Flux Cored Wires

Brand name	Size (mm)	Equivalen specification	Welding position	Shielding gas	Type of current	Typical chemical composition of all-weld metal (%)							
						C	Si	Mn	P	S	Cr	Ni	Mo
K-61T	1.2~1.6	AWS A5.20 E61T-G JIS Z 3313 T43 0 T1-1M A KS D 7104 YFW-A430R EN ISO 17632-A T35 Z PM1 EN ISO 17632-B T43 Z T1-1M A	F,V,OH, H,VD	Ar+20%CO_2	DC(+)	0.03	0.12	0.80	0.013	0.010	-	-	-
K-70T	1.2~1.6	AWS A5.20 E70T-1C / 1M JIS Z3313 T49J 0 T1-0 C/M A-U KS D7104 YFW-C(A)50DM EN ISO 17632-A T46 0 R C/M 4 EN ISO 17632-B T49 2 T1-0 C/M A	F, H-Fil	CO_2/ Ar+20%CO_2	DC(+)	0.03	0.50	1.45	0.014	0.010	-	-	-

Typical mechanical properties of all-weld metal				Characteristics and applications	Approvals
Y.S (MPa)	T.S (MPa)	El. (%)	I.V (J)		
420	480	31	20 (-20℃)	K-61T is designed for MAG welding of POS-AG steel and low silicon steel for all-position welding applications.	CE, JIS, KS
520	580	29	55 (-20℃)	K-70T is designed for welding of 490MPa high tensile steels with outstanding mechanical properties. Typical applications include machineries, shipbuilding, offshore structures, bridges and general fabrications.	CE, JIS

Flux Cored Wires

Brand name	Size (mm)	Equivalent specification	Welding position	Shielding gas	Type of current	Typical chemical composition of all-weld metal (%)							
						C	Si	Mn	P	S	Cr	Ni	Mo
K-71T	1.2~2.4	AWS A5.20 E71T-1C JIS Z 3313 T49J 0 T1-1 CA-U KS D 7104 YFW-C50DR EN ISO 17632-A T42 0 PC1 EN ISO 17632-B T49 0 T1-1 CA-U	F,V,OH, H,VD	CO_2	DC(+)	0.04	0.55	1.25	0.015	0.012	-	-	-
K-71TLF	1.2~2.4	AWS A5.20 E71T-1C / 1M JIS Z3313 T49 2 T1-1 C/M A-U KS D7104 YFW-C(A)502R EN ISO 17632-A T46 2 P C/M 1 EN ISO 17632-B T49 2 T1-1 C/M A-U	F,V,OH, H,VD	CO_2 / Ar+20%CO_2	DC(+)	0.03	0.38	1.35	0.015	0.010	-	-	-
K-71TM	1.2~2.4	AWS A5.20 E71T-1C / 1M JIS Z3313 T49 2 T1-1 C/M A-U KS D7104 YFW-C(A)502R EN ISO 17632-A T46 2 PC(M)1 EN ISO 17632-B T49 2 T1-1C(M)A	F,V,OH, H,VD	CO_2 / Ar+20%CO_2	DC(+)	0.03	0.59	1.44	0.013	0.010	-	-	-
K-70TB	1.2~2.4	AWS A5.20 E70T-5M JIS Z3313 T49 2 T5-0 M A-U KS D7104 YFW-A502B EN ISO 17632-A T46 2 B M 4 EN ISO 17632-B T49 3 T5-0 M A	F, H-Fil	Ar+20%CO_2	DC(+)	0.04	0.34	1.30	0.015	0.011	-	-	-
K-71TB	1.2~2.4	AWS A5.20 E71T-5C / 5M JIS Z3313 T49 3 T5-1 C/M A KS D7104 YFW-C(A)502B EN ISO 17632-A T46 2 B C/M 1 EN ISO 17632-B T49 3 T5-1 C/M A	F,V,OH, H,VD	CO_2 / Ar+20%CO_2	DC(+)	0.02	0.60	1.60	0.015	0.011	-	-	-
K-70ST	1.2~1.6	AWS A5.20 E70T-1C JIS Z3313 T49 2 T1-0 CA-U KS D7104 YFW-C50DR EN ISO 17632-A T46 2 R C 4 EN ISO 17632-B T49 2 T1-0 CA-U	F, H-Fil	CO_2	DC(+)	0.04	0.49	1.36	0.015	0.010	-	-	-
KX-100	1.2~1.6	AWS A5.18 E70C-3C JIS Z3313 T49J 0 T15-0 CA-U KS D7104 YFW-C50DM EN ISO 17632-A T46 0 M C 4 EN ISO 17632-B T49 0 T15-0 CA-U	F, H-Fil	CO_2	DC(+)	0.04	0.54	1.55	0.014	0.011	-	-	-
KX-200	1.2~1.6	AWS A5.20 E70T-1C JIS Z3313 T49J 0 T1-0 CA-U KS D7104 YFW-C50DM EN ISO 17632-A T46 0 R C 4 EN ISO 17632-B T49 0 T1-0 CA-U	F, H-Fil	CO_2	DC(+)	0.04	0.41	1.25	0.014	0.011	-	-	-
KX-200H	1.2~1.6	AWS A5.20 E70T-1C JIS Z3313 T49 2 T1-0 CA-U KS D7104 YFW-C502M EN ISO 17632-A T46 2 R C 4 EN ISO 17632-B T49 2 T1-0 CA-U	F, H-Fil	CO_2	DC(+)	0.04	0.56	1.61	0.013	0.010	-	-	-
KX-200UH	1.2~1.6	AWS A5.20 E71T-1C JIS Z3313 T49 4 T1-0 CA-U KS D7104 YFW-C504M EN ISO 17632-A T46 2 R C 4 EN ISO 17632-B T49 4 T1-0 CA-U	F, H-Fil	CO_2	DC(+)	0.04	0.45	1.40	0.013	0.010	-	0.41	-
KX-70CM	1.2~1.6	AWS A5.18 E70C-3M JIS Z3313 T49 2 T15-0 M A KS D7104 YFW-A50DM EN ISO 17632-A T46 M M 4 EN ISO 17632-B T49 T15-0 M A	F, H-Fil	Ar+20%CO_2	DC(+)	0.03	0.40	1.60	0.014	0.010	-	-	-
KX-706M	1.2~1.6	AWS A5.18 E70C-6M JIS Z3313 T49 3 T15-0 M A KS D7104 YFW-A502M EN ISO 17632-A T46 2 M M 4 EN ISO 17632-B T49 3 T15-0 M A	F, H-Fil	Ar+20%CO_2	DC(+)	0.04	0.60	1.50	0.014	0.010	-	-	-
KX-706MU	1.2~1.6	AWS A5.18 E70C-6M JIS Z3313 T49 3 T15-0 M A KS D7104 YFW-A503M EN ISO 17632-A T46 2 M M 4 EN ISO 17632-B T49 3 T15-0 MA-U	F, H-Fil	Ar+20%CO_2	DC(+)	0.04	0.60	1.50	0.014	0.010	-	-	-

Typical mechanical properties of all-weld metal				Characteristics and applications	Approvals
Y.S (MPa)	T.S (MPa)	El. (%)	I.V (J)		
520	580	29	70 (0℃) 55 (-20℃)	K-71T is designed for welding of 490MPa high tensile steels with outstanding mechanical properties. Typical applications include machineries, shipbuilding, offshore structures, bridges and general fabrications.	ABS, BV, DNV, GL, LR, KR, NK, CCS, RINA, CWB, CE, KS, JIS
520	570	28	80 (-20℃)	K-71TLF is designed for welding of 490MPa high tensile steels with outstanding mechanical properties. Typical applications include machineries, shipbuilding, offshore structures, bridges and general fabrications.	ABS, BV, DNV, GL, LR, KR, NK, RINA, CWB, TUV, DB, CE, KS, JIS
580	620	27	65 (-20℃)	K-71TM is designed for welding of 490MPa high tensile steels with outstanding mechanical properties. Typical applications include machineries, shipbuilding, offshore structures, bridges and general fabrications.	ABS, BV, DNV, LR, RINA, CE, KS, JIS
490	550	29	60 (-30℃)	K-70TB is designed for welding of 490MPa high tensile steels with only Ar/CO2 mixtures. Wire is a fully basic type of flux cored wire for flat and horizontal position welding.	CE, JIS
550	610	30	55 (-30℃)	K-71TB is designed for welding of 490MPa high tensile steels with only Ar/CO2 mixtures. Wire is a fully basic type of flux cored wire for flat and horizontal position welding. It has excellent CVN impact properties at sub-zero temperatures.	CE, JIS
500	600	27	68 (-20℃)	K-70ST is designed for welding of 490MPa high tensile steel with outstanding mechanical properties. It is the most suitable for fillet welding of inorganic zinc-primer coated steels often used in the machineries, steel fabrications and construction industries.	ABS, BV, DNV, GL, LR, NK, KR, RINA, CE, KS, JIS
510	550	29	60 (-20℃)	KX-100 is designed for welding of 490MPa high tensile steel with outstanding mechanical properties. Slag quantity is almost the same as a solid wire and multiple pass welding can be performed without removing slag.	ABS, BV, DNV, GL, LR, NK, KR, CE, KS, JIS
510	550	29	50 (-20℃)	KX-200 is designed for welding of 490MPa high tensile steel with outstanding mechanical properties. Wire is a metal type of flux cored wire for flat and horizontal position welding. It has good porosity resistance and is applicable for fillet welding of inorganic zinc-primer coated steels.	ABS, BV, DNV, GL, LR, NK, KR, CCS, CE, KS, JIS
517	610	28	70 (-20℃)	KX-200H is designed for welding of 490MPa high tensile steel with outstanding mechanical properties. Wire is a metal type of flux cored wire for flat and horizontal position welding. It has better CVN toughness at low temperatures when compared to the KX-200	ABS, BV, DNV, GL, LR, KR, CE, KS, JIS
540	610	28	100 (-20℃)	KX-200UH is designed for welding of 490MPa high tensile steel with outstanding mechanical properties. Wire is a metal type of flux cored wire for flat and horizontal position welding. It has good porosity resistance and intended for semi-automatic, automatic, single-and multi pass welding.	-
480	540	29	55 (-20℃)	KX-70CM is designed for welding of 490MPa high tensile steel with outstanding mechanical properties. Wire is a metal type of flux cored wire for flat and horizontal position welding.	ABS, BV, DNV, GL, LR, KR, CE, KS, JIS
480	540	29	55 (-30℃)	KX-706M is designed for welding of 490MPa high tensile steel with outstanding mechanical properties. Wire is a metal type of flux cored wire for flat and horizontal position welding. It feature good penetration, good wetting behaviour as well as low hydrogen contents.	ABS, BV, DNV, GL, LR,CE, KS, JIS
480	540	28	70 (-30℃)	KX-706MU is designed for welding of 490MPa high tensile steel with outstanding mechanical properties. Wire is a metal type of flux cored wire for flat and horizontal position welding. It feature good penetration, good wetting behaviour as well as low hydrogen contents.	-

