

RepTec Cast 1

CLASSIFICATION

AWS A5.15 ENi-CI
ISO 1071 E C Ni-CI

GENERAL DESCRIPTION

Ni-electrode for repair welding of lamellar cast iron, malleable cast iron and cast iron to steel

Produces a soft malleable weld deposit

Hardness weld deposit ~ 175 HB

Preferable welding on DC-, gives pulsed arc welding, deep penetration, smooth surface, no lack of fusion

Welding on AC, lowest heat input, important at filling

Best choice for multilayer welding

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	2.0	97

MECHANICAL PROPERTIES, TYPICAL, ALL WELD METAL

Condition	0.2% Proof strength (N/mm ²)	Tensile strength (N/mm ²)	Elongation (%)	Hardness HB10
Required: AWS A5.15	262-414	276-448	3-6	135-218
ISO 1071	200	250	3	
Typical values AW	270	445	8	175

PACKAGING AND AVAILABLE SIZES

	Diameter (mm)	2.5	3.2	4.0
	Length (mm)	300	350	400
PE-Tube	Pieces / unit	146	76	44
	Net weight/unit (kg)	2.5	2.5	2.5
Linc Pack	Pieces / unit	58	30	-
	Net weight/unit (kg)	1.0	1.0	-

Identification Imprint: REPTec CAST 1 Tip Color: black

RepTec Cast 1: 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	

SMAW

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 300	50-100	DC-	176	268	0.24	19.1	84	1.61
3.2 x 350	70-130	DC-	145	303	0.48	32.6	52	1.52
4.0 x 400	90-150	DC-	262	647	0.55	56.7	25	1.41

*Stub end 35mm

WELDING PARAMETERS, OPTIMUM FILL PASSES

Diameter [mm]	Welding positions				
	PA/1G	PB/2F	PC/2G	PF/3Gup	PE/4G
2.5	70A	70A	70A	70A	70A
3.2	100A	100A	100A	100A	100A
4.0	120A	120A	120A	110A	110A

REMARKS / APPLICATION ADVICE

Residual stresses are decreased by peening after each layer
 Cold welding, interpass temperature ($T_i < 100^\circ\text{C}$)
 Heavy parts preheat (to max. 300°C)

COMPLEMENTARY PRODUCTS

LNM NiTi
 LNT NiTi