

Classifications

EN ISO 17632-A	EN ISO 17632-B	AWS A5.20	AWS A5.20M
T 46 4 P M 1 H10 T 42 2 P C 1 H5	T555T1-1MA-H10 T494T1-1CA-H5	E71T-1MJH8 E71T-1CH4	E491T-1MJH8 E491T-1CH4

Characteristics and typical fields of application

Union TG 55 M is an all position flux cored wire that displays exceptional high impact properties in the as welded as well as in the stress relieved condition with mixed gas M21 acc. to EN ISO 14175. This "welder friendly" wire with its soft, spatterfree arc always operates in the spray arc mode. It is possible to weld in all positions with one diameter (1.2 mm from 160 A to 250 A), so ideal for fit-up work. Deposition rates in vertical-up welding can reach 2.2 – 5.5 kg/h, making it one of the most productive consumables available. Because of spray arc operation, typical positional welding defects like lack of fusion and slag inclusions are avoided. The wire has a high tolerance for poor weld preparations. The slag is easily to detach. Good bead appearance with smooth tie-in. Single sided root runs are made economically on ceramic backing. Commercial application include construction, shipbuilding railcar and heavy equipment industries.

Base materials

S235JR-S355JR, S235JO-S355JO, S450JO, S235J2-S355J2, S275N-S460N, S275M-S460M, P235GH-P355GH, P275NL1-P460NL1, P215NL, P265NL, P355N, P285NH-P460NH, P195TR1-P265TR1, P195TR2-P265TR2, P195GH-P265GH, L245NB-L415NB, L450QB, L245MB-L450MB, GE200-GE240, shipbuilding steel: A, B, D, E, A 32-E 36

ASTM A 106 Gr. A, B, C; A 181 Gr. 60, 70; A 283 Gr. A, C; A 285 Gr. A, B, C; A 350 Gr. LF1; A 414 Gr. A, B, C, D, E, F, G; A 501 Gr. B; A 513 Gr. 1018; A 516 Gr. 55, 60, 65, 70; A 573 Gr. 58, 65, 70; A 588 Gr. A, B; A 633 Gr. C, E; A 662 Gr. B; A 711 Gr. 1013; A 841 Gr. A; API 5 L Gr. B, X42, X52, X56, X60, X65

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

	C	Si	Mn	P	S
wt-%	0.05	0.45	1.35	≤ 0.015	≤ 0.015

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	24	140	47
aw	C1	420	520	24	130	

aw = as welded

Operating data

	Polarity: DC (+)	Shielding gas: (EN ISO 14175) M21, C1	ø mm 1.2	Spool B300	Amps A 150 – 350	Voltage V 22 – 32
		Consumption: ca. 15 – 18 l/min				

Approvals

TÜV (11194), DB (42.132.47), DNV, GL, LR, CE