Self-shielded FCW for high tensile strength steel (490MPa)

Brand name	Size (mm)	Equivalent specification	Welding position	Shielding gas	Type of current	Typical chemical composition of all-weld metal (%)							
						C	Si	Mn	P	S	Cr	Al	Mo
K-NGS4	1.6~3.2	AWS A5.20 E70T-4 JIS Z3313 T49 T4-0 N A KS D7104 YFW-S50GB EN ISO 17632-A T42 Z Y N 4 EN ISO 17632-B T49 Z T4-0NA	F, H-Fil	-	DC(+)	0.17	0.22	0.80	0.012	0.011	-	1.32	-
K-NGS10	1.6~3.2	AWS A5.20 E70T-10 JIS Z3313 T49 T10-0 N S-G KS D7104 YFW-S50GB EN ISO 17632-A T42 Z V N 4 EN ISO 17632-B T49 Z T10-1NS	F, H-Fil	-	DC(-)	0.10	0.11	0.53	0.015	0.009	-	1.10	-
K-NGS11	0.9~1.6	AWS A5.20 E71T-11 JIS Z3313 T49 T11-1 N A KS D7104 YFW-S50GB EN ISO 17632-A T42 Z Y N 1 EN ISO 17632-B T49 Z T11-1NA	F,V,OH, H,VD	-	DC(-)	0.10	0.10	0.55	0.015	0.010	-	1.21	-
K-NGS	0.9~1.6	AWS A5.20 E71T-GS JIS Z3313 T49 TG-1 N S-G KS D7104 YFW-S50GB EN ISO 17632-A T42 Z V N 1 EN ISO 17632-B T49 Z TG-1NS	F, H-Fil	-	DC(-)	0.10	0.10	0.55	0.014	0.012	-	1.21	-

Typical mechanical properties of all-weld metal				Characteristics and applications	Approvals
Y.S (MPa)	T.S (MPa)	El. (%)	I.V (J)		
460	540	23	-	K-NGS4 is designed for welding of 490MPa high tensile steel and self-shielded wire to facilitate welding outdoors. Typical applications include general fabrication and structural work requiring no impact properties.	CE, JIS
480	530	22	-	K-NGS10 is designed for welding of 490MPa high tensile steel and self-shielded wire to facilitate welding outdoors. Typical applications include general fabrication and structural work requiring no impact properties.	JIS
500	530	23	-	K-NGS11 is designed for welding of 490MPa high tensile steel and self-shielded wire to facilitate welding outdoors. Typical applications include general fabrication and structural work requiring no impact properties.	CE, JIS
480	520	22	-	K-NGS is designed for welding of 490MPa high tensile steel and self-shielded wire to facilitate welding outdoors. Typical applications include general fabrication and structural work requiring no impact properties.	CE, JIS

For high tensile strength steel (520MPa)

Brand name	Size (mm)	Equivalent specification	Welding position	Shielding gas	Type of current	Typical chemical composition of all-weld metal (%)							
						C	Si	Mn	P	S	Cr	Ni	Mo
K-55T	1.2~1.6	AWS A5.29 E81T1-GC JIS Z3313 T55 0 T1-1 CA-U EN ISO 17632-A T46 0 P C 1 EN ISO 17632-B T55 2 T1-1 CA	F,V,OH, H,VD	CO_2	DC(+)	0.04	0.54	1.50	0.013	0.010	-	0.41	-
KX-55	1.2~1.6	AWS A5.29 E80T1-GC JIS Z3313 T55 0 T1-0 CA-U EN ISO 17632-A T46 0 R C 4 EN ISO 17632-B T55 2 T15-0 CA	F, H-Fil	CO_2	DC(+)	0.03	0.54	1.57	0.014	0.010	-	0.41	-

Typical mechanical properties of all-weld metal				Characteristics and applications	Approvals
Y.S (MPa)	T.S (MPa)	El. (%)	I.V (J)		
480	540	29	45 (-20℃)	K-55T is designed for welding of 520MPa high tensile steel with outstanding mechanical properties. Typical applications include machineries, shipbuilding, offshore structures, bridges and general fabrications.	CE, JIS
540	630	26	60 (-20℃)	KX-55 is designed for welding of 520MPa high tensile steel with outstanding mechanical properties. Typical applications include machineries, shipbuilding, offshore structures, bridges and general fabrications.	CE, JIS

For high tensile strength steel (560~1000MPa)

Brand name	Size (mm)	Equivalent specification	Welding position	Shielding gas	Type of current	Typical chemical composition of all-weld metal (%)							
						C	Si	Mn	P	S	Cr	Ni	Mo
K-81T	1.2~1.6	AWS A5.29 E81T1-Ni1C JIS Z3313 T57 3 T1-1C AP-N2 KS D7104 YFW-C602R EN ISO 17632-A T50 3 1Ni P C 1 EN ISO 17632-B T55 3 T1-1CA-N2	F,V,OH, H,VD	CO_2	DC(+)	0.02	0.51	1.28	0.014	0.011	-	1.04	0.20
K-81TM	1.2~1.6	AWS A5.29 E81T1-Ni1M JIS Z3313 T57 4 T1-1MA-N2-U KS D7104 YFW-A604R EN ISO 17632-A T50 4 1Ni P M 1 EN ISO 17632-B T55 4 T1-1MA-N2	F,V,OH, H,VD	Ar+20%CO_2	DC(+)	0.03	0.35	1.17	0.013	0.010	-	0.92	0.20
K-80ST	1.2~1.6	AWS A5.29 E80T1-Ni1C JIS Z3313 T57 3 T1-0CA-N2 KS D7104 YFW-C602R EN ISO 17632-A T50 3 1Ni R C 4 EN ISO 17632-B T55 3 T1-0CA-N2	F, H-Fil	CO_2	DC(+)	0.03	0.35	1.17	0.014	0.011	-	0.92	0.20

Typical mechanical properties of all-weld metal				Characteristics and applications	Approvals
Y.S (MPa)	T.S (MPa)	El. (%)	I.V (J)		
580	630	28	50 (-30℃)	K-81T is designed for welding of 560MPa high tensile steel with outstanding mechanical properties. Wire is a titania type of flux cored wire for all-position welding with 1.0% Ni component.	ABS, BV, DNV, GL, LR, NK, KR, RINA, CWB, RS, CE, KS, JIS
590	650	28	100 (-40℃)	K-81TM is designed for welding of 560MPa high tensile steel with outstanding mechanical properties. Wire is a titania type of flux cored wire for all-position welding with 1.0% Ni component.	ABS, BV, DNV, GL, LR, NK, KR, RINA, CWB, TUV, DB, CE, JIS, KS
590	650	28	100 (-30℃)	K-80ST is designed for welding of 560MPa high tensile steel with outstanding mechanical properties. Typical applications include machineries, shipbuilding, offshore structures, bridges and general fabrications (ASTM A537, JIS SM520 / 540 / 570)	CE, JIS

