

## MMA Electrodes High-strength steels

TENAX 88S HR iron-powder electrode is a low-alloyed Mn/Ni type developed for welding higher yield steels (min. 450N/mm<sup>2</sup>), usually BS 4360-55 E/F and E 450EMZ, for topside facilities of production platforms. This electrode deposits high impact and fracture (CTOD) tough weld metal in the as-welded and stress relieved conditions. This electrode is of major importance for offshore applications; enabling higher yield steels to be welded with absolute confidence. Efficiency 120%.

Classification	
AWS	A5.5: E 8018-G
EN	499: E 50 6 Mn1Ni B 32 H5
EN ISO	2560-A: E 50 6 Mn1Ni B 32 H5

Approvals	Grades
-----------	--------

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

C	Mn	Si	P	S	Cr	Ni	Mo	Nb	V	N	Cu
0.06	1.50	0.30	≤ 0.015	≤ 0.015	-	0.80	0.20	-	-	-	-

### 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) -60°C	Hardness
PWHT 620°C x 1h	≥ 460	560-640	≥ 26	≥ 60	-
As Welded	≥ 500	560-720	≥ 24	≥ 60	-

### Materials

S(P)420-S(P)500

### Storage and redrying

Keep dry and avoid condensation.

HD ≤ 5: Re-dry at 400-420 °C for 1 hour, 5 times max.

### Current condition and welding position

DC+; AC



### Packaging data

Diameter (mm)	Length (mm)	Current (A)	Electrode average weight (g)	Weld metal weight per electrode (g)
2,5	300	60-100	19,3	11,7
3,2	450	80-140	47,0	27,4
4,0	450	120-180	67,4	40,4
5,0	450	180-270	103,0	63,6