

## GTAW Wires for Stainless Steel

Products	Classification			Typical chemical composition (wt %)						
	AWS	JIS	EN	C	Mn	Si	Cr	Ni	Mo	others
KTS-307Si	—	—	W 18 8 Mn	0.06	6.20	0.41	19.30	8.10	—	—
KTS-307HM	—	—	W 18 8 Mn	0.06	6.20	0.41	19.30	8.20	—	—
KTS-308	ER308	YS308	—	0.04	1.82	0.34	20.10	10.30	—	—
KTS-308L	ER308L	YS308L	W 19 9 L	0.02	1.65	0.42	20.10	10.30	—	—
KTS-308H	ER308H	YS308H	W 19 9 H	0.06	1.82	0.38	20.21	10.03	—	—
KTS-308LSi	ER308LSi	YS308L	W 19 9 L Si	0.02	2.25	0.78	19.80	10.50	—	—
KTS-309	ER309	YS309	W 22 12 H	0.08	1.63	0.42	23.80	13.10	—	—
KTS-309LMo	ER309LMo	YS309LMo	W 23 12 2 L	0.09	1.82	0.46	23.80	13.10	2.54	—
KTS-309L	ER309L	YS309L	W 23 12 L	0.02	1.98	0.39	23.90	12.90	—	—
KTS-309LSi	ER309LSi	YS309L	W 23 12 L Si	0.02	2.35	0.74	23.90	13.80	—	—
KTS-310	ER310	YS310	W 25 20	0.08	2.01	0.40	27.40	21.80	—	—

Typical mechanical properties				Shielding gas	Diameter (mm)	Applications and features
Tensile Strength N/mm <sup>2</sup>	Yield Strength N/mm <sup>2</sup>	Elongation %	PWHT (°C)			
610 (62)	480 (49)	41	—	Ar	1.0,1.2,1.6 2.0,2.4,3.2	Better weldability and puddle fluidity than KTS-307HM.
610 (62)	480 (49)	41	—	Ar	1.0,1.2,1.6 2.0,2.4,3.2	Weld metal is non-magnetic austenite with 6% Mn. Excellent for buffer layer of high hardenability and 14% high Mn steel.
600 (61)	410 (42)	41	—	Ar	1.0,1.2,1.6 2.0,2.4,3.2	Stable arc, smooth beads and good crack resistance. Ideal for welding 18%Cr-8%Ni steel.
580 (59)	400 (41)	42	—	Ar	1.0,1.2,1.6 2.0,2.4,3.2	Ideal for welding SUS304L steel. Better corrosion resistance than KTS-308.
600 (61.2)	440 (44.9)	42	—	Ar	1.0,1.2,1.6 2.0,2.4,3.2	Higher strength at high temperature than KTS-308. Ideal for welding AISI 308H steel.
580 (59)	400 (41)	41	—	Ar	1.0,1.2,1.6 2.0,2.4,3.2	Better weldability and puddle fluidity than KTS-308L.
610 (62)	430 (44)	40	—	Ar	1.0,1.2,1.6 2.0,2.4,3.2	Good heat and corrosion resistance. Ideal for welding dissimilar metals (low carbon steel and Cr-Mo steel), SUS309 and SCS17 steel.
620 (63)	440 (45)	42	—	Ar	1.0,1.2,1.6 2.0,2.4,3.2	Better strength, crack and corrosion resistance at high temperature than KTS-309 due to additional Mo content.
590 (41)	400 (41)	40	—	Ar	1.0,1.2,1.6 2.0,2.4,3.2	Good heat and corrosion resistance. Ideal for welding low carbon stainless steel, low carbon clad steel, SUS 309S heat resistant steel 13% Cr steel and dissimilar metals.
570 (58)	410 (42)	38	—	Ar	1.0,1.2,1.6 2.0,2.4,3.2	Better weldability and puddle fluidity than KTS-309L.
610 (62)	480 (49)	41	—	Ar	1.0,1.2,1.6 2.0,2.4,3.2	Weld metal is 25%Cr-20%Ni. Better for welding dissimilar metals, high self-hardening alloy steel and high carbon steel than KTS-309.

