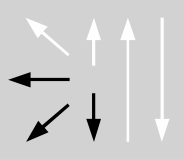


Flux-cored wire, high-alloyed, stabilized austenitic stainless

Classifications								
EN ISO 17633-A			EN ISO 17633-B			AWS A5.22 / SFA-5.22		
T 19 12 3 Nb R M21 (C1) 3			TS 318-F M21 (C1) 0			–		
Characteristics and typical fields of application								
<p>Rutile flux-cored wire of T 19 12 3 Nb R / "E318T0" type for welding of CrNiMo(Ti/Nb) austenitic stainless steels. Designed for single and multi-pass welding mainly in the flat and horizontal position and horizontal/vertical position. Easy handling and high deposition rate result in high productivity with excellent welding performance and very low spatter formation. Increased travel speeds as well as self-releasing slag with little demand for cleaning and pickling provide considerable savings in time and money. The wire shows good wetting behavior and results in a finely rippled surface pattern. The wide arc ensures even penetration and side-wall fusion to prevent lack of fusion. Stabilized with niobium and suitable for service temperatures from –120°C to 400°C. The scaling temperature is approximately 850°C in air. For welding in vertical-up and overhead positions, BÖHLER SAS 4 PW-FD (FOXcore 318-T1) should be preferred.</p>								
Base materials								
<p>1.4401 X5CrNiMo17-12-2, 1.4404 X2CrNiMo17-12-2, 1.4409 GX2CrNiMo19-11-2, 1.4435 X2CrNiMo18-14-3            1.4436 X3CrNiMo17-13-3, 1.4437 GX6CrNiMo18-12, 1.4571 X6CrNiMoTi17-12-2,            1.4580 X6CrNiMoNb17-12-2, 1.4581 GX5CrNiMoNb19-11-2, 1.4583 X10CrNiMoNb18-12            UNS S31600, S31603, S31635, S31640, S31653, AISI 316, 316L, 316Ti, 316Cb</p>								
Typical analysis of all-weld metal								Ferrite WRC-92
	C	Si	Mn	Cr	Ni	Mo	Nb	FN
wt.-%	0.03	0.6	1.3	18.8	12.2	2.7	0.29	5 – 13
Mechanical properties of all-weld metal – typical values (minimum values)								
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			
	MPa	MPa		%	20°C	–100°C		
u	<b>450</b> (≥ 350)	<b>600</b> (≥ 550)		<b>38</b> (≥ 25)	<b>70</b>	<b>44</b> (≥ 32)		
u untreated, as-welded – shielding gas Ar + 18% CO <sub>2</sub>								
Operating data								
	Ø mm	Wire feed m/min	Arc length mm		Current A	Voltage V		
	1.2	5.0 – 15.0	~ 3		130 – 230	22 – 30		
<p>Welding with standard GMAW power source with DC+ polarity. No pulsing needed. Backhand (drag) technique preferred with a work angle of approximately 80°. Ar + 15 – 25% CO<sub>2</sub> as shielding gas offers the best weldability. 100% CO<sub>2</sub> can be also used, but the voltage should be increased by 2 V. The gas flow should be 15 – 20 l/min. The heat input should not exceed 2.0 kJ/mm, the interpass temperature be limited to max. 150°C and the wire stick-out 15 – 20 mm. Post-weld heat treatment generally not needed.</p>								
Approvals								
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