



Recommended welding consumables

Base material	MMA	MIG/MAG	FCAW	FCAW	TIG	SAW
	OK	OK AristoRod, OK Autrod	OK Tubrod (metal-cored)	OK Tubrod (rutile)	OK Tigrod	OK Autrod + OK Flux
Unalloyed steel (EN 10025-2) S235xxx, S275xxx, S355xxx	48.00, 53.05	12.50, 12.51	14.11, 14.13	15.14	12.64	12.10 or 12.20+10.71
Normalised fine grain steel (EN 10025-3) S275N, S355N, S420N S460N S275NL, S355NL, S420NL S460NL	48.00, 53.05 55.00 48.08, 55.00 48.08, 55.00	12.50, 12.51 12.63, 12.64 13.28, (12.63, 12.64)* 13.28, (12.63, 12.64)* *) -40 °C	14.11, 14.13 14.02 14.04	15.14 15.14 15.11, (15.17)* 15.11, (15.17)* *) -40 °C	12.64 12.64 13.28 13.28	12.22+10.71 12.22+10.71 12.32+10.62 12.32+10.62
Thermo-mechanically treated fine grain steel (EN 10025-4) S275M, S355M, S420M S460M S275ML, S355ML, S420ML S460ML	48.00, 53.05 55.00 48.08, 55.00 48.08, 55.00	12.50, 12.51 12.63, 12.64 13.28, (12.63, 12.64)* 13.28, (12.63, 12.64)* *) -40 °C	14.11, 14.13 14.02 14.04	15.14 15.14 15.11, (15.17)* 15.11, (15.17)* *) -40 °C	12.64 13.28 13.28 13.28	12.22+10.71 12.32+10.71 12.32, 13.27+10.62 12.32, 13.27+10.62
Weather resistant steel (EN 10025-5) S235J0W, S235J2W S355J0WP (e.g. COR-TEN A), S355J2WP S355J0W, S355J2W (e.g. COR-TEN B)	73.08 73.08 73.08	13.26 13.26 13.26	14.01 14.01 14.01	15.17 15.17 15.17	13.26 13.26 13.26	13.36+10.71 13.36+10.71 13.36+10.71
High strength steel (EN 10025-6) S460Q, S460QL S500Q, S500QL S550Q, S550QL S620Q, S620QL S690Q, S690QL (e.g. WELDOX 700 D or E) S890Q, S890QL (e.g. WELDOX 900 D or E)	48.08 74.70 74.78 75.75 75.75 75.78	12.63, 12.64 55 55 62 69 89	14.02 14.02 14.03 14.03 14.03 Coreweld 89	15.17 15.11 Dual Shield 55 Dual Shield 62 15.09	13.28 13.13	12.32, 13.27+10.62 13.24+10.62 13.40+10.62 13.40+10.62 13.43+10.62
Ultra high strength steel (Rautaruukki) Optim 900 QC Optim 960 QC Optim 1100 QC	75.78 75.78 * 75.78 *	89 89 * 89 *	Coreweld 89 Coreweld 89 * Coreweld 89 *			
		* Undermatching weld metal				
Creep resistant plate (EN 10028-2) or pipe (EN 10216-2) P235GH...P355GH 16Mo3 13CrMo4-5 10CrMo9-10 X10CrMoVNb9-1	48.00 74.46 76.18 76.28 76.98	12.50, 12.51 13.09 13.12 13.22 13.38	14.11, 14.13 14.02	15.14 Dual Shield MoL Dual Shield CrMo1 Dual Shield CrMo2	12.64 13.09 13.12 13.22 13.38	12.22+10.71 12.24+10.62 13.10SC+10.62 13.20SC+10.62
Wear resistant steel e.g. Hardox 400 ... 600 If there is no demand regarding the matching of strength and hardness: Use unalloyed consumables If corresponding hardness or strength are required: Hardness Strength	48.00, 53.05 83.53 75.75	12.50, 12.51 13.91 13.29	14.11, 14.13 15.50 14.03	15.14 15.09	12.64	12.22+10.71 13.43+10.62
Austenitic stainless steel 18Cr-8Ni steel 1.4404 (304L), 1.4307 (304L), 1.4301 (304) etc. 1.4541 (321), 1.4550 (347) 18Cr-12Ni-3Mo steel 1.4404 och 1.4432 (316L), 1.4401 och 1.4436 (316) etc.	61.30 61.30, 61.81 63.30	308LSi 308LSi, 347 316LSi	15.30 15.30 15.31	Shield-Bright (positional welding, downhand welding) 308L, 308L X-tra 308L, 308L X-tra Shield-Bright 316L, 316L X-tra	308LSi 308LSi, 347 316LSi	308L+10.93 308L, 347+10.93 316L+10.93
High alloyed austenitic stainless steel 1.4438 (317L) 1.4539 (e.g. 904L) 1.4547 (e.g. 254SMO) 1.4652 (e.g. 654SMO)	64.30 69.33 92.45 92.59	317L 385 19.82 19.81			317L 385 19.82 19.81	317L+10.93 385+10.93 19.82+10.16 19.81+10.16
Austenitic-ferritic duplex stainless steel 1.4162 (e.g. Outokumpu LDX2101) 1.4462 (e.g. Avesta 2205) 1.4410 (e.g. SAF 2507)	67.56 *, 67.50 67.50 68.53	2307 *, 2209 2209 2509	15.37 15.37	14.27 14.27 14.28	2307 *, 2209 2209 2509	2307 *, 2209+10.93 2209+10.93 2509+10.94
		* Matching composition				
Aluminium and aluminium alloys 1050A (Al99,5), 1070A (Al99,7), 1200 (Al99,0) 4045 (AlSi10) 5019 (AlMg5), 5086 (AlMg4), 5454 (AlMg2,5) 5083 (AlMg4,5Mn0,7) 6060 (AlMgSi), 6061 (AlMg1SiCu), 6063 (AlMg0,7Si) 6082 (AlSi1MgMn) 7021 (AlZn5,5Mg1,5Si), 7029 (AlZn4,4Mg1Si)		1070 4043, 4047 5356 5183 4043, 5356 4043, 5356 5356			1070 4043, 4047 5356 5183 4043, 5356 4043, 5356 5356	
Cast iron Different types	92.18, 92.58			Nicore 55		
Dissimilar steels (black and white) Unalloyed and low-alloyed to austenitic stainless steel. For service temperature below 300° C without stress relieve treatment. For service temperature above 300° C with or without stress relieve treatment.	67.45, 67.60, 67.70 92.26	16.95, 309LSi, 309MoL 19.85	15.34	Shield-Bright (positional welding, downhand welding) 309L, 309L X-tra	309LSi, 309MoL 19.85	16.97, 309L+10.93 19.85+10.16
Repair welding Difficult to weld steels, steels with unknown composition and steels prone to hardening.	68.82, 67.45 92.26	312, 16.95 19.85		OK Tubrodur 14.71	312, 16.95 19.85	312, 16.95+10.93