



Product Data Sheet

Core wire alloyed High Chrome – Nickel Austenite.

SUPER OPTIMAL 312-16

Classification: AWS A5.4 : E 312-16

Electrode for high strength joint welding and surfacings of similar and equal steels or cast steels, for joint welding tensile unalloyed steels, tempered and tool steels, high manganese steels, spring steels and joints between dissimilar steels with high alloyed stainless steels. Furthermore for crack proof tough inter-passes on hard surfacings and for abrasion resistant and warm hardened surfacings. The austenitic – ferritic weld metal is stainless & corrosion resistant. Due to enhanced delta –ferrite content, black – white joints are highly resistant against hot-cracking.

Applications : Dies, tools, spring steel, shaft repair....superior weld ability for all steels...

Weld metal composition (typical)	C	Si	Mn	Cr	Ni	Mo	S	P
	0.10	< 0.90	<1.0	29.0	9.0	---	0.012	0.015

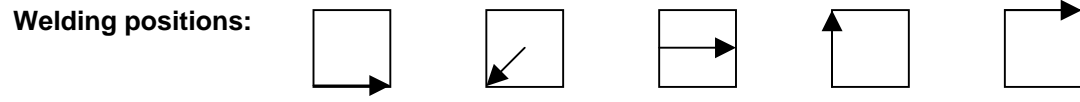
All weld metal mechanical properties:	Yield strength Rp 0,2% N/mm ²	Tensile strength N/mm ²	Elongation %
	> 500	> 800	> 20

Welding recommendations:

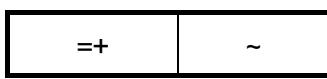
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 Re-drying: 300-350°C/2h

Heat treatment: Pre-heating depending on base material, low heat input required. Otherwise pre-heating not necessary. Interpass temperature max. 200 °C.



Amperes (A)	2.50	3.15	4.00	5.00
	50-80	80- 110	110- 150	150-180



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