

## MMA Electrodes C-Mn and low-alloy steels

Rutile-cellulosic general-purpose electrode for structural steelwork, workshop and maintenance welding. Excellent operating characteristics for all positional welding, including vertically-down. Smooth arc, well-suited for tack-welding and good for the bridging of gaps in poor fit up.. Welds are smooth and slightly concave, blending into the base metal without undercut. The slag is in most cases self-releasing.

Classification	
AWS	A5.1: E6013
EN	499: E 38 0 RC 11
EN ISO	2560-A: E 38 0 RC 11

Approvals	Grades
DB	
TÜV	

see Appendix, Classification Society Approvals, for details pag. 521

### Analysis of all-weld metal (Typical values in %)

C	Mn	Si	P	S	Cr	Ni	Mo	Nb	V	N	Cu
0.08	0.50	0.30	-	-	-	-	-	-	-	-	-

### All-weld metal Mechanical Properties

Heat Treatment	Yield Strength N/mm <sup>2</sup>	Tensile Strength N/mm <sup>2</sup>	Elongation A5 (%)	Impact Energy ISO - V (J) + 20 °C	Hardness
As Welded	≥ 380	470-600	≥ 22	≥ 60	-

### Materials

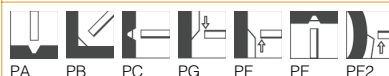
S(P)235 to S(P)355; GP240; GP280

### Storage and redrying

Keep dry and avoid condensation. Re-drying not generally required. If necessary: 100-110 °C for 1 hour.

### Current condition and welding position

AC; DC-



### Packaging data

Diameter (mm)	Length (mm)	Current (A)	Electrode average weight (g)	Weld metal weight per electrode (g)
2,0	250	50-60	8,0	5,0
2,5	350	55-85	17,5	10,3
3,2	350	90-140	29,5	17,7
4,0	350	130-180	44,6	27,3