

## Classification

EN ISO 17633-A	EN ISO 17633-B	AWS A5.9	AWS A5.22
T 18 8 Mn MM1	TS307-MG1 (mod.)	EC307 (mod.)	EC307 (mod.)

## Characteristics and typical fields of application

Metal cored wire of type T 18 8 Mn/ EC307 for numerous applications. The weld metal offers exceptionally high ductility and elongation together with outstanding crack resistance. There is no fear of embrittlement when operating down to service temperatures of  $-110\text{ °C}$  or above  $+500\text{ °C}$ . The scaling resistance goes up to  $+850\text{ °C}$ . When working at service temperatures above  $+650\text{ °C}$  please contact the supplier. The weld metal can be post weld heat treated without any problems. The deposit will work harden and offers good resistance against cavitation. Ductility is good even after high dilution when welding problem steels or when subjected to thermal shock or scaling. An excellent alloy providing cost effective performance, excellent welding characteristics, smooth almost spatter free weld finish. The wider arc, in comparison to solid wire, will reduce the risk of lack of fusion and is less sensitive against misalignment of edges and different gap widths.

## 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  $+850\text{ °C}$ , armour plates, high carbon and quenched & tempered steels, surfacing of gears, valves, turbine blades etc.

## Typical analysis of all-weld metal (wt.-%)

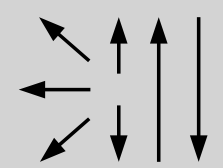
	C	Si	Mn	Cr	Ni
wt-%	0.10	0.6	6.3	18.8	9.2

## Mechanical properties of all-weld metal

Condition	Yield strength $R_{p0,2}$	Tensile strength $R_m$	Elongation ( $L_0=5d_0$ )	Impact work ISO-V KV J	
	MPa	MPa	%	$+20\text{ °C}$	$-110\text{ °C}$
u	<b>400</b> ( $\geq 350$ )	<b>600</b> ( $\geq 500$ )	<b>42</b> ( $\geq 25$ )	<b>70</b>	( $\geq 32$ )

u untreated, as-welded – shielding gas Argon + 2.5%  $\text{CO}_2$

## Operating data

	Polarity DC (+)	shielding gas: Argon + 2.5 % $\text{CO}_2$	amps A	voltage V	Dimensions (mm)
			60 – 280 100 – 370	13 – 30 13 – 32	

Preheating and interpass temperature as required by the base metal. Welding with conventional or pulsed power sources (preferably pushing technique torch position, angle appr.  $80^\circ$ ). Recommended stick out 15 – 20 mm and length of arc 3 – 5 mm. Positional weldability of metal cored wires is similar to solid wires (puls arc welding is recommended). The gas flow should be 15 – 18 l / min.

## Approvals

DB (43.014.27), CE