

RepTec Cast 31

CLASSIFICATION

AWS A5.15 ENiFe-CI
ISO 1071 E C NiFe-CI 1

GENERAL DESCRIPTION

Electrode for repair welding of cast iron, malleable cast iron and cast iron to steel

The nickel-iron weld deposit is easily machineable

Particularly applicable for nodular cast iron

Hardness weld deposit ~ 180 HB

Excellent current carrying capacity due to bi-metal core wire

Welding on AC and DC - polarity

Best choice welding DC -

WELDING POSITIONS (ISO/ASME)



PA/1G



PB/2F



PC/2G



PF/3Gu



PG/3Gd



PE/4G



PH/5Gu



PJ/5Gd

CURRENT TYPE

AC / DC -

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

C	Fe	Ni
0.7	45	bal.

MECHANICAL PROPERTIES, TYPICAL, ALL WELD METAL

Condition		0.2% Proof strength (N/mm ²)	Tensile strength (N/mm ²)	Elongation (%)	Hardness HB10
Required: AWS A5.5		296-434	400-579	6-18	165-218
ISO 1071		250	350	6	
Typical values	AW	300	460	10	180

PACKAGING AND AVAILABLE SIZES

	Diameter (mm)	2.5	3.2	4.0
	Length (mm)	300	350	400
PE-Tube	Pieces / unit	154	82	47
	Net weight/unit (kg)	2.5	2.5	2.5
Linc Pack	Pieces / unit	62	33	-
	Net weight/unit (kg)	1.0	1.0	-

Identification Imprint: REPTEC CAST 31 Tip Color: black

RepTec Cast 31: rev. C-EN24-01/02/16

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EXAMPLES OF MATERIALS TO BE WELDED

Steel grades	DIN1691	DIN 1692	DIN 1693
For welding and repair			
	GG-10	GTS-35-10	GGG-40
	GG-15	GTS-45-06	GGG-50
	GG-20	GTS-55-4	GGG-60
	GG-25	GTW-35-04	
	GG-30	GTW-40-05	
	GG-35	GTW-45-07	
		GTW-S-38-12	

CALCULATION DATA

Sizes Diam. x length (mm)	Current range (A)	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
2.5 x 300	70-100	DC-	124	211	0.32	19.1	91	1.72
3.2 x 350	90-150	DC-	123	328	0.62	29.4	47	1.37
4.0 x 400	100-180	DC	168	714	0.74	55.7	30	1.45

*Stub end 35mm

WELDING PARAMETERS, OPTIMUM FILL PASSES

Diameter (mm)	Welding positions				
	PA/1G	PB/2F	PC/2G	PF/3Gup	PE/4G
2.5	80A	80A	80A	80A	80A
3.2	110A	110A	110A	110A	110A
4.0	150A	160A	160A	150A	150A

REMARKS / APPLICATION ADVICE

Residual stresses are decreased by peening after each layer
Cold welding, interpass temperature (Ti<100°C)
Heavy parts preheat (to max. 300°C)

COMPLEMENTARY PRODUCTS

LNM NiFe