

Classifications

EN ISO 17633-A	AWS A5.22
T 18 8 Mn R M21 3	E307T0-G (mod.)
T 18 8 Mn R C1 3	

Characteristics and typical fields of application

Rutile flux cored welding wire preferable for flat & horizontal welding positions. BÖHLER A7-FD achieves high productivity and is easy to operate providing excellent welding characteristics, self-releasing slag, almost no spatter formation and temper discoloration, smooth weld finish and safe penetration. Increased travel speeds as well as little demand for cleaning provide considerable savings in time and money.

The weld deposit offers high ductility and elongation together with excellent crack resistance even when subjected to thermal shock. It will work harden and offers good resistance against cavitation. Ductility is good even after high dilution when welding problem steels. There is no fear of embrittlement when operating down to service temperatures of $-100\text{ }^{\circ}\text{C}$ or above $+500\text{ }^{\circ}\text{C}$. The scaling resistance goes up to $+850\text{ }^{\circ}\text{C}$. When working at service temperatures above $+650\text{ }^{\circ}\text{C}$ please contact the supplier.

Base materials

For fabrication, repair and maintenance!

Dissimilar joints, tough buffer and intermediate layers prior to hardfacing, 14 % manganese steels, 13 – 17% chromium and heat resistant steels up to $+850\text{ }^{\circ}\text{C}$, armour plates, high carbon and quenched & tempered steels, surfacing of gears, valves, turbine blades etc.

Typical analysis of all-weld metal (wt.-%)

	C	Si	Mn	Cr	Ni
wt.-%	0.1	0.8	6.8	18.8	9.0

Mechanical properties of all-weld metal

Condition	Yield strength $R_{p0.2}$	Tensile strength R_m	Elongation A ($L_0=5d_0$)	Impact work ISO-V KV J		Hard- ness	Stress hardened
	MPa	MPa	%	+20 °C	-100 °C	HB	HV
u	420 (≥ 350)	630 (≥ 500)	39 (≥ 25)	60	(≥ 32)	~200	up to 400

u untreated, as welded – shielding gas Argon + 18 % CO_2

Operating data

	Polarity DC (+)	Shielding gases: Ar + 15 – 25 % CO_2 100 % CO_2	Redrying if necessary: $150^{\circ}\text{C} / 24\text{ h}$	\varnothing (mm) 1.2	Amps A 120 – 190	Voltage V 21 – 29
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Welding with standard GMAW-facilities possible, slightly trailing torch position (angel appr. 80°), when using 100 % CO_2 as shielding gas it is necessary to increase the voltage by 2 V. The gas flow should be 15 – 18 l/min. Preheating and interpass temperature as required by the base metal.

Approvals

TÜV (11101.), CE