FOXcore GUARD 316L-T1

Flux-cored wire, high alloyed, austenitic stainless, low Chrome (VI) emission

Classifications

EN ISO 17633-A	EN ISO 17633-B	AWS A5.22 / SFA-5.22
T 19 12 3 L P M21 1	TS 316L-F M21 1	E316LT1-4

Characteristics and typical fields of application

Rutile flux-cored wire of T 19 12 3 L P / E316LT1 type specially developed to reduce the emission of Cr(VI) significantly. Designed for welding of 1.4404, 1.4432 / 316L type stainless steels with good resistance to general, pitting and intergranular corrosion in chloride containing environments. With FOXcore GUARD 316L-T1, the total amount of Cr(VI) in the welding fume has been substantially reduced to assist in meeting exposure limits, approximately 90% lower than for conventional flux-cored wires. The airborne Cr(VI) has been reduced without compromised weldability. FOXcore GUARD 316L-T1 is designed for position welding and can be used in all positions without changing the parameter settings. Very good slag detachability and almost no spatter formation. The wide arc ensures even penetration and a good side-wall fusion to prevent lack of fusion. Suitable for service temperatures from –120ºC to 400ºC.
Please note that welder and operators should always be protected by fume extraction where possible and preferably also wear welding helmets with breathing apparatus (fresh air supply).

Base materials

1.4401 X5CrNiMo17-12-2, 1.4404 X2CrNiMo17-12-2, 1.4409 GX2CrNiMo19-11-2, 1.4432 X2CrNiMo17-12-3, 1.4429 X2CrNi-MoN17-12-3, 1.4435 X2CrNiMo18-14-3, 1.4436 X3CrNiMo17-12-3, 1.4571 X6CrNiMoTi17-12-2 , 1.4580 X6CrNiMoNb17-12-2, 1.4583 X10CrNiMoNb18-12
UNS S31600, S31603, S31635, S31640, S31653; AISI 316L, 316Ti, 316Cb

Typical analysis

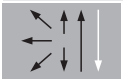
	C	Si	Mn	Cr	Ni	Mo	FN
wt.-%	0.03	0.7	1.5	19.0	12.0	2.7	4 – 13

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	-20°C	–196°C	
u	415 (≥ 320)	560 (≥ 520)	35 (≥ 30)	65	55	44 (≥ 32)	220

u untreated, as-welded – shielding gas M21 (Ar + 18% CO_2)

Operating data



Polarity	DC +	Dimension mm
Shielding gas (EN ISO 14175)	M21	1.2

Welding with standard GMAW power source with DC+ polarity. No pulsing needed. Backhand (drag) technique preferred with a work angle of approximately 80º. Ar + 15 – 25% CO2 as shielding gas offers the best weldability and lowest fume emission rate. Suitable gas flow rate is 16 – 25 l/min. The heat input should not exceed 2.0 kJ/mm, the interpass temperature be limited to max. 150ºC and the wire stick-out 15 – 20 mm.

Approvals

CE