Flux Cored Wires

Brand name	Size (mm)	Equivalent specification	Welding position	Shielding gas	Type of current	Typical chemical composition of all-weld metal (%)							
						C	Si	Mn	P	S	Cr	Ni	Mo
KX-300	1.2~1.6	AWS A5.29 E80T1-Ni1C JIS Z3313 T57 3 T1-0 CA-N2 KS D7104 YFW-C602M EN ISO 17632-A T50 3 1Ni R C 4 EN ISO 17632-B T55 3 T1-0 CA-N2	F, H-Fil	CO_2	DC(+)	0.03	0.47	1.34	0.014	0.011	-	0.97	-
K-82T	1.2~1.6	AWS A5.29 E81T1-Ni2C JIS Z3313 T57 4 T1-1CA-N5-U EN ISO 17632-A T50 4 2Ni P C 1 EN ISO 17632-B T55 4 T1-1CA-N5-U	F,V,OH, H,VD	CO_2	DC(+)	0.03	0.35	1.17	0.012	0.010	-	2.02	-
K-82TM	1.2~1.6	AWS A5.29 E81T1-Ni2M JIS Z3313 T57 4 T1-1MA-N5-U EN ISO 17632-A T50 4 2Ni P M 1 EN ISO 17632-B T55 4 T1-1MA-N5-U	F,V,OH, H,VD	Ar+20%CO_2	DC(+)	0.03	0.55	1.26	0.013	0.010	-	1.92	-
KX-80D2M	1.2~1.6	AWS A5.28 E80C-G	F, H-Fil	Ar+20%CO_2	DC(+)	0.04	0.45	1.50	0.012	0.010	-	-	0.50
K-91T	1.2~1.6	AWS A5.29 E91T1-G JIS Z3313 T62 4 T1-1CAP-N2-U KS D7104 YFW-C60GR EN ISO 17632-B T62 4 T1-1CAP-G	F,V,OH, H,VD	CO_2	DC(+)	0.03	0.42	1.37	0.012	0.010	-	0.93	-
K-110TK3	1.2~1.6	AWS A5.29 E110T1-K3C JIS Z3313 T76 2 T1-1CA-N3M2 EN ISO 18276-A T69 2 Mn2NiMo P M 1 EN ISO 18276-B T76 2 T1-1CA-N3M2	F,V,OH, H,VD	CO_2	DC(+)	0.04	0.51	1.72	0.011	0.009	-	2.04	0.42
K-110TK3M	1.2~1.6	AWS A5.29 E111T1-K3M JIS Z3313 T76 2 T1-1MA-N3M2 EN ISO 18276-A T69 2 Mn2NiMo P M 1 EN ISO 18276-B T76 2 T1-1MA-N3M2	F,V,OH, H,VD	Ar+20%CO_2	DC(+)	0.04	0.48	1.65	0.010	0.008	-	2.00	0.45
K-115TK4M	1.2~1.6	AWS A5.29 E110T5-K4M JIS Z3313 T76 5 T5-0MA-N4C1M2 EN ISO 18276-A T69 5 Mn2NiCrMo B M 4 EN ISO 18276-B T76 5 T5-0MA-N4C1M2	F,V,OH, H,VD	Ar+20%CO_2	DC(+)	0.03	0.35	1.43	0.010	0.009	0.44	1.85	0.42
K-120TG	1.2~1.6	AWS A5.29 E121T1-G	F,V,OH, H,VD	CO_2	DC(+)	0.03	0.39	1.69	0.010	0.006	-	2.66	0.67
K-145TM	1.2~1.6	EN ISO 18276-A T89 A Mn2Ni1CrMo B M 3	F,V,OH, H,VD	Ar+20%CO_2	DC(+)	0.06	0.42	1.85	0.015	0.014	0.85	2.40	0.45

Typical mechanical properties of all-weld metal				Characteristics and applications	Approvals
Y.S (MPa)	T.S (MPa)	El. (%)	I.V (J)		
610	640	25	47 (-30℃)	KX-300 is designed for welding of 560MPa high tensile steel with outstanding mechanical properties. Wire is a metal type of flux cored wire for flat and horizontal position welding.	CE, JIS
584	673	24	120 (-30℃)	K-82T is designed for welding of 560MPa high tensile steel with outstanding mechanical properties. Wire is a titania type of flux cored wire for all-position welding with 2.0% Ni component.	CE
570	655	24	75 (-40℃)	K-82TM is designed for welding of 560MPa high tensile steel with outstanding mechanical properties. Wire is a titania type of flux cored wire for all-position welding with 2.0% Ni component.	CE
620	680	27	45 (-30℃)	KX-80D2M is designed for welding of 560MPa high tensile steel with outstanding mechanical properties. Typical applications include sending oil pipe, machineries, pressure vessels and creep resistance of high temperature.	-
650	720	23	100 (-40℃)	K-91T is designed for welding of 620MPa high tensile steel for low temperature service. Typical applications include many high-strength low alloy such as steel ASTM A302, A572, A575, A734.	CE, JIS
751	834	21	100 (-20℃)	K-110TK3 is designed for welding of 760MPa high tensile steel with outstanding mechanical properties. Typical applications include high tensile steels that will be used a low temperature environment. (ASTM A514; A517; A710, JIS G 3128 SHY, HY-80 Grade.	ABS, CWB, CE
740	785	19	80 (-20℃)	K-110TK3M is designed for welding of 760MPa high tensile steel with outstanding mechanical properties. Typical applications include high tensile steels that will be used a low temperature environment. (ASTM A514; A517; A710, JIS G 3128 SHY, HY-80 Grade.	-
830	875	18	50 (-50℃)	K-115TK4M is designed for welding of 760MPa high tensile steel with outstanding mechanical properties. Typical applications include low alloy steel, quenched and tempered high strength steels such as ASTM A514, A517, HY-100 Grade.	CE, JIS, KS
792	864	19	85 (-20℃)	K-120TG is designed for welding of 840MPa high tensile steel with outstanding mechanical properties. Typical applications include machineries, bridges and military equipment . (PFS 700; HSB 800; HSLA-100)	KR
990	1045	17	54 (20℃)	K-145TM is designed for welding of 1000MPa high tensile steel with outstanding mechanical properties.	-

For Low Temperature service steel

Brand name	Size (mm)	Equivalent specification	Welding position	Shielding gas	Type of current	Typical chemical composition of all-weld metal (%)							
						C	Si	Mn	P	S	Cr	Ni	Mo
K-71UT	1.2~1.6	AWS A5.20 E71T-C/-9CJ H4 KS D 7104 YFL-C504R JIS Z 3313 T49 4 T1-1CA-U H5 EN ISO 17632-A T46 4 P C 1 H5 EN ISO 17632-B T49 4 T1-1CA-U H5	F,V,OH, H,VD	CO_2	DC(+)	0.04	0.30	1.35	0.014	0.010	-	0.39	-

Typical mechanical properties of all-weld metal				Characteristics and applications	Approvals
Y.S (MPa)	T.S (MPa)	El. (%)	I.V (J)		
540	600	27	76 (-30℃) 55 (-40℃)	All position gas shielded 0.4%Ni alloyed Flux cored arc welding. Typical applications are railcar, automotive, heavy equipment and general structural steel fabrications.	ABS, BV, DNV, GL, KR, NK, LR, RS, JIS, KS, CE

Flux Cored Wires

Brand name	Size (mm)	Equivalent specification	Welding position	Shielding gas	Type of current	Typical chemical composition of all-weld metal (%)							
						C	Si	Mn	P	S	Cr	Mo	Ni
K-71TSR	1.2~1.6	AWS A5.20 E71T-12CJ H4 KS D 7104 YFL-C504R JIS Z 3313 T49 4 T1-1CAP-N1-U H5 EN ISO 17632-A T46 4 P C 1 H5 EN ISO 17632-B T49 4 T12-1CAP-N1-U H5	F,V,OH, H,VD	CO_2	DC(+)	0.02	0.45	1.41	0.010	0.009	-	-	0.41
K-71TSRM	1.2~1.6	AWS A5.20 E71T-12MJ H4 KS D 7104 YFL-A504R JIS Z 3313 T49 4 T1-1 MAP-N1-U H5 EN ISO 17632-A T46 4 P M 1 H5 EN ISO 17632-B T49 4 T12-1 MAP-N1-U H5	F,V,OH, H,VD	Ar+20%CO_2	DC(+)	0.03	0.50	1.50	0.008	0.010	-	-	0.42
K-71TP	1.2~1.6	AWS A5.20 E71T-1C/1M -12C/12M H4 JIS Z 3313 T49 3 T1-1C/MA H10 EN ISO 17632-A T46 3 P C 1 H5 / M 1 H10 EN ISO 17632-B T49 3 T12-1CA H5 / 1MA H10	F,V,OH, H,VD	CO_2	DC(+)	0.03	0.60	1.00	0.013	0.011	-	-	-
K-80TK2	1.2~1.6	AWS A5.20 E80T1-K2C H4 KS D 7104 YFL-C506M JIS Z 3313 T 55 6 T1-0 CA-N3-U EN ISO 17632-A T 50 6 1.5Ni M C 4 H5 EN ISO 17632-B T 55 6 T1-0CA-N3-U H5	F,V,OH, H,VD	CO_2	DC(+)	0.03	0.45	1.50	0.014	0.010	-	-	1.50
K-81TK2	1.2~1.6	AWS A5.20 E81T1-K2C H4 KS D 7104 YFL-C506R JIS Z 3313 T55 6 T1-1CA-N3-U H5 EN ISO 17632-A T50 6 1.5Ni P C 1 H5 EN ISO 17632-B T55 6 T1-1CA-N3-U H5	F,V,OH, H,VD	CO_2	DC(+)	0.03	0.45	1.50	0.012	0.009	-	-	1.50
K-81TSR	1.2~1.6	AWS A5.20 E81T1-K2C H4 KS D 7104 YFL-C506R JIS Z 3313 T55 6 T1-1CAP-N3-U H5 EN ISO 17632-A T50 6 1.5Ni P C 1 H5 EN ISO 17632-B T55 6 T1-1CAP-N3-U H5	F,V,OH, H,VD	CO_2	DC(+)	0.02	0.31	1.21	0.011	0.010	-	-	1.47
K-81TK2 Plus	1.2~1.6	AWS A5.29 E81T1-K2C KS D 7104 YFL-C506R JIS Z 3313 T55 6 T1-1CA-N3-U H5 EN ISO 17632-A T50 6 1.5Ni P C 1 H5 EN ISO 17632-B T55 6 T1-1CA-N3-U H5	F,V,OH, H,VD	CO_2	DC(+)	0.03	0.48	1.52	0.012	0.010	-	-	1.50
K-91TK2	1.2~1.6	AWS A5.29 E91T1-K2C H4 KS D 7104 YFL-C604R JIS Z 3313 T62 4 T1-1CA-N3M1-U H5 EN ISO 18276-A T55 4 Mn1.5Ni P C 1 H5 EN ISO 18276-B T 62 4 T1-1CA-N3M1-U H5	F,V,OH, H,VD	CO_2	DC(+)	0.03	0.45	1.27	0.012	0.009	-	-	1.45

