

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

Basic coated MMA electrode for reliable, crack-free and tough welded joints on steels with a yield strength <420MPa. The weld metal is of extremely high metallurgical purity, is ageing-resistant, retaining ISO-V toughness to -60°C and CTOD tested. Very low hydrogen content. Due to the double coating of the 2.5 mm and 3.2 mm sizes, the arc is both stable and concentrated, even at lower welding currents when positional welding, with good gap bridging characteristics. Welds are of X-ray quality. TENACITO R is also suited for critical applications when welding steels with a carbon content <0.6 %, e.g. C45, C60. DB approved for rail welding.

Classification	
EN ISO	2560-A: E 42 6 B 4 2 H5
EN	499: E 42 6 B 4 2 H5
AWS	A5.1: E 7018-1 H4

Approvals	Grade
ABS	4H5-4Y
BV	3Y HH
DB	●
DNV	5Y H5
GL	4Y H5
LRS	4m 4Ym H5
TÜV	●

CE

### Chemical analysis (Typical values in %)

C	Mn	Si	P	S
0.06	1.45	0.3	≤ 0.012	≤ 0.012

### All-weld metal Mechanical Properties

Heat Treatment	Yield Strength (MPa)	Tensile Strength (MPa)	Elongation A5 (%)	Impact Energy ISO - V (J)	
				+20 °C	-60 °C
As Welded	≥ 420	500-640	≥ 25	≥ 180	≥ 90
580 °C x 15 h	≥ 420	500-640	≥ 25	≥ 160	≥ 90

### Materials

S(P)235-S(P)420, GP240-GP280; L245-L415

#### Storage

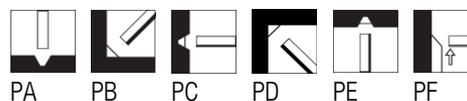
Keep dry and avoid condensation.

HD ≤ 5: Re-dry at 340-360 °C for 2 hours, 5 times max.

HD ≤ 10: Re-dry at 300-350 °C for 2 hours, 5 times max

#### Current condition and welding position

DC+



### Packaging data

Diam. (mm)	Length (mm)	Current (A)	Approx. weight (kg/1000)	CBOX		VPMD	
				PC	Code	PC	Code
2.5	350	65-95	19.2	225	●	110	●
3.2	350	90-140	34.4	125	●	60	●
3.2	450	90-140	46.1	125	●	60	●
4.0	450	140-185	68.6	80	●	35	●
5.0	450	180-240	109.6	45	●	20	●