

Product Data Sheet

MMA Electrodes C-Mn and low-alloy steels

SUPER OPTIMAL 6013 VD

- ★ Rutile-Cellulosic exceptionally suitable for vertical down welding.
- ★ Excellent gap bridging.
- ★ Excellent for tack welding.
- ★ Superior weldability. Especially suited for fast downward flat or fillet welding with a finely rippled weld bead with a mitre profile & smooth blend-in at the bead edges.
- ★ Superior mechanical properties with radiographic weld deposit.

Classification **AWS A5.1:** E 6013

EN ISO 2560-A: E 38 0 RC 11

Description and applications

Rutile-cellulosic type medium coated general-purpose electrode for structural steel work, workshop and maintenance welding, specially suited for vertical - down welding and tack-welds. Good gap bridging. Can be used on galvanized, primer painted and slightly rusted parts. In assembly welding, this electrode can be used with the same current setting in all positions. Smooth, slightly concave welds blending into base metal without undercut. Slag in most cases self-releasing.

Base materials

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

All weld metal mechanical properties (typical)

Heat Treatment	Tensile Strength R_m (N/mm ²)	Yield Strength R_m (N/mm ²)	Elongation $A_5\%$	Impact Energy ISO-V(J) 0°C	Hardness
As welded	470-540	≥380	≥24	≥60	--

Typical weld metal Chemical Composition (%)

C	Si	Mn	P	S
0.08	0.20	0.50	0.03	0.03

Amperes (A)

2.50	3.15	4.00	5.00
60-85	90- 130	140-180	180-240

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- , DC+

