

Irrax™ tube NHR (Halogen-free, Flame retardant, Heat-resistant tubing)

★ RoHS Compliant

● Basic Properties

- (1) Materials : Cross-linked, flexible, halogen-free resin
- (2) Continuous operating temperature : -40 to 105°C

● Features & Benefits

- (1) Free of halogen such as chlorine and bromine
- (2) Highly flame retardant (compliant with the Combustion Standards for Railway Vehicle Materials by Japan Railway Rollingstock & Machinery Association)
- (3) Low amount of smoke and low harmful gas when burned.

● Specifications & Approvals

SFP standard (R1-3699)

● Applications

- (1) Protection and insulation of cables for subway and railway vehicles.
- (2) Protection of wiring of equipment in buildings, marine vessels, tunnels, and mass transit vehicles.

● Colors

Standard colors : Black

● Properties

Properties	Items	Requirements	Typical values
Mechanical	Tensile Strength (before aging)	5.9MPa min.	8.4MPa
	Tensile Strength(after aging)	136°C×7 days, 4.0MPa min.	7.4MPa
	Ultimate Elongation (before aging)	200% min.	380%
	Ultimate Elongation (after aging)	136°C×7 days, 100% min.	340%
	Heat Resistivity	105°C×1 hours, 50% min	8%
Electrical	Cold Bend	-40°C×1 hour, No cracking	Pass
	Dielectric Voltage Withstand (before aging)	A.C.2.0kV×60 sec., No breakdown	Pass
	Volume Resistivity	1.0×10 ¹⁰ Ω ·cm min.	2.7×10 ¹⁴ Ω ·cm
Chemical	Flammability	Flame-retardant*	Pass

*Combustion Standards for Railway Vehicle Materials by Japan Railway Rollingstock & Machinery Association.(11-69K)

● Sizes

Nominal Size	Inside Diameter (mm)	Wall Thickness (mm)	Unit Length (m)
5×0.7	5.0±0.5	0.70±0.10	100 min.
6×0.7	6.0±0.5	0.70±0.10	100 min.
8×0.7	8.0±0.5	0.70±0.10	100 min.
10×0.7	10.0±0.5	0.70±0.10	100 min.
12×0.7	12.0±0.5	0.70±0.10	100 min.
14×0.7	14.0±0.7	0.70±0.10	100 min.
16×0.7	16.0±0.7	0.70±0.10	100 min.
20×0.7	20.0±0.7	0.70±0.10	100 min.
24×1	24.0±1.0	1.00±0.15	2 min.
28×1	28.0±1.0	1.00±0.15	2 min.
30×1	30.0±1.0	1.00±0.15	2 min.
35×1	35.0±1.0	1.00±0.15	2 min.
42×1	42.0±1.0	1.00±0.15	2 min.
50×1.2	50.0±1.5	1.20±0.20	2 min.

Longitudinal change : -20% min. (150°C×3 minutes)

●Disclaimer

All statements and technical information contained herein are based on tests we believe to be reliable and only general properties are described. Therefore, safety of each specific application by the users is not guaranteed. The users themselves should determine product conformance to your specific applications and assume all responsibility for all damages that may be caused directly or indirectly when using the products.