

Classifications

EN ISO 14343-A

W 16 5 1

Characteristics and typical fields of application

TIG rod of G 16 5 1 type for welding and repair of propellers, pumps, valves and shafts in 248 SV / 420 and similar types of steels and castings. It offers better cracking resistance than many other martensitic types of filler. The properties of the weld are largely the same as those of the parent metal. The general and pitting corrosion resistance corresponds to that of 1.4301 / 304.

Base materials

1.4028 X30Cr13, 1.4405 GX4CrNiMo16-5-1, 1.4418 X4CrNiMo16-5-1
AISI 420, 248 SV

Typical analysis

	C	Si	Mn	Cr	Ni	Mo
wt.-%	0.02	0.40	1.4	16	5.5	1.0

Mechanical properties of all-weld metal - typical values (min. values)

Condition	Yield strength $R_{p0.2}$	Tensile strength R_m	Elongation A ($L_0=5d_0$)	Impact energy ISO-V KV J	Hardness
	MPa	MPa	%	20°C	
a	460 (≥ 400)	840 (≥ 600)	≥ 15	60 (≥ 32)	260

a annealed – shielding gas Ar 100%, 590°C for 4 h followed by air cooling

Operating data

	Polarity	DC-	Dimension mm
	Shielding gas (EN ISO 14175)	I1	2.4 x 1000
	Rod marking	+ W 16 5 1	

Suggested heat input is max. 2.0 kJ/mm and interpass temperature max. 150°C. To stabilize structure and reduce brittle martensite, post-weld heat treatment for 4 h at 590°C, followed by air cooling is recommended. Preheating is normally not necessary, but when welding thick materials where high stresses can be expected, pre-heating to 75 – 100°C is recommended.

Approvals

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