

Solid wires for Nickel and Nickel alloy

Product Name	Specification		Shield gas	Application and features
	JIS	AWS		
TGC-Ni1	Y Ni-1	ER Ni-1	Ar	Repair welding of cast iron, cladding of carbon steel, stainless steel, dissimilar welding of MONEL, CUPRO Nickel
TGC-182	Y NiCr-3	ER NiCr-3	Ar	Dissimilar welding of INCONEL(600), stainless steel, INCONEL and carbon steel, nickel alloy.
TGC-625	Y NiCrMo-3	ER NiCrMo-3	Ar	For welding of INCONEL 625, dissimilar welding of INCONEL and Nickel alloy, for 9%Nickel steel, high temperature and low temperature steel.
TGC-690	-	ER NiCrFe-7	Ar	INCONEL 690, dissimilar welding of INCONEL, INCOLOY alloy, cladding of low alloy steel.
TGC-NiCu7	Y NiCu-7	ER NiCu-7	Ar	MONEL 400, dissimilar welding of MONEL and carbon steel, cladding of carbon steel.
TGC-CuNi3	Y CuNi-3	ER CuNi	Ar	70%Cu-30%Ni CUPRO nickel, dissimilar welding of CUPRO nickel and copper alloy, cladding of carbon steel.

Solid wires for mild steel and high tensile strength steel

Product Name	Specification		Shield gas	Application and features
	JIS	AWS		
TGC-50S	YGT50	ER70S-6	Ar	For welding of mild steel, 50kgf/mm ² high tensile strength steel, aluminium killed steel, and one side-shielded welding of pipes.
TGC-50	YGT50	ER70S-G	Ar	For welding of mild steel, 50kgf/mm ² high tensile strength steel, aluminium killed steel, and one side-shielded welding of pipes.
TGC-50B	YGT50	ER70S-2	Ar	For welding of mild steel, 50kgf/mm ² high tensile strength steel, aluminium killed steel, and one side-shielded welding of pipes.

Dia. (\varnothing mm)	Typical chemical composition of Weldin Rod (%)													Typical mechanical properties		Approval	
	C	Mn	Si	P	S	Ni	Cu	Ti	Cr	Nb	Mo	Al	Fe	Pb	TSN/mm ² (kgf/mm ²)		EL (%)
1.2 1.6 2.0 2.4 3.2	0.02	0.39	0.43	0.001	0.002	95.5	0.02	2.50	-	-	-	0.06	0.15	-	510	40.6	-
	0.01	3.20	0.10	0.002	0.002	72.9	0.01	0.35	20.5	2.70	-	-	0.10	-	680	41	-
	0.02	0.01	0.03	0.002	0.001	64.1	0.01	0.20	22.3	3.60	9.20	0.10	0.30	-	790	38	-
	0.02	0.25	0.17	0.004	0.001	REM	0.01	0.53	28.9	0.02	0.01	0.68	10.25	-	690	40	-
	0.09	3.10	0.18	0.005	0.003	65.0	REM	1.61	-	-	-	0.02	0.11	-	570	38	-
	0.03	0.54	0.03	-	0.003	31.1	67.24	0.29	-	-	-	0.01	0.54	0.02	374	36.3	-

Dia. (\varnothing mm)	Typical chemical composition of weld metal (%)							Typical mechanical properties of weld metal			Tip color
	C	Mn	Si	P	S	Cr	Mo	TSN/mm ² (kgf/mm ²)	EL (%)	IV J (kgf-m)	
1.2 1.6 2.0 2.4 3.2	0.08	1.55	0.78	0.012	0.011	-	-	620(63)	32	-29 [°] C 160(16)	Yellow
1.2 1.6 2.0 2.4 3.2	0.06	1.45	0.72	0.013	0.010	-	-	590(60)	32	-29 [°] C 160(16)	Dark-Blue
1.2 1.6 2.0 2.4 3.2	0.05	1.10	0.54	0.007	0.006	-	-	580(59)	29	-29 [°] C 180(18)	Red

Solid wires for mild steel and high tensile strength steel

Product Name	Specification		Shield gas	Application and features
	JIS	AWS		
TGC-50C	YGT50	ER70S-3	Ar	For welding of mild steel, 50kgf/mm ² high tensile strength steel, aluminium killed steel, and one side-shielded welding of pipes.
TGC-50G	YGT50	ER70S-G	Ar	For welding of mild steel, 50kgf/mm ² high tensile strength steel, aluminium killed steel, and one side-shielded welding of pipes.
TGC-90G	YGT60	ER90S-G	Ar	For welding of mild steel, 60kgf/mm ² high tensile strength steel, aluminium killed steel, and one side-shielded welding of pipes.

Solid wires for heat-resistant, low-alloy steel

Product Name	Specification		Shield gas	Application and features
	JIS	AWS		
TGC-2CM	YGT-2CM	ER 90S-B3	Ar	For welding of 2.25%Cr-1%Mo steel.

Solid wire for aluminium and aluminium alloy

Product Name	Specification		Shield gas	Application and features
	JIS	AWS		
TGC-1100	A1100-WY	ER1100	Ar	For welding of 1100, 1200, 3003, 304, 3203.
TGC-4043	A1100-WY	ER4043	Ar	For welding of 1100, 1200, 3003, 3203, 4043, 5052, 6061 TGC-4043 is Al-Si type solid wire whose hot crack resistibility is good.
TGC-5356	A5356-WY	ER5356	Ar	For welding of 5052, 5154, 5083, 6061, 6063. TGC-5356 is Al-Mg type.

Dia. (\varnothing mm)	Typical chemical composition of weld metal (%)							Typical mechanical properties of weld metal			Tip color
	C	Mn	Si	P	S	Cr	Mo	TSN/mm ² (kgf/mm ²)	EL (%)	IV J (kgf-m)	
1.2 1.6 2.0 2.4 3.2	0.07	1.17	0.64	0.010	0.010	-	-	560(57)	32	-29 [°] C 140(14)	Green
1.2 1.6 2.0 2.4 3.2	0.08	1.43	0.37	0.013	0.010	-	-	570(58)	32	-29 [°] C 130(13)	White
1.2 1.6 2.0 2.4 3.2	0.07	1.38	0.56	0.005	0.003	1.1	0.05	640(65)	30	-29 [°] C 190(19)	-

Dia. (\varnothing mm)	Typical chemical composition of Welding Rod (%)							TS of weld metal N/mm ² (kgf/mm ²)	Tip color
	C	Mn	Si	P	S	Cr	Mo		
1.2 1.6 2.0 2.4 3.2	0.1	0.6	0.5	0.006	0.004	2.36	1.1	780(80)	-

Dia. (\varnothing mm)	Typical chemical composition of weld metal (%)								TS of weld metal N/mm ² (kgf/mm ²)	Tip color
	Al	Si	Fe	Cu	Mn	Mg	Ti	Zn		
1.2 1.6 2.0 2.4 3.2	99.5	-	-	0.05 ~ 0.20	≤0.05	-	-	≤0.10	95(9.6)	Red
1.2 1.6 2.0 2.4 3.2	Balance	5.5	≤0.8	≤0.30	≤0.05	≤0.05	≤0.20	≤0.10	180(18.4)	Orange
1.2 1.6 2.0 2.4 3.2	Balance	-	-	≤0.10	0.05 ~ 0.20	5.0	0.06 ~ 0.20	≤0.10	280(29)	Yellow -Green