Typical mechanical properties of all-weld metal				Characteristics and applications	Approvals
Y.S (MPa)	T.S (MPa)	El. (%)	I.V (J)		
578	612	25	138 (-30℃) 119 (-40℃) (620℃x2hr)	All position gas shielded 0.4%Ni alloyed Flux cored arc welding. Typical applications are railcar, automotive, heavy equipment and general structural steel fabrications. (NACE, API steel)	ABS, BV, DNV, GL, KR, NK, LR, JIS, KS, CE
580	610	27	74 (-30℃) 55 (-40℃) (620℃x2hr)	Typical applications are railcar, automotive, heavy equipment and general structural steel fabrications. (NACE, API steel) Good impact value at low temperature down to -40℃ in the PWHT conditions.	-
580	610	27	130 (-20℃) 100 (-30℃)	Welding of 490MPa tensile strength steel and titania type of flux cored wire for all-position. Typical applications are shipbuilding, pressure vessel, bridges, construction industries etc.	CE
550	640	25	100 (-30℃) 50 (-60℃)	Butt and fillet welding of 1.5% Ni steel and Al-killed steel for low temperature serviced steel at down to -60℃ for offshore structure of LPG carriers.	ABS, BV, DNV, GL, KR, NK, LR
550	640	25	120 (-30℃) 55 (-60℃)	MAG welding of Al-killed steel which are used for low temperature serviced steel at down to -60℃ for offshore structure of LPG carriers.	ABS, BV, DNV, GL, KR, NK, LR, RS, JIS, KS, CE
570	640	25	85 (-30℃) 65 (-60℃) (620℃x2hr)	For gas shielded metal arc welding of 600MPa high tensile steel for low temperature service. LNG and LPG carriers and storage tank etc. (Acceptable for CTOD characteristics)	ABS, BV, DNV, GL, KR, NK, LR, RS, JIS, KS, CE
582	650	27	102 (-40℃) 57 (-60℃)	For gas shielded metal arc welding of 600MPa high tensile steel for low temperature service. LNG and LPG carriers and storage tank etc. (YP 460 class steels with min. yield strength for 460MPa)	-
550	640	25	135 (-20℃) 90 (-40℃)	Welding of 620MPa high tensile steel for low temperature service. LNG and LPG carriers and storage tank etc.	ABS, JIS, CE

For Electro Gas Welding

Brand name	Size (mm)	Equivalent specification	Welding position	Shielding gas	Type of current	Typical chemical composition of all-weld metal (%)							
						C	Si	Mn	P	S	Cr	Mo	Ni
K-EG2	Single	AWS A5.26 EG70T-2 JIS Z 3319 YFEG-22C	V-up	CO_2	DC(+)	0.04	0.33	1.65	0.012	0.011	-	0.24	0.03
K-EG3	Single	AWS A5.26 EG70T-G	V-up	CO_2	DC(+)	0.04	0.20	1.50	0.011	0.012	-	0.24	1.80
K-EG3 * K-EG3R	Tandem	AWS A5.26 EG70T-G	V-up	CO_2	DC(+)	0.04	0.20	1.50	0.014	0.009	-	0.14	1.50

Typical mechanical properties of all-weld metal				Characteristics and applications	Approvals
Y.S (MPa)	T.S (MPa)	El. (%)	I.V (J)		
448	576	30	120 (-20℃)	For single type of electro gas welding (3Y grade) Excellent low temperture toughness at high input (200~270KJ/㎝)	ABS, BV, DNV, GL, LR, KR, NK, CCS
475	597	28	80 (-60℃)	For single type of electro gas welding (6Y grade) Excellent low temperture toughness at high input(200~270KJ/㎝)	-
430	550	25	85 (-20℃) 50 (-40℃)	For tandem type of electro gas welding Excellent low temperture toughness at high input(600~650KJ/㎝)	-

For atomospheric corrosion resisting steel

Brand name	Size (mm)	Equivalent specification	Welding position	Shielding gas	Type of current	Typical chemical composition of all-weld metal (%)							
						C	Si	Mn	P	S	Cr	Cu	Mo
K-71TW	1.2~1.6	AWS A5.29 E81T1-W2C JIS Z 3320 YFA-50W KS D7109 YFA-50W EN ISO 17632-B T49 3 T1-1CA-NCC1	F,V,OH, H,VD	CO_2	DC(+)	0.05	0.54	1.10	0.018	0.010	0.55	0.42	0.45
K-81TW	1.2~1.6	AWS A5.29 E81T1-W2C JIS Z 3320 YFA-58W KS D7109 YFA-58W EN ISO 17632-B T55 3 T1-1CA-NCC1	F,V,OH, H,VD	CO_2	DC(+)	0.05	0.44	1.19	0.020	0.010	0.48	0.45	0.55

Typical mechanical properties of all-weld metal				Characteristics and applications	Approvals
Y.S (MPa)	T.S (MPa)	El. (%)	I.V (J)		
510	590	21	40 (-30℃)	Butt and fillet welding of carbon and 490MPa class high tensile strength weather proof steel.	-
550	630	28	60 (-30℃)	Butt and fillet of high tensile strength weather-proof steel, for example ASTM-242 or A-588, which is used normally without painting, for shipbulidings and bridges etc.	CE

For 490MPa corrosion resisting steel against sulfic acid

Brand name	Size (mm)	Equivalent specification	Welding position	Shielding gas	Type of current	Typical chemical composition of all-weld metal (%)							
						C	Si	Mn	P	S	Cu	Co	Mo
K-71TS	1.2~1.6	JIS Z3313 T49 0 T1-1CA EN ISO 17632-A T46 0 P C 1 EN ISO 17632-B T49 0 T1-1CA-U	F,V,OH, H,VD	CO_2	DC(+)	0.02	0.40	1.00	0.010	0.011	0.38	0.10	-

Typical mechanical properties of all-weld metal				Characteristics and applications	Approvals
Y.S (MPa)	T.S (MPa)	El. (%)	I.V (J)		
520	580	28	64 (0℃)	K-71TS is designed for the mild and medium tensile steels that are used to for flue gasdesulfurization facilities. The weld metal contain Cu, Co alloys and has good anti-corrosion against sulphuric acid. (Temperature 500℃)	-

For heat-resisting steel

Brand name	Size (mm)	Equivalent specification	Welding position	Shielding gas	Type of current	Typical chemical composition of all-weld metal (%)							
						C	Si	Mn	P	S	Cr	Mo	PV
K-81TA1	1.2~1.6	AWS A 5.29 E81T1-A1C JIS Z 3318 YFM-C KS D 7121 YFM-C EN ISO 17634-A T (Mo) P C 1 EN ISO 17634-B T55 Z T1-1C-2M3	F,V,OH, H,VD	CO_2	DC(+)	0.02	0.55	1.21	0.010	0.010	-	0.53	-
K-81TB2L	1.2~1.6	AWS A 5.29 E81T1-B2LC JIS Z 3318 YF1CM-C KS D 7121 YF1CM-C EN ISO 17634-A T(CrMo 1L)PC1 EN ISO 17634-B T55 Z T1-1C-1CML	F,V,OH, H,VD	CO_2	DC(+)	0.03	0.43	1.10	0.010	0.010	1.28	0.56	-
K-81TB2	1.2~1.6	AWS A 5.29 E81T1-B2C JIS Z 3318 YF1CM-C KS D 7121 YF1CM-C EN ISO 17634-A T (CrMo 1) P C 1 EN ISO 17634-B T55 Z T1-1C-1CM	F,V,OH, H,VD	CO_2	DC(+)	0.07	0.42	1.00	0.020	0.010	1.21	0.48	-
K-91TB3L	1.2~1.6	AWS A 5.29 E91T1-B3LC JIS Z 3318 YF2CM-C KS D 7121 YF2CM-C EN ISO 17634-A T(CrMo 2L)PC1 EN ISO 17634-B T62 Z T1-1C-2C1ML	F,V,OH, H,VD	CO_2	DC(+)	0.03	0.51	1.20	0.010	0.010	2.25	1.03	-
K-91TB3	1.2~1.6	AWS A 5.29 E91T1-B3C JIS Z 3318 YF2CM-C KS D 7121 YF2CM-C EN ISO 17634-A T(CrMo 2)PC1 EN ISO 17634-B T62 Z T1-1C-2C1M	F,V,OH, H,VD	CO_2	DC(+)	0.06	0.50	1.00	0.020	0.010	2.27	1.00	-
K-91TB3LS	1.2~1.6	AWS A 5.29 E91T1-G	F,V,OH, H,VD	CO_2	DC(+)	0.03	0.46	1.03	0.140	0.014	2.22	0.97	0.23

