please refer to www.lincolnelectric.eu for any updated information.
[Download Safety datasheets \(SDS\)](#)

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EXAMPLES OF MATERIALS TO BE WELDED

Steel grades	EN 10088-1/-2	EN 10213-4	Mat. Nr	ASTM/AISI A240/A351	UNS
Heat resisting steels					
	X10CrAl24		1.4762		
		GX25CrNiSi18-9	1.4825		
		GX40CrNiSi22-9	1.4826		
	X15CrNiSi20-12		1.4828		
		GX25CrNiSi20-14	1.4832		
	X15CrNiSi25-20		1.4841	310S	S31008
				CK20	J94202
	X12CrNi25-21		1.4845		
		GX40CrNiSi25-20	1.4848	HK40	

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CALCULATION DATA

Sizes		Current type	Arc time - per electrode at max. current - [S]*	Energy E(kJ)	Dep. rate H(kg/h)	Weight/ 1000 pcs (kg)	Electrodes/ kg weldmetal B	kg electrodes/ kg weldmetal 1/N
Diam. x length (mm)	Current range (A)							
2.5 x 350	80-110	DC+	50	84	0.74	18.9	97	1.83
3.2 x 350	90-140	DC+	56	155	1.31	31.8	49	1.56
4.0 x 350	130-175	DC+	72	233	1.55	50.7	32	1.64

*Stub end 35mm

WELDING PARAMETERS, OPTIMUM FILL PASSES

Diameter (mm)	Welding positions					
	PA/1G	PB/2F	PC/2G	PF/3Gup	PE/4G	PH/5Gup
2.5	100A	100A	100A	90A	90A	90A
3.2	130A	120A	130A	110A	110A	110A
4.0	160A	160A	160A	140A		

REMARKS / APPLICATION ADVICE

Welding with Heat-Input max. 1.5 kJ/mm
Interpass temperature max. 100°C