

ETC PH31 FLEXAL 60



MMA Electrodes C-Mn and low-alloy steels

Cellulosic coated MMA electrode for welding large-diameter pipe lines in the vertical down position. Used for root and hot passes as well as filling and capping. When root pass welding, negative polarity is recommended. FLEXAL 60 is also used for root passes on higher-strength pipe steels, up to X 80. Note: Power source must be suitable for cellulosic-coated MMA electrodes.

Classification	
EN ISO	2560-A: E 38 3 C 21
EN	499: E 38 3 C 21
AWS	A5.1: E 6010
GOST	9467-75: 46-E43 2

Approvals	Grade
ABS	3
DNV	3
LRS	3m
TÜV	●

CE

Chemical analysis (Typical values in %)

C	Mn	Si
0.1	0.6	0.2

All-weld metal Mechanical Properties

Heat Treatment	Yield Strength (MPa)	Tensile Strength (MPa)	Elongation A5 (%)	Impact Energy ISO - V (J)	
				+20 °C	-30 °C
As Welded	≥ 380	470-560	≥ 24	≥ 60	≥ 47

Materials

L210-L360; X42-X52; root pass in X80

Storage

Do not re-dry

Current condition and welding position

DC-; DC+



Packaging data

Diam. (mm)	Length (mm)	Current (A)	Approx. weight (kg/1000)	CAN	
				PC	Code
2.5	350	40-80	16.2	555	-
3.2	350	60-110	26.7	355	ETC PH3132
4.0	350	90-140	40.0	237	ETC PH3140
5.0	350	110-170	60.0	158	-

