

## Classifications

EN ISO 17632-A	EN ISO 17632-B	AWS A5.18	AWS A5.18M
T 46 4 M M 1 H5	T554T15-1MA-H5	E70C-6MH4	E48C-6MH4

## Characteristics and typical fields of application

Union TG 55 Fe is a high-efficiency flux cored wire with metal powder filling, for all position welding with mixed gas M21 acc. to EN ISO 14175.

It features outstanding mechanical properties in temperature range down to  $-40\text{ }^{\circ}\text{C}$  ( $-40\text{ }^{\circ}\text{F}$ ) with very low fume level and oxide build up. The stable arc, the smooth droplet transfer, the secure penetration, its high deposition rate in the spray arc range and the high deposition efficiency of 98 % approx. are only some of the positive properties of this wire.

It is characterized by almost spatter-free welding with good wall wetting, flat and concave weld shape, radiographical soundness and porosity free weld metal. It is suited for manual and mechanized welding for single and multilayers and root pass welding is proven in all positions.

## Base materials

S185, S235J2G3, S275JR, S355J2G3, E295, P235GH, P265GH, P295GH, P355GH (H1, H11, 17 Mn 4, 19 Mn 6), P275N, P355N, P355NL2, P460N, S275N, S275NL, S355N, S355NL, S460N, L210, L240, L290, L360, L290NB, L360MB, L415MB, X42 – X65 / StE 445.7 TM (API-5LX), GS-38 – GS-52, shipbuilding steels grade A – E, A32 – F32, A36 – F36, A40 – F40

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

	C	Si	Mn	P	S	Gas
wt-%	0.06	0.6	1.4	$\leq 0.020$	$\leq 0.020$	M21

## Mechanical properties of all-weld metal

Heat-treatment	Shielding gas	Yield strength $R_{p0.2}$	Tensile strength $R_m$	Elongation $A (L_0=5d_0)$	Impact work ISO-V KV J	
		MPa	MPa	%	+20 °C	-40 °C
aw	M21	460	560	22	130	47
sr	M21	460	560	22	120	47

aw = as welded, sr = 580 °C / 2h

## Operating data

	<b>Polarity:</b> DC ( + )	<b>Shielding gas:</b> (EN ISO 14175) M21  Consumption: 15 – 18 l/min	<b>ø (mm)</b> 1.2	<b>Spool</b> B300	<b>Amps A</b> 120 – 350	<b>Voltage V</b> 18 – 33
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## Approvals

TÜV (11193), DB (42.132.48) BV, DNV, GL, LR, CE