

**Classifications**

<b>EN ISO 17633-A</b>	<b>EN ISO 17633-B</b>	<b>AWS A5.22 / SFA-5.22</b>
T 19 9 L M M12 2	TS 308L-M M12 1	EC308L

**Characteristics and typical fields of application**

Austenitic metal-cored wire of T 19 9 L / EC308L type for welding matching and similar, stabilized or unstabilized, corrosion resistant austenitic CrNi-steels. The easy handling and high deposition rate result in high productivity with excellent welding performance and very low spatter formation. The wire shows good wetting behavior and results in a smooth surface. The wide arc ensures even penetration and side-wall fusion to prevent lack of fusion. This makes the metal-cored wire less sensitive to edge misalignment and variation in gap width as compared to solid wires. Suitable for service temperatures from  $-196^{\circ}\text{C}$  to  $350^{\circ}\text{C}$ . The scaling temperature is approximately  $800^{\circ}\text{C}$  in air. Ferrite measured with FeritScope MP30: 4 – 12 FN.

**Base materials**

1.4301 X5CrNi18-10, 1.4306 X2CrNi19-11, 1.4307 X2CrNi18-9, 1.4311 X2CrNiN18-9,  
1.4312 GX10CrNi18-8, 1.4541 X6CrNiTi18-10, 1.4546 X5CrNiNb18-10, 1.4550 X6CrNiNb18-10  
UNS S30400, S30403, S30453, S32100, S34700  
AISI 304, 304L, 304LN, 302, 321, 347

**Typical analysis**

	C	Si	Mn	Cr	Ni	FN
wt.-%	0.025	0.6	1.4	19.8	10.5	3 – 12

**Mechanical properties of all-weld metal - typical values (min. values)**

Condition	Yield strength	Tensile strength $R_m$	Elongation A ( $L_0=5d_0$ )	Impact energy ISO-V KV J			Lateral expansion mm
	$R_{p0.2}$ MPa	MPa	%	$20^{\circ}\text{C}$	$-120^{\circ}\text{C}$	$-196^{\circ}\text{C}$	$-196^{\circ}\text{C}$
u	420 ( $\geq 320$ )	560 ( $\geq 520$ )	36 ( $\geq 30$ )	90	45	40 ( $\geq 32$ )	0.71

u untreated, as-welded – shielding gas M12 (Ar + 2.5% CO<sub>2</sub>)

**Operating data**

	<b>Polarity</b>	DC +	<b>Dimension mm</b>
	<b>Shielding gas (EN ISO 14175)</b>	M12	1.2

Welding with conventional or pulsed power sources using DC+ polarity, but pulsed arc may be advantageous and especially when welding out of position. Forehand (pushing) technique preferred with a work angle of approximately  $80^{\circ}$ . Ar + 2 – 3% CO<sub>2</sub> as shielding gas offers the best weldability. The gas flow should be 15 – 20 l/min and the wire stick-out 15 – 20 mm. When welding out of position, the metal-cored wires are similar to solid wires and pulsed arc welding is recommended.

**Approvals**

TÜV (09987), CWB, CE