Typical mechanical properties of all-weld metal				Characteristics and applications	Approvals
Y.S (MPa)	T.S (MPa)	El. (%)	PWHT Condition		
531	610	25	620℃ × 1hr. S.R.	Single- and multi-pass welding in all position using 100%CO2 shielding gas steam pipes of boilers, oil refinding industries, casting and pressure vessels for high temperature service.	CE
531	660	25	690℃ × 1hr. S.R.	For welding of 1.25%Cr-0.5%Mo steel for main steam pipes of boilers for electric power and equipment oil refinding industries and high temperature synthetic industries.	CE
572	637	24	690℃ × 1hr. S.R.	For welding of 1.25%Cr-0.5%Mo steel for main steam pipes of boilers for electric power and equipment oil refinding industries and high temperature synthetic industries.	CE
630	680	25	690℃ × 1hr. S.R.	For welding of 2.25%Cr-1%Mo steel used for steam pipes of boilers, oil refining industry casting and pressure vessels for high temperature service.	CE
629	703	23	690℃ × 1hr. S.R.	For welding of 2.25%Cr-1%Mo steel used for steam pipes of boilers, oil refining industry casting and pressure vessels for high temperature service.	CE
710	760	20	664℃ × 4hr. S.R.	For welding of 2.25%Cr-1%Mo-V-Nb steel used for steam pipes of boilers, oil refining industry casting and pressure vessels for high temperature service.	-

Flux Cored Wires

Brand name	Size (mm)	Equivalent specification	Welding position	Shielding gas	Type of current	Typical chemical composition of all-weld metal (%)							
						C	Si	Mn	P	S	Cr	Mo	Ni
K-91TB9	1.2~1.6	AWS A5.29 E91T1-B9M EN ISO 17634-B T69T1-1M-9C1MV	F,V,OH, H,VD	Ar+20%CO_2	DC(+)	0.09	0.31	0.70	0.010	0.015	9.06	1.10	0.73
K-101TB9	1.2~1.6	-	F,V,OH, H,VD	Ar+20%CO_2	DC(+)	0.12	0.26	0.72	-	-	9.6	1.00	-

Typical mechanical properties of all-weld metal				Characteristics and applications	Approvals
Y.S (MPa)	T.S (MPa)	El. (%)	PWHT Condition		
641	723	20	760℃×2hr. S.R.	Butt and fillet welding of 9%Cr-1%Mo-Ni-Nb-V steel used for high pressure boilers. Applications are ASTM A189-F91, A199-T91, A231-T91, A369-FP91, A387-Gr91	-
720	810	18	760℃×2hr. S.R.	It is designed for welding of 700MPa 9%Cr-1%Mo-V steels used for high pressure boilers, chemical and oil refinery plants.	-

For hardfacing

Brand name	Size (mm)	Equivalent specification	Welding position	Shielding gas	Type of current	Typical chemical composition of all-weld metal (%)							
						C	Si	Mn	P	S	Cr	Mo	Ni
K-250HT	1.2~1.6	JIS Z 3326 YF2A-C-250 EN ISO 14700 T Fe1	F, H-Fil	CO_2	DC(+)	0.07	0.50	1.55	0.013	0.010	1.30	-	-
K-300HT	1.2~1.6	JIS Z 3326 YF2A-C-300 EN ISO 14700 T Fe1	F, H-Fil	CO_2	DC(+)	0.09	0.68	1.54	0.014	0.011	1.30	-	-
K-350HT	1.2~1.6	JIS Z 3326 YF2A-C-350 EN ISO 14700 T Fe1	F, H-Fil	CO_2	DC(+)	0.12	0.45	1.37	0.014	0.011	1.30	0.20	-
K-450HT	1.2~1.6	JIS Z 3326 YF2A-C-450 EN ISO 14700 T Fe1	F, H-Fil	CO_2	DC(+)	0.24	0.51	1.20	0.013	0.010	2.00	0.60	-
K-500HT	1.2~1.6	JIS Z 3326 YF3B-C-500	F, H-Fil	CO_2	DC(+)	0.19	2.06	0.35	0.014	0.012	5.26	0.59	-
K-600HT	1.2~1.6	JIS Z 3326 YF3B-C-600	F, H-Fil	CO_2	DC(+)	0.34	2.80	0.50	0.013	0.009	6.50	0.50	-
K-700HT	1.2~1.6	-	F, H-Fil	CO_2	DC(+)	0.40	3.20	0.60	0.012	0.010	7.00	0.80	W : 0.50
K-800HT	1.2~1.6	-	F, H-Fil	CO_2	DC(+)	0.44	3.40	0.55	0.013	0.011	7.50	1.00	W : 0.70
K-CXA-40HT	1.2~1.6	JIS Z 3326 YF4A-G-350 EN ISO 14700 T Fe1	F, H-Fil	Ar+2%O_2	DC(+)	0.05	0.25	0.30	0.014	0.009	12.00	-	4.20

Typical mechanical properties of all-weld metal			Characteristics and applications	Approvals
HV	HRC	HS		
260	24	37	MAG welding wire for metal-to-metal wearing and underlayer welding of hardsurfacing. Low spatter level, easy slag removal and reduced grinding time after work hardening.	-
300	30	42	MAG welding wire for hardfacing and repairing rollers, shafts and wheels etc. It can be possible to get abrasion resistance with proper preheat and interpass temperature.	-
360	37	50	MAG welding wire with higher hardness for metal-to-metal wear and mild abrasion. Used on transfer rollers and idlers, crane wheels and shafts etc.	-
450	45	61	MAG welding wire for metal-to-metal wearing or abrasion. The weld metal is of martensite. Structure and has stable hardness because it contains carbide forming elements.	-
510	50	66	K-500HT can be used to weld low carbon, medium carbon, low alloy and manganese steel. It is especially suitable for overlaying thin gauge materials, building up edges, crusher rolls etc.	-
610	55	73	MAG welding wire produces a deposit which resists metal-to-metal wear and mild abrasion. It can be used for crane wheels, blower blades, bucket lips, dredge parts etc.	-
705	60	80	MAG welding wire for heavy abrasion resistance with martensitic structure. It can be used for crane hammers, ore chuter, dozer blades, ripper teeth, bucket lips etc.	-
780	63	87	MAG welding wire for heavy abrasion resistance with martensitic structure. It can be used for augers, bucket lips, conveyor screws, blower blades, dozer blades etc.	-
370	38	51	MAG welding wire for metal-to-metal wearing and underlayer welding of hardsurfacing. It can be used for tractor rollers, trunnions, crane wheels, track rails, idlers etc.	-

Flux Cored Wires

Brand name	Size (mm)	Equivalent specification	Welding position	Shielding gas	Type of current	Typical chemical composition of all-weld metal (%)							
						C	Si	Mn	P	S	Cr	Mo	Ni
K-CXA-41HT	1.2~1.6	JIS Z 3326 YF4A-G-350 EN ISO 14700 T Fe1	F, H-Fil	Ar+2%O_2	DC(+)	0.05	0.39	0.49	0.012	0.010	12.10	1.10	3.90
K-40RT	1.6~3.2	-	F, H-Fil	Ar+20 ~25%CO_2	DC(+)	0.07	0.57	1.81	0.013	0.010	2.66	1.43	3.33
K-58RT	1.6~3.2	-	F, H-Fil	Ar+20 ~25%CO_2	DC(+)	0.32	0.87	0.77	0.012	0.011	9.87	2.50	0.11
K-63RT	1.6~3.2	-	F, H-Fil	Ar+20 ~25%CO_2	DC(+)	0.15	0.94	0.83	0.013	0.009	9.65	1.70	2.00
K-65RT	1.6~3.2	-	F, H-Fil	Ar+20 ~25%CO_2	DC(+)	0.24	0.84	0.61	0.012	0.010	9.10	2.50	1.80
K-13CrHT ×EF-200F	2.0~3.2	-	F, H-Fil	-	DC(+)	0.05	0.50	1.50	0.010	0.008	13.80	1.00	3.00
K-13CrNiHT ×EF-200F	2.0~3.2	-	F, H-Fil	-	DC(+)	0.05	0.40	1.20	0.010	0.009	13.00	1.00	4.50