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	AWS	JIS	EN	C	Mn	Si	Cr	Ni	Mo	others
KTS-312	ER312	YS312	W 29 9	0.13	1.62	0.49	29.60	8.70	—	—
KTS-316	ER316	YS316	—	0.05	1.78	0.36	19.60	12.50	2.50	—
KTS-316L	ER316L	YS316L	W 19 12 3 L	0.02	1.91	0.42	19.10	12.60	2.60	—
KTS-316H	ER316H	YS316	W 19 12 3 H	0.06	1.55	0.48	20.42	13.31	2.26	—
KTS-316LSi	ER316LSi	YS316LSi	W 19 12 3 L Si	0.02	1.60	0.74	19.00	12.40	2.30	—
KTS-317	ER317	YS317	—	0.04	1.86	0.45	19.40	14.20	3.50	—
KTS-317L	ER317L	YS317L	W 18 15 3 L	0.02	1.76	0.40	19.60	13.70	3.60	—
KTS-320	ER320	YS320	—	0.04	1.83	0.41	20.42	34.51	2.23	Nb0.63
KTS-330	ER330	YS330	W 18 36 H	0.23 1	1.90	0.43	16.02	35.42	0.14	—
KTS-347	ER347	YS347	W 19 9 Nb	0.04	1.61	0.41	20.40	9.90	—	Nb0.80
KTS-347H	ER347	YS347	W 19 9 Nb	0.06	1.63	0.41	20.12	9.87	—	Nb0.68

Typical mechanical properties				Shielding gas	Diameter (mm)	Applications and features
Tensile Strength N/mm <sup>2</sup>	Yield Strength N/mm <sup>2</sup>	Elongation %	PWHT (°C)			
710 (72)	590 (60)	26	—	Ar	1.0,1.2,1.6 2.0,2.4,3.2	Ideal for welding dissimilar metals, clad steels, stainless steel sheet lining, and hard-to-weld steel and high hardenability alloy steel.
580 (59)	400 (41)	38	—	Ar	1.0,1.2,1.6 2.0,2.4,3.2	Ideal for welding AISI 316 steel.
550 (56)	380 (39)	40	—	Ar	1.0,1.2,1.6 2.0,2.4,3.2	Better corrosion resistance than KTS-316. Ideal for welding AISI 316L steel.
590 (60.2)	430 (43.8)	43	—	Ar	1.0,1.2,1.6 2.0,2.4,3.2	Better strength at high temperature than KTS-316 due to high carbon content. Ideal for welding AISI 316H steel.
550 (56)	380 (39)	39	—	Ar	1.0,1.2,1.6 2.0,2.4,3.2	Better weldability and puddle fluidity than KTS-316L.
600 (61)	470 (48)	42	—	Ar	1.0,1.2,1.6 2.0,2.4,3.2	Good heat and corrosion resistance to sulfuric, sulphurous and organic acid due to higher Ni, Cr and Mo content.
570 (58)	410 (42)	42	—	Ar	1.0,1.2,1.6 2.0,2.4,3.2	Good corrosion resistance to sulfuric, sulphurous and organic acid. High strength at high temperature. Ultra low carbon content prevents intergranular corrosion.
600 (61.2)	430 (43.8)	39	—	Ar	1.0,1.2,1.6 2.0,2.4,3.2	Ideal for application with severe corrosion.
510 (63.2)	—	41	—	Ar	1.0,1.2,1.6 2.0,2.4,3.2	Ideal for welding AISI 330 forging and casting. Suitable for heat and oxidation resistant applications over 980°C.
620 (63)	450 (46)	41	—	Ar	1.0,1.2,1.6 2.0,2.4,3.2	Good corrosion resistance and excellent strength at high temperature due to additional Nb content. Special for welding heat resistant steel.
610 (62.2)	450 (45.9)	43	—	Ar	1.0,1.2,1.6 2.0,2.4,3.2	Higher strength at high temperature than KTS-347.

