

# RepTec Cast 1

## Repair electrode

### Classification

AWS A5.15-90 : ENI-CI  
ISO 1071-01 : E C Ni-CI 1

### 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/3G up PG/3G down PE/4G PG/5G up PG/5G down

### Current type

AC / DC electr. + / -

### Chemical composition (w%), typical, all weld metal

C	Fe	Ni
0.7	2.0	97

### Mechanical properties, all weld metal

Condition	0.2% Proof strength (N/mm <sup>2</sup> )	Tensile strength (N/mm <sup>2</sup> )	Elongation (%)	Hardness HB10
Required: AWS A5.15-90	262-414	276-448	3-6	135-218
ISO 1071-01	200	250	3	
Typical values AW	270	445	8	175

### Packaging, available sizes and identification

Diameter (mm)	2.5	3.2	4.0	
Length (mm)	300	350	400	
Unit: PE tube	Pieces / unit (nominal)	146	76	44
	Net weight unit (kg)	2.5	2.5	2.5

### Identification

Imprint: RepTec Cast 1

Tip colour: black

RepTec Cast 1: rev. EN 15

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**Liability:** All information in this data sheet is based on the best available knowledge, is subject to change without notice and can only be considered as suitable for general guidance **Fumes:** Consult information on Welding Safety Sheet, available upon request

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## Materials to be welded

Material grades	DIN1691	DIN 1692	DIN 1693
For welding and repair	GG 10	GTS-35-10	G GG-40
	GG 15	GTS-45-06	G GG-50
	GG 20	GTS-55-4	G GG-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	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

Welding positions Diameter (mm)	PA/1G Current (A)	PB/2F	PC/2G	PF/3G up	PE/4G	PF/5G up
2.5	70	70	70	70	70	
3.2	100	100	100	80	80	
4.0	120	120	120	110	110	

## 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)