

## Classifications

<b>EN ISO 17633-A</b>	<b>AWS A5.22</b>
T 18 8 Mn P M21 2 / T 18 8 Mn P C1 2	E307T1-G

## Characteristics and typical fields of application

Rutile flux cored welding wire with fast freezing slag providing positional welding characteristics and fast travel speeds. BÖHLER A7 PW-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. 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. Beside the major savings in time and cost BÖHLER offers a high production quality level together with lowest probabilities for welding errors. Increased travel speeds as well as little demand for cleaning and pickling provide considerable savings in time and money. Description of all-weld-metal: strain hardening, good resistance against cavitation, crack resistance, resistance against thermal shock, scaling resistance goes up to +850 °C. There is no fear of embrittlement when operating down to service temperatures of -100 °C or above +500 °C. When working at service temperatures above +650 °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 °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 <sub>p0,2</sub>	Tensile strength R <sub>m</sub>	Elongation A (L <sub>0</sub> =5d <sub>0</sub> )	Impact work ISO-V KV J		Hard- ness	Stress hardened
	MPa	MPa	%	+20 °C	-100 °C	HB	HV
u	<b>420</b> (≥ 350)	<b>630</b> (≥ 500)	<b>39</b> (≥ 25)	<b>65</b>	≥ 32	~200	up to 400

u untreated, as welded – shielding gas Argon + 18 % CO<sub>2</sub>

## Operating data

	<b>Polarity</b> DC (+)	<b>Shielding gases:</b> Ar + 15 – 25% CO <sub>2</sub> 100 % CO <sub>2</sub>	<b>Redrying if necessary:</b> 150°C / 24 h	<b>ø (mm)</b> 1.2	<b>Amps A</b> 120 – 190	<b>Voltage V</b> 21 – 29
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Welding with standard GMAW-facilities possible, slightly trailing torch position (angel approx. 80 °C), slight weaving is recommended for all welding positions, when using 100 % CO<sub>2</sub> 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. Preheating and interpass temperature as required by the base metal.

## Approvals

TÜV (11102.), CE, NAKS