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	AWS	JIS	EN	C	Mn	Si	Cr	Ni	Mo	others
KTS-347Si	ER347Si	YS347	W 19 9 Nb Si	0.04	1.60	0.80	20.30	9.80	—	Nb 0.80
KTS-385	ER385	YS385	W 20 25 5 Cu L	0.02	1.73	20.33	25.05	4.55	—	—
KTS-409Ti	ER409	YS409	—	0.02	0.36	0.45	11.8	—	—	Ti≤0.15
KTS-409Cb	ER409Cb	YS409Nb	—	0.02	0.44	0.45	11.61	—	—	Nb 0.41
KTS-410	ER410	YS410	W 13	0.11	0.43	0.45	11.80	0.18	—	—
KTS-420	ER420	YS420	—	0.31	0.52	0.42	13.25	—	—	—
KTS-430	ER430	YS430	W 17	0.04	1.60	0.78	16.25	—	—	—
KTS-430Nb	ER430	YS430Nb	—	0.031	0.76	0.44	17.44	0.31	—	—
KTS-439Ti	ER439	—	—	0.02	0.63	0.35	18.43	—	—	Ti≤0.15
KTS-630	ER630	YS630	—	0.03	0.52	0.37	16.50	4.60	0.03	Cu 3.23 Nb 0.20
KTS-2209	ER2209	YS2209	W 22 9 3 N L	0.02	1.6	0.42	20.35	9.85	3.11	N 0.13

Typical mechanical properties				Shielding gas	Diameter (mm)	Applications and features
Tensile Strength N/mm <sup>2</sup>	Yield Strength N/mm <sup>2</sup>	Elongation %	PWHT (°C)			
620 (63)	450 (46)	41	—	Ar	1.0,1.2,1.6 2.0,2.4,3.2	Better weldability and puddle fluidity than KTS-347.
540 (55.0)	340 (34.6)	37	—	Ar	1.0,1.2,1.6 2.0,2.4,3.2	Ideal for welding chemical vessels, such as UNS N08904.
550 (51.0)	380 (38.7)	25	—	Ar	1.0,1.2,1.6 2.0,2.4,3.2	Ideal for AISI 409 and other similar grade stainless steel.
490 (50.0)	370 (37.7)	25	—	Ar	1.0,1.2,1.6 2.0,2.4,3.2	Ideal for welding AISI 409 and other similar grade stainless steel.
540 (55)	340 (35)	25	750	Ar	1.0,1.2,1.6 2.0,2.4,3.2	Ideal for welding martensite stainless steel with 13%Cr.
—	—	—	—	Ar	1.0,1.2,1.6 2.0,2.4,3.2	Ideal for build-up in wear and corrosion resistant workpiece.
620 (63.2)	450 (45.9)	42	—	Ar	1.0,1.2,1.6 2.0,2.4,3.2	Ideal for welding AISI 409, 430, 436, 440 and other grade alloy steel.
540 (55.1)	360 (36.7)	28	780	Ar	1.0,1.2,1.6 2.0,2.4,3.2	Ideal for welding exhaust system, such as AISI 430 steel.
510 (63.2)	—	41	—	Ar	1.0,1.2,1.6 2.0,2.4,3.2	Ideal for welding AISI 409, 430, 436, 440 and other grade alloy steel.
990 (101)	850 (88)	10	—	Ar	1.0,1.2,1.6 2.0,2.4,3.2	Ideal for welding 17%Cr-4Ni precipitation-hardening stainless steel.
800 (81.6)	600 (61.2)	28	—	Ar	1.0,1.2,1.6 2.0,2.4,3.2	Ideal for welding alloy 2205, such as UNS 31803.