

**AWS A5.28: E90C-B3 H4**

**EN ISO 17634-A: T CrMo2 M M21 1 H5**

**WELDING POSITIONS:**



FEATURES	BENEFITS	APPLICATIONS
<ul style="list-style-type: none"> <li>Extremely low diffusible hydrogen weld deposit</li> <li>Good reignition characteristics</li> <li>Ideal for use of short arc and spray arc</li> <li>Excellent gap bridging for root welding</li> <li>High deposition rate</li> <li>Virtually no slag coverage</li> <li>Smooth arc characteristic</li> </ul>	<ul style="list-style-type: none"> <li>Minimizes risk of hydrogen-induced cracking</li> <li>Suitable for robot applications</li> <li>Automatic root welding possible</li> <li>Root-welding without any backing</li> <li>Improved efficiency</li> <li>Reduced cleaning time</li> <li>Easy handling</li> </ul>	<ul style="list-style-type: none"> <li>Automatic and mechanized welding</li> <li>Construction of containers</li> <li>Pipelines</li> <li>Steam boilers and turbines (2<sub>1/4</sub> Cr1Mo steels)</li> <li>Machine-building</li> <li>Single and multi-pass welding</li> </ul>

**WIRE TYPE  
SHIELDING GAS**

**TYPE OF CURRENT  
STANDARD DIAMETERS  
TYPICAL DIFFUSIBLE HYDROGEN\***

**RE-DRYING  
STORAGE**

Gas shielded metal-cored wire  
75-85% Argon (Ar) / Balance Carbon Dioxid (CO<sub>2</sub>); Gas Flow 12-18 l/min (25-38 cfh)

Direct Current Electrode Positive (DCEP)  
Ø 1.2 mm (0.045")  
< 3.0 ml / 100 g; Guaranteed for the total processing time < 4.0 ml / 100 g maximum (AWS Spec)

Not required due to seamless wire design.  
The same conditions as for solid wire. Product should be stored in a dry, enclosed environment, in its original undamaged packaging

\*Measurement technique is the carrier gas method according to AWS and ISO

**MATERIALS TO BE WELDED\***

Boiler steels	Rel ≤ 540 MPa	10CrMo9-10, 12CrMo9-10
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\*) The specified base materials are not complete and should only be seen as examples. The selection of the appropriate combination of steel and welding consumable should follow the specific mechanical strength and toughness requirements

**ALL WELD METAL CHEMISTRY (%)** (typical values for mixed gas 82% Ar / 18% CO<sub>2</sub>)

Carbon ( C )	0.07	Nickel (Ni)	-
Manganese (Mn)	1.0	Molybdenum (Mo)	1.1
Silicon (Si)	0.3	Chromium (Cr)	2.3
Sulphur (S)	0.015		
Phosphorus (P)	0.015		

**ALL WELD METAL MECHANICAL PROPERTIES** (for mixed gas 82% Ar / 18% CO<sub>2</sub>)

Mechanical tests	Typical values MPa (ksi)	ISO Specification MPa (ksi)
Tensile Strength Rm	650 (94)	620 - 760 (90 - 110)
Yield strength Rp0.2	560 (81)	> 540 (78)
Expansion A5	22%	18%

The specified values apply to the stress-relieved condition (690 °C / 60 min)

**CHARPY V-NOTCH IMPACT VALUES** (for mixed gas 82% Ar / 18% CO<sub>2</sub>)

Mechanical Tests	Typical values [J] (ft.lbf)	ISO Specification [J] (ft.lbf)
RT	130 (96)	> 47 (35)
-20 °C	90 (66)	> 47 (35)

The specified values apply to the stress-relieved condition (690 °C / 60 min)

**APPROVALS: TÜV**

Please contact the manufacturer to learn the present scope of approvals