Typical mechanical properties of all-weld metal			Characteristics and applications	Approvals
HV	HRC	HS		
370	38	51	MAG welding wire for metal-to-metal wearing abrasion and corrosion resistance. It can be used for tractor rollers, shafts, rollers, valves, track rails, idlers etc.	-
-	40	-	MAG welding wire for repair and hardfacing of hot-rolling forging mold.	-
-	55	-	MAG welding wire for repair and hardfacing of hot-rolling forging mold.	-
-	50	-	MAG welding wire for repair and hardfacing of hot-rolling forging mold. It is more available to weld in the first layer of hardfacing welding on hot-rolling forging mold.	-
-	55	-	MAG welding wire for repair and hardfacing of hot-rolling forging mold.	-
390	40	54	MAG welding wire for repair and hardfacing of continuous casting roller.	-
410	42	56	MAG welding wire for repair and hardfacing of continuous casting roller.	-

For stainless steel

Brand name	Size (mm)	Equivalent specification	Welding position	Shielding gas	Type of current	Typical chemical composition of all-weld metal (%)							
						C	Si	Mn	P	S	Cr	Ni	Mo
K-308T	1.2~1.6	AWS A5.22 E308T0-1/4 JIS Z3323 TS308-FB0 KS D3612 YF308C EN ISO 17633-B TS308-FB0	F, H-Fil	CO_2 / Ar+20%CO_2	DC(+)	0.04	0.60	1.15	0.022	0.008	20.4	10.6	-
K-308LT	1.2~1.6	AWS A5.22 E308LT1-1/4 JIS Z3323 TS308L-FB1 KS D3612 YF308LC EN ISO 17633-A T19 9L PC1 EN ISO 17633-A T19 9L PM1 EN ISO 17633-B TS308L-FB1	F, V, OH H, VD	CO_2 / Ar+20%CO_2	DC(+)	0.03	0.60	1.20	0.023	0.009	20.3	10.5	-
K-308LB	1.2~1.6	AWS A5.22 E308LT1-1/4 JIS Z3323 TS308L-BiF-FB1 KS D3612 YF308LC EN ISO 17633-A T19 9L PC1 EN ISO 17633-A T19 9L PM1 EN ISO 17633-B TS308L-FB1	F, V, OH H, VD	CO_2 / Ar+20%CO_2	DC(+)	0.03	0.48	1.15	0.022	0.010	19.3	10.0	Bi : <10ppm

Typical mechanical properties of all-weld metal			Characteristics and applications	Approvals
T.S (MPa)	El. (%)	I.V (J)		
580	39	60 (-40℃)	K-308T is designed for MAG welding of 18%Cr-8%Ni stainless steels and also formulated for operation primarily in the flat position and for wedling horizontal fillet welds. It is a titania type of flux cored wire for AISI 304 and 304H steel type and has low spatter generation, easy slag removal and good weld soundness.	ABS, BV, DNV, NK, CE, JIS
570	39	65 (-40℃)	K-308LT is designed for MAG welding of low carbon 18%Cr-8%Ni stainless steel and used to joint austenitic stainless steel (AISI 304, 304L, 304LN, ASTM A157 Gr. C9; A320 Gr. B8C or D) The weld metal contains optimum ferrite contents in their austenitic structures, Therefore their weldability is excellent with lower crack susceptibility.	ABS, BV, DNV, NK, LR, KR, CCS, CWB, CE, TUV, JIS
560	38	56 (-40℃)	K-308LB is designed for MAG welding of high carbon 18%Cr-8%Ni stainless steels with high temperature heat treatment such as solution treatment. It is a titania type of flux cored wire without Bi component for all-position welding.	CE

Flux Cored Wires

Brand name	Size (mm)	Equivalent specification	Welding position	Shielding gas	Type of current	Typical chemical composition of all-weld metal (%)							
						C	Si	Mn	P	S	Cr	Ni	Mo
K-308LS	1.2~1.6	AWS A5.22 E308LT1-1 JIS Z3323 TS308L-FC1 KS D3612 YF308LC EN ISO 17633-B TS308L-FC1	F, V, OH H, VD	CO_2	DC(+)	0.03	0.42	2.00	0.020	0.006	19.0	10.5	-
K-308LF	1.2~1.6	AWS A5.22 E308LT0-1/4 JIS Z3323 TS308L-FB0 KS D3612 YF308LC EN ISO 17633-A T19 9L RC4 EN ISO 17633-B T19 9L RM4 EN ISO 17633-A TS308L-FB0	F, H-Fil	CO_2 / Ar+20%CO_2	DC(+)	0.03	0.52	1.45	0.024	0.008	20.1	9.6	-
K-NGS308L	0.8~1.2	AWS A5.22 E308LT0-3	F, H-Fil	None	DC(-)/ DC(+)	0.02	0.45	1.12	0.024	0.011	20.5	9.7	-
K-308HT	1.2~1.6	AWS A5.22 E308HT1-1/4 JIS Z3323 TS308H-FB1 EN ISO 17633-B TS308H-FB1	F, V, OH H, VD	CO_2 / Ar+20%CO_2	DC(+)	0.06	0.65	1.00	0.022	0.008	19.5	10.5	-
K-308HB	1.2~1.6	AWS A5.22 E308HT1-1/4 JIS Z3323 TS308H-BiF-FB1 EN ISO 17633-B TS308H-FB1	F, V, OH H, VD	CO_2 / Ar+20%CO_2	DC(+)	0.06	0.48	1.65	0.022	0.010	19.7	9.8	Bi : <10ppm
K-309T	1.2~1.6	AWS A5.22 E309T0-1/4 JIS Z3323 TS309-FB0 KS D3612 YF309C EN ISO 17633-B TS309-FB0	F, H-Fil	CO_2 / Ar+20%CO_2	DC(+)	0.04	0.58	1.45	0.023	0.008	23.5	13.0	-
K-309LT	1.2~1.6	AWS A5.22 E309LT1-1/4 JIS Z3323 TS309L-FB1 KS D3612 YF309LC EN ISO 17633-A T23 12L PC1 EN ISO 17633-A T23 12L PM1 EN ISO 17633-B TS309L-FB1	F, V, OH H, VD	CO_2 / Ar+20%CO_2	DC(+)	0.03	0.60	1.15	0.023	0.007	23.7	13.2	-
K-309LF	1.2~1.6	AWS A5.22 E309LT0-1/4 JIS Z3323 TS309L-FB0 KS D3612 YF309LC EN ISO 17633-A T23 12L RC4 EN ISO 17633-A T23 12L RM4 EN ISO 17633-B TS309L-FB0	F, H-Fil	CO_2 / Ar+20%CO_2	DC(+)	0.03	0.60	1.42	0.022	0.009	23.3	13.2	-
K-309LMT	1.2~1.6	AWS A5.22 EC309L JIS Z3323 TS309L-MA0 KS D3612 YF309LG EN ISO 17633-B TS309L-MA0	F, H-Fil	Ar+2%O_2	DC(+)	0.03	0.50	1.65	0.022	0.006	23.9	12.6	-
K-309LMTS	1.2~1.6	JIS Z3323 TS309L-MA0 EN 17633 TS309L-MA0	F, H-Fil	Ar+2%O_2	DC(+)	0.03	0.47	1.60	0.020	0.007	23.4	13.4	-

Typical mechanical properties of all-weld metal			Characteristics and applications	Approvals
T.S (MPa)	El. (%)	I.V (J)		
560	43	40 (-196℃)	K-308LS is designed for MAG welding of low carbon 18%Cr-8%Ni stainless steels and recommended to be used for low temperature service (STS 304, 304L, 304LN, ASTM A157 Gr C9; A320 Gr. B8C or D) It is a titania type of flux cored wire for all-position welding and formulated to focus on mechanical properties more than welding arc stability and provides good corrosion resistance, heat resistance properties.	CE, JIS
560	40	60 (-40℃)	K-308LF is designed for MAG welding of low carbon 18%Cr-8%Ni stainless steel and used to joint 301, 302, 304 and 308 stainless steel. It is formulated for operation primarily in the flat position and for welding horizontal fillet welds.	CE, JIS
620	39	85 (-20℃)	K-NGS308L is designed for self-shielded welding of low carbon 18%Cr-8%Ni stainless steel and used to join STS 304, 304L, 308, 201, 202, 203 etc. It is a lime-titania type of flux cored wire for flat and horizontal welding position without shielding gas.	-
600	39	45 (-40℃)	K-308HT is designed for MAG welding of high carbon 18%Cr-8%Ni stainless steels(STS 304H, 307H) and recommended to be use for high temperature service (about 600℃) It is a titania type of flux cored wire for all-position welding and has excellent feedability and increased creep resistance at elevated temperature.	CE, JIS
600	38	60 (-40℃)	K-308HB is designed for MAG welding of high carbon 18%Cr-8%Ni stainless steels(STS 304H, 307H) and recommended to be use for high temperature service (about 600℃) It is a titania type of flux cored wire without Bi component for all-position welding and has excellent feedability and increased creep resistance at elevated temperature.	-
590	35	40 (-40℃)	K-309T is formulated for MAG welding of 22%Cr-12%Ni stainless steels and typical applications is for welding of dissimilar steels, such as 304 to mild steel or low alloy steels. It is a titania type of flux cored wire for cladding and dissimilar joint welds. Weld metals contain comparatively much more ferrite in their austenitic, therefore they provide better weldability together with superior heat resistance, and corrosion resistance.	ABS, BV, DNV, NK, LR, KR, CE, JIS
560	37	45 (-35℃)	Dissimilar joint welds; of and between high-strength, mild steels and low allowed QT-steels, stainless, ferritic Cr- and austenitic Cr-Ni-steels, manganese steels Cladding; for the first layer of corrosion resistant weld claddings on ferritic-perlitic steels in boiler and pressure vessel parts up to fine-grained steel S500N. Weld metal contains comparatively much more ferrite in their austenitic structure, therefore they provide better weldability together with superior heat resistance, and corrosion resistance.	ABS, BV, DNV, NK, LR, KR, CCS, CWB, CE, TUV, JIS, RINA
560	37	43 (-30℃)	Dissimilar joint welds; of and between high-strength, mild steels and low allowed QT-steels, stainless, ferritic Cr- and austenitic Cr-Ni-steels, manganese steels Cladding; for the first layer of corrosion resistant weld claddings on ferritic-perlitic steels in boiler and pressure vessel parts up to fine-grained steel S500N. Wire is a titania type of flux cored wire for flat and horizontal position welding and it provides better weldability together with excellent corrosion resistance.	CE, JIS
560	40	50 (-30℃)	K-309LMT is designed for MAG welding of low carbon 22%Cr-12%Ni stainless steels and It is suitable for automotive exhaust fabricators such as front pipe, bellows, flange (AISI 409, 436 and dissimilar joint welds) Slag quantity is almost the same as solid wire and deposition rate is up to 20% higher than solid wire's one. K-309LMT provides low spatter, excellent bead appearance and porosity resistance.	CE, JIS
560	40	60 (-30℃)	K-309LMT is designed for MAG welding of low carbon 22%Cr-12%Ni stainless steels and it is suitable for automotive exhaust fabricators such as front pipe, bellows, flange (AISI 409, 436 and dissimilar joint welds) Slag quantity is almost the same as solid wire and deposition rate is up to 20% higher than solid wire's one. K-309LMT provides low spatter, excellent bead appearance and porosity resistance.	-

