

Repair electrode

Classification

AWS A5.4-92 : E312-16 *
EN 1600-97 : E 29 9 R 12

* nearest classification, see remarks

General description

A rutile-basic coated high CrNi-alloyed all position electrode

Most versatile electrode for repair welding

Specially developed for welding steels difficult to weld such as:

- armour plate - austenitic Mn-steel - high C-steel

Excellent weldability and self releasing slag

Weldable on AC and DC+ polarity

Not sensitive for porosity

Welding positions



ISO/ASME PA/1G PB/2F PC/2G PF/3G up PE/4G PF/5G up

Current type

AC / DC electr. +

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

C	Mn	Si	Cr	Ni
0.11	0.9	1.0	29.0	9.0

Mechanical properties, 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 A5.4-92	not required	min. 660	min. 22	not required
EN 1600-97	min. 450	min. 650	min. 15	not required
Typical values	AW 700	800	20	50

Packaging, available sizes and identification

	Diameter (mm)	2.0	2.5	3.2	4.0	5.0
	Length (mm)	300	350	350	350	350
Unit: PE tube	Pieces / unit (nominal)	196	176	122	82	56
	Net weight unit (kg)	2.5	3.7	4.0	4.0	4.0

Identification Imprint: RepTec 29

Tip colour: red

RepTec 29: rev. EN 15

Materials to be welded

Various steels grades, such as:

- Armour plate
- Hardenable steels including steels difficult to weld
- Non-magnetic austenitic steels
- Work hardening austenitic manganese steels
- Dissimilar steel grades (CMn-steels to stainless steel) up to max. thickness of 12 mm

Calculation data

Sizes Diam. x length (mm)	Current range (A)	Current type	Arc time - per electrode at max. (s)*	Energy E(kJ)	Dep.rate - H(kg/h)	Weight/ 1000 pcs. (kg)	Electrodes/ kg weldmetal B	kg Electrodes/ kg weldmetal 1/N
2.0 x 300	40 - 55	DC+	41	45	0.59	12.0	150	1.80
2.5 x 350	50 - 70	DC+	57	91	0.73	20.7	87	1.79
3.2 x 350	70 - 100	DC+	60	126	1.1	33.0	52	1.72
4.0 x 350	100 - 130	DC+	72	273	1.4	49.7	35	1.72
5.0 x 350	130 - 140	DC+	79	313	2.4	71.5	19	1.36

* 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	60	60	60
3.2	100	90	100	65	65	65
4.0	130	125	130	80		

Remarks

Deviations: chemical composition:

Si = max. 1.2%

AWS: Si = max. 0.90%