

Gas Tungsten Arc Welding Rods and Wires for Nickel and Nickel Alloy

Brand Name	Specification		Dia. mm	Application and Characteristics
	JIS	AWS		
YT-NIC	☆Z 3334 SNi2061	☆A5.14 ERNi-1	1.2 1.6 2.0 2.4	Welding for pure Nickel and dissimilar joint
YAWATA™ FILLER 82	☆Z 3334 SNi6082	☆A5.14 ERNiCr-3	1.2 1.6 2.0 2.4	Welding of INCONEL™ 600 and INCOLOY™ 800 requiring resistance to heat, oxidation and corrosion, and various combinations of dissimilar metals such as carbon steel, stainless steel and Ni alloys. Weld metal shows properties similar to INCONEL Filler Metal 82. In the welding of dissimilar metals, crack resistance is excellent since the coefficient of heat expansion is between those of carbon steel and austenitic stainless steel.
NITTETSU™ FILLER 196	☆Z3332 YGT9Ni-2	☆A5.14 ERNiMo-9	1.2 1.6 2.0 2.4	Welding of 9%Ni steel to be used at extremely low temperatures for storage tanks for LNG and liquefied nitrogen gas and LNG tankers. Weld metal shows high strength and excellent toughness at extremely low temperatures, and meets the requirements of API and NV. Crack resistance is also excellent.
YT-NC718	☆Z 3334 SNi7718	☆A5.14 ERNiFeCr-2	1.2 1.6 2.0 2.4	Welding of INCONEL718
NITTETSU FILLER 625	☆Z 3334 SNi6625	☆A5.14 ERNiCrMo-3	1.2 1.6 2.0 2.4	Welding of INCONEL625, 601 and INCOLOY825 requiring resistance to heat, oxidation and corrosion, and INCOLOY825 to various kinds of dissimilar metals. It is also used for surfacing of carbon steel. Weld metal has properties similar to INCONEL Filler Metal 625 and shows excellent resistance to heat, oxidation and corrosion as well as high fatigue strength.
YT-HSTC2	☆Z 3334 SNi6276	☆A5.14 ERNiCrMo-4	1.2 1.6 2.0 2.4	Welding of Hastelloy™C276
YT-NC622	☆Z 3334 SNi6022	☆A5.14 ERNiCrMo-10	1.2 1.6 2.0 2.4	Welding of Hastelloy C22
YT-NC617	☆Z 3334 SNi6617	☆A5.14 ERNiCrCoMo-1	1.2 1.6 2.0 2.4	Welding of INCONEL617

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Typical Chemical Compositions of Weld Metal (%)								Typical Mechanical Properties of Weld Metal			
C	Si	Mn	Ni	Cr	Mo	Fe	Other	YS, MPa	TS, MPa	EL, %	Charpy 2V- notch at 0°C, J
0.001	0.35	0.33	96.0	—	—	0.05	Ti: 2.51 Al: 0.15	230	460	41	—
0.03	0.11	3.05	72.7	19.7	—	1.50	Co: 0.01 Ti: 0.35 Nb: 2.68	410	680	47	150
0.02	0.01	0.03	74.7	—	20.2	1.04	Cu: 0.75 W: 2.96	420	720	46	—196°C 160
0.028	0.08	0.08	53.8	18.0	3.1	—	Nb: 5.2 Cu: 0.10 Al: 0.45 B: 0.001	520	850	28	—
0.02	0.20	0.08	61.6	21.8	8.96	2.84	Nb: 3.55 Ti: 0.27 Al: 0.18	600	790	46	—
0.017	0.01	0.52	55.4	14.8	15.2	5.5	Co: 1.9 Cu: 0.05 W: 3.8 V: 0.2	550	770	40	—
0.009	0.05	0.22	57.5	20.6	14.0	2.3	Co: 0.09 W: 3.3 V: 0.01	550	790	40	—
0.08	0.11	0.13	52.8	21.3	9.4	0.5	Ti: 0.3	520	840	28	—