Flux Cored Wires

Brand name	Size (mm)	Equivalent specification	Welding position	Shielding gas	Type of current	Typical chemical composition of all-weld metal (%)							
						C	Si	Mn	P	S	Cr	Ni	Mo
K-309MoLT	1.2~1.6	AWS A5.22 E309LMoT1-1 JIS Z3323 TS309LMo-FC1 KS D3612 YF309MoLC EN ISO 17633-A T23 12 2L PC1 EN ISO 17633-B TS309LMo-FC1	F, V, OH H, VD	CO_2	DC(+)	0.03	0.60	1.00	0.020	0.008	23.8	14.6	2.5
K-310T	1.2~1.6	AWS A5.22 E310T0-1 JIS Z3323 TS310-FC0 EN ISO 17633-A T25 20 PC4 EN ISO 17633-B TS310-FC0	F, H-Fil	CO_2	DC(+)	0.18	0.50	2.20	0.018	0.005	25.5	20.4	-
K-312T	1.2~1.6	AWS A5.22 E312T1-1 JIS Z3323 TS312-FC1 EN ISO 17633-A T29 9 PC1 EN ISO 17633-B TS312-FC1	F, V, OH H, VD	CO_2	DC(+)	0.06	0.55	1.25	0.022	0.007	30.3	10.1	-
K-316T	1.2~1.6	AWS A5.22 E316T0-1/4 JIS Z3323 TS316-FB0 KS D3612 YF316C EN ISO 17633-B TS316-FB0	F, H-Fil	CO_2 / Ar+20%CO_2	DC(+)	0.04	0.58	1.15	0.022	0.009	19.0	12.5	2.5
K-316LT	1.2~1.6	AWS A5.22 E316LT1-1/4 JIS Z3323 TS316L-FB1 KS D3612 YF316LC EN ISO 17633-A T19 12 3L PC1 EN ISO 17633-A T19 12 3L PM1 EN ISO 17633-B TS316L-FB1	F, V, OH H, VD	CO_2 / Ar+20%CO_2	DC(+)	0.03	0.60	1.15	0.023	0.010	19.5	12.7	2.5
K-316LB	1.2~1.6	AWS A5.22 E316LT1-1/4 JIS Z3323 TS316L-BiF-FB1 KS D3612 YF316LC EN ISO 17633-A T19 12 3L PC1 EN ISO 17633-A T19 12 3L PM1 EN ISO 17633-B TS316L-FB1	F, V, OH H, VD	CO_2 / Ar+20%CO_2	DC(+)	0.03	0.45	1.25	0.022	0.007	19.5	10.0	2.5 Bi : <10ppm
K-316LS	1.2~1.6	AWS A5.22 E316LT1-1 JIS Z3323 TS316L-FC1 KS D3612 YF316LC EN ISO 17633-B TS316L-FC1	F, V, OH H, VD	CO_2	DC(+)	0.03	0.50	1.60	0.020	0.007	17.5	12.5	2.5
K-316LF	1.2~1.6	AWS A5.22 E316LT0-1/4 JIS Z3323 TS316L-FB0 KS D3612 YF316LC EN ISO 17633-A T19 12 3L RC4 EN ISO 17633-A T19 12 3L RM4 EN ISO 17633-B TS316L-FB0	F, H-Fil	CO_2 / Ar+20%CO_2	DC(+)	0.03	0.58	1.38	0.02	0.01	19.5	12.5	2.5
K-317LT	1.2~1.6	AWS A5.22 E317LT1-1 JIS Z3323 TS317L-FC1 KS D3612 YF317LC EN ISO 17633-B TS317L-FC1	F, V, OH H, VD	CO_2	DC(+)	0.03	0.56	1.00	0.022	0.008	19.6	13.3	3.9
K-347T	1.2~1.6	AWS A5.22 E347T1-1 JIS Z3323 TS347-FC1 KS D3612 YF347C EN ISO 17633-B TS347-FC1	F, V, OH H, VD	CO_2	DC(+)	0.04	0.68	1.15	0.022	0.009	19.7	10.1	Nb: 0.6

Typical mechanical properties of all-weld metal			Characteristics and applications	Approvals
T.S (MPa)	El. (%)	I.V (J)		
700	30	35 (-30℃)	Dissimilar joint welds; of and between high-strength, mild steels and low-alloyed QT-steels, stainless, ferritic Cr- and austenitic Cr-Ni-steels, manganese steels. Cladding; for the first layer of corrosion resistant weld claddings on ferritic-perlitic steels in boiler and pressure vessel parts up to fine-grained steel S500N. Wire is a titania type of flux cored wire for all-position welding and for Mo-alloyed claddings the product is necessary for the 1st layer	ABS, GL, KR, CE, JIS
630	42	60 (-40℃)	K-310T is designed for MAG welding of 25%Cr-20%Ni stainless steels and the deposited weld-metal has perfect austenitic microstructure. It is formulated for operation primarily in the flat position and for welding horizontal fillet welds. It also features good mechanical properties and heat resistance of the deposited weld-metal.	-
760	25	-	K-312T is formulated for MAG welding of 30%Cr-9%Ni stainless steels and It is used for joining dissimilar steels, steels with reduced weldability and buffer layers prior to hardfacing (rolls, forging dies, hotwork tools, dies for plastics and so on) It has resistance to stress corrosionand highly insensitive to dilution and good scaling resistance up to 1150℃.	CE, JIS
550	40	50 (-60℃)	K-316T is formulated for MAG welding of 18%Cr-12%Ni-2%Mo stainless steels where increased resistance to pitting corrosion is required (AISI 316, 316L). It is a titania type of flux cored wire for flat and horizontal position welding. Wire has low spatter, easy slag removal and good weld soundness.	ABS, KR, CE, JIS
560	38	50 (-60℃)	K-316LT is designed for MAG welding of low carbon 18%Cr-12%Ni-2%Mo stainless steels and this wire has low carbon content which gives good resistance to most types of corrosion of the weld metal (AISI 316L) Wire is a titania type of flux cored wire for all-position welding and the weld metal contains optimum ferrite contents in their austenitic structures, therefore their weldability is excellent with lower crack susceptibility.	ABS, BV, DNV, NK, LR, GL, CCS, CWB, TUV, CE, JIS
560	42	50 (-105℃)	K-308HB is designed for MAG welding of high carbon 18%Cr-8%Ni stainless steels(STS 316L, 316Ti) and recommended to be use for high temperature service(about 600℃). It is a titania type of flux cored wire without Bi component for all-position welding and has excellent feedability and increased creep resistance at elevated temperature.	-
550	40	35 (-196℃)	K-316LS is designed for MAG welding of low carbon 18%Cr-8%Ni-2%Mo stainless steels and recommended to be use for low temperature service (AISI 316L, 316Ti, 316Cb) It is a titania type of flux cored wire for all-position welding and formulated to focus on mechanical properties more than welding arc stability.	CE, JIS
570	37	52 (-60℃)	K-316LF is designed for MAG welding of low carbon 18%Cr-12%Ni-2%Mo stainless steel and this wire has low carbon content which gives good resistance to most types of corrosion of the weld metal (AISI 316L, 316Ti, 316Cb) Wire is a titania type of flux cored wire for flat and horizontal position welding.	CE, JIS
650	32	44 (-40℃)	K-317LT is designed for MAG welding of low carbon 19%Cr-13%Ni-3%Mo stainless steels and the principal area of application is process and chemical plant, shipbuilding as well as nuclear plant industries (AISI 316L, 316LN, 317L, 317LN, UNS S31726) It contains higher levels of Mo for increased corrosion-resistance when compared to the K-316LT.	ABS, CE, JIS
650	33	50 (-60℃)	K-347T is formulated for MAG welding of 19%Cr-9%Ni-Nb stainless steels (AISI 347, 321, ASTM A296; A157 Gr. C9; A320 Gr. B8C or D). Wire is a titania type of flux cored wire for all-position welding and it has low spatter generation, easy slag removal and good weld soundness. Nb component improves the resistance to intergranular corrosion of the weld metal.	CE, JIS

