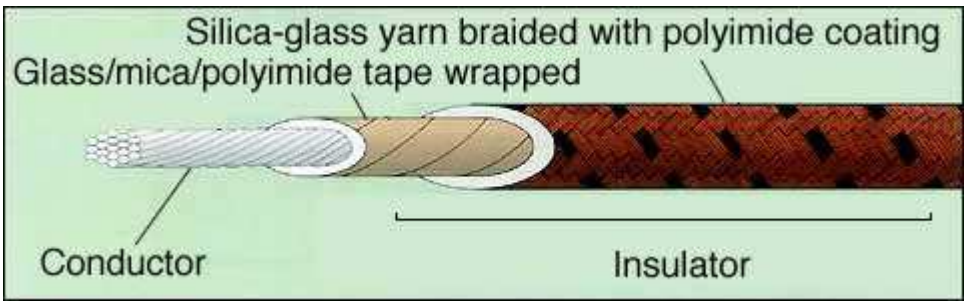
Silica-glass insulated nickel-clad-copper conductor heat-resistant wires (TN430)

Silica-glass insulated nickel-clad-copper conductor heat-resistant wire (TN430) is made of nickel-clad-copper wires which are flexible and highly resistant to heat and corrosion, and wrapped with glass-mica-polyimide tape and covered with silica-glass fiber. Maximum operation temperature of this series is 400℃.



Construction	
Conductor	Several nickel-clad-copper wires (NPC) are stranded to make a conductor. Construction of the conductor is shown in below table. NPC has lower conductor resistance and more flexibility than nickel wire.
Insulator	Conductor is double wrapped with glass-mica-polyimide tape, braided with silica-glass fiber, and baked with polyimide coating on the surface to make an insulator.
Color	The standard is two black-spiraled stripes on the dark brown ground of the polyimide coating. The ground color may vary (darker) depending on the baking temperature.
Application	Being deasbestos wires, used as lead wires of electric heaters or wirings in high-temperature equipments where, especially high resistance to heat is required.
Characteristics	- Smaller in diameter and lighter with the same allowable current, because the volume resistivity is 1/4 of nickel conductor. - Easy to process and wire, because it is softer than nickel conductor. - The thickness is 20-30 times of normal nickel-coated wire (1-5 μm). (Nickel vs. copper area ratio: approx. 28:72.) - The conductivity varies depending on changes in temperature. However it retains 60% of conductivity after used continuously under a temperature of 400℃ for three years. - The tensile is twice as strong as copper wire under a temperature of 400℃. - Using nickel as the surface material, far more resistant to corrosion than copper wire.

table

Parts No.	Conductor			Taping thickness	Braind shielding thickness	Finished OD	Conductor resistance	Insulation resistance	Test voltage (AC 1 min.)
	Sectional area mom.	Construction No. of wires/Dia. of elemental wire	OD						
	mm2	No. of wires/mm	mm	mm	mm	mm	Ω/Km	MΩ・Km	V
8451TN00N	0.75	30/0.18	1.1	0.25	0.6	2.8	29.68	10	1,500
8551TN00N	1.25	50/0.18	1.5	0.25	0.7	3.4	27.80	10	1,500
8651TN00N	2.0	37/0.26	1.8	0.25	0.7	3.7	11.53	10	1,500
5651TN00N	3.5	66/0.26	2.4	0.25	0.7	4.5	6.335	10	1,500

8851TN00N	5.5	35/0.45	3.1	0.25	0.7	5.2	4.070	10	1,500
8951TN00N	8	50/0.45	3.7	0.25	0.8	5.8	2.846	10	1,500
9051TN00N	14	88/0.45	4.9	0.25	0.8	7.0	1.622	10	1,500
9151TN00N	22	7/20/0.45	7.0	0.25	0.8	9.1	1.017	10	1,500