Flux Cored Wires

Brand name	Size (mm)	Equivalent specification	Welding position	Shielding gas	Type of current	Typical chemical composition of all-weld metal (%)							
						C	Si	Mn	P	S	Cr	Ni	Mo
K-329T	1.2~1.6	AWS A5.22 E2209T1-1/4 JIS Z3323 TS2209-FB1 EN ISO 17633-A T22 9 3NL PC1 EN ISO 17633-A T22 9 3NL PM1 EN ISO 17633-B TS2209-FB1	F, V, OH H, VD	CO_2	DC(+)	0.03	0.52	0.80	0.022	0.008	23.2	9.6	3.3
K-329TE	1.2~1.6	-	F, V, OH H, VD	CO_2	DC(+)	0.03	0.45	0.82	0.023	0.010	22.6	9.7	1.7
K-325T	1.2~1.6	AWS A5.22-07 E2553T0-G JIS Z3323 TS329 J4L FC0	F, V, OH H, VD	CO_2	DC(+)	0.03	0.60	1.00	0.023	0.009	25.5	9.5	3.7
K-409TiT	1.2~1.6	AWS A5.9 EC409 EN ISO 17633-B TS409-MA0	F, H-Fil	Ar+2%O_2	DC(+)	0.02	0.44	0.62	0.011	0.005	11.5	Ti : 1.0	-
K-409TiC	1.2~1.6	AWS A5.9 EC409 EN ISO 17633-B TS409-MA0	F, H-Fil	Ar+2%O_2	DC(+)	0.02	0.50	0.45	0.011	0.006	12.1	Ti : 0.8	-
K-430T	1.2~1.6	AWS A5.22-95 E430T0-G	F, H-Fil	Ar+2%O_2	DC(+)	0.02	0.61	0.49	0.010	0.007	16.8	Ti : 1.0	-
K-430LNb	1.2~1.6	JIS Z3323 TS430Nb-MA0 EN ISO 17633-B TS430Nb-MA0	F, H-Fil	Ar+2%O_2	DC(+)	0.02	0.26	0.27	0.009	0.005	17.8	Nb : 0.6	-
K-436T	1.2~1.6	-	F, H-Fil	Ar+2%O_2	DC(+)	0.03	0.35	0.63	0.010	0.006	17.5	Ti : 0.5	1.1
K-439T	1.2~1.6	-	F, H-Fil	Ar+2%O_2	DC(+)	0.03	0.33	0.64	0.010	0.008	16.5	Ti : 0.9	-
K-410T	1.2~1.6	AWS A5.22 E410T0-1/4 JIS Z3323 TS410-FB0 KS D3612 YF410C EN ISO 17633-A T13 PC4 EN ISO 17633-A T13 PM4 EN ISO 17633-B TS410-FB0	F, H-Fil	CO_2 / Ar+20%CO_2	DC(+)	0.07	0.28	0.35	0.012	0.005	12.9	-	-

Typical mechanical properties of all-weld metal			Characteristics and applications	Approvals
T.S (MPa)	El. (%)	I.V (J)		
820	27	42 (-40℃)	K-329T is formulated for MAG welding of 23%Cr-9%Ni-3%Mo duplex stainless steel and this principal area of application is chemical plant and shipbuilding as well as nuclear plant industries(ASTM A185 Gr.51, UNS S31803, DIN 1.4462, JIS 329J1) Wire is a titania type of flux cored wire for all-position welding and it has a stable welding arc producing a weld with easy slag removal and minimal spatter.	ABS, DNV, CE, JIS
770	30	52 (-60℃)	K-329TE is formulated for MAG welding of 22%Cr-9%Ni-3%MnMo Lean duplex stainless steels and 'Lean duplex' steel has excellent strength and medium corrosion resistance. It is mainly intended for application such as civil engineering, storage tanks, containers etc. It provides a ferritic-austenitic weldment that combines many of the good properties of both ferritic and austenitic stainless steels.	-
850	33	27 (-40℃)	K-325T is formulated for MAG welding of 25%Cr-9%Ni-3%MoCu duplex stainless steels and the typical application is chemical plant and shipbuilding as well as nuclear plant industries(UNS S32520, UNS S32550, S32750, S32900, JIS 329J4L) Wire is a titania type of flux cored wire for flat and horizontal position welding, and provides low spatter and fume generation and high efficiency in flat position	CE, JIS
530	24	-	K-409TiT is developed to meet the needs of the automotive exhaust fabricators that desired a metal cored wire. It excels in the pulsed GMAW mode and additional applications include heat exchanger and recuperators, power plant reheater tubes etc. Wire is a metal type of flux cored wire for high speed welding on the plates as possible	ABS, CE
520	25	-	K-409TiC is developed to meet the needs of the automotive exhaust fabricators that desired a metal cored wire. It excels in the pulsed GMAW mode and additional applications include heat exchangers and recuperators, power plant reheater tubes etc. It would produce a moderately soft arc and high welding speed.	-
535	25	PWHT : 780×2hr. S.R.	K-430T is designed for MAG welding of ferrite stainless alloys of the 17%Cr-Ti types and suitable for automotive exhaust fabricators such as front pipe, bellows, flange, etc (AISI 409, 430Ti, ASTM A176) Wire is a metal type of flux cored wire for high speed welding on the plate as possible and It would produce a moderately soft arc and high low spatter generation.	ABS, CE
530	22	PWHT : 780×2hr. S.R.	K-430LNb is designed for MAG welding of stainless steels of the 17%Cr-Nb steels and is suitable for automotive exhaust fabrications such as front pipe, bellows, flange etc (AISI 430, 430Ti, 431) It is a metal type of flux cored wire for high speed welding on the plate as possible. Would produce a moderately soft arc, low spatter generation and slag quantity is almost the same as solid wire and deposition rate is up to 20% higher than solid wire's one.	JIS
490	23	PWHT : 780×2hr. S.R.	K-436T is designed for MAG welding of stainless steels of the 17%Cr-1%Mo-Ti types and suitable for automotive exhaust fabricators such as front pipe, bellows, flange, etc (JIS 436L/436J1L) It would produce a moderately soft arc and high low spatter generation, and the Mo component in weld metal improves good crack resistance and heat resistance.	-
435	24	PWHT : 780×2hr. S.R.	K-439T is designed for MAG welding of stainless steels of the 18%Cr-Ti types and suitable for automotive exhaust fabrications such as front pipe, bellows, flange etc. (AISI 430, 430Ti, 431) Wire is a metal type of flux cored wire for high speed welding on the plate as possible and slag quantity is almost the same as solid wire and deposition rate is up to 20% higher than solid wire's one.	-
530	28	PWHT : 750×1hr. S.R.	K-410T is designed for MAG welding of martensite stainless alloys of the 13%Cr types and used for surfacing of sealing faces of valves for gas, water, and steam piping system at service temperatures up to 450℃. Wire is a metal type of flux cored wire for flat and horizontal position welding.	-

Flux Cored Wires

Brand name	Size (mm)	Equivalent specification	Welding position	Shielding gas	Type of current	Typical chemical composition of all-weld metal (%)							
						C	Si	Mn	P	S	Cr	Ni	Mo
K-410NiMoT	1.2~1.6	AWS A5.22 E410NiMoT0-4 JIS Z3323 TS410NiMo-FM0 EN ISO 17633-A T13 4 PM4 EN ISO 17633-B TS410NiMo-FM0	F, H-Fil	Ar+20%CO_2	DC(+)	0.04	0.23	0.36	0.010	0.007	12.2	4.1	0.7
K-410NiMoTC	1.2~1.6	AWS A5.22 E410NiMoT1-1 JIS Z3323 TS410NiMo-FC1 EN ISO 17633-A T13 4 PC1 EN ISO 17633-B TS410NiMo-FC1	F, V, OH H, VD	CO_2	DC(+)	0.04	0.55	0.45	0.010	0.008	12.2	4.8	0.6

Typical mechanical properties of all-weld metal			Characteristics and applications	Approvals
T.S (MPa)	El. (%)	PWHT		
900	18	PWHT : 600×1hr. S.R.	K-410NiMoT is designed for MAG welding of soft-martensite stainless alloys of the 13%Cr-4%Ni-Mo types. (AISI 403, 405, 410, 420, JIS SCS3, SCS6, ASTM CA15M, CA6NM) Wire is a metal type of flux cored wire for flat and horizontal position welding.	CE, JIS
950	18	PWHT : 600×1hr. S.R.	K-410NiMoTC is designed for MAG welding of soft-martensite stainless alloys of the 13%Cr-4%Ni-Mo types (AISI 403, 405, 410, JIS SCS3, SCS6, SB410, ASTM CA15M, CA6NM) Wire is a titania type of flux cored wire for all-position welding with 100% CO_2 gas.	CE, JIS