

IRRAX™ TUBE NHR

[Halogen-free flame-retarded heat-resistant tubing]

✓ RoHS directive

Waterproofing Flame-retarded UL recognized CSA recognized



Basic Properties

- Material: Cross-linked flexible flame-retarded polyolefin
- Continuous operating temperature: -40 to 105°C

Features

- Free of halogens
- Highly flame-retarded (compliant with the Combustion Standards for Railway Vehicle Materials by Japan Railway Rolling Stock & Machinery Association)
- Reduced amounts of smoke and harmful gasses when burned

Specifications/Approvals

SFP standard (R1-3699)

Applications

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

Colors

- Black

Properties

Properties	Items	Requirements	Typical values*1
Mechanical	Tensile strength (before aging)	min. 5.9MPa	8.4MPa
	Tensile strength (after aging)	136°C x 7 days, min. 4.0MPa	7.4MPa
	Elongation (before aging)	min. 200%	380%
	Elongation (after aging)	136°C x 7 days, min. 100%	340%
	Heat resistivity	105°C x 1 hour, min. 50%	8%
	Cold bend	-40°C x 1 hour, no crack	Pass
Electrical	Dielectric withstand (before aging)	AC2.5kV x 60 sec., no breakdown	Pass
	Volume resistivity	min. $1.0 \times 10^{10} \Omega \cdot \text{cm}$	$2.7 \times 10^{14} \Omega \cdot \text{cm}$
Chemical	Flammability	Flame-retarded*2	Pass

*1: For reference use only *2: Combustion Standards for Railway Vehicle Materials by Japan Railway Rolling Stock & Machinery Association (18-1011K)

Sizes

Nominal size (mm)	Inside diameter (mm)	Wall thickness (mm)	Unit length (m)
5×0.7	5.00±0.50	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: min. -20% (150°C x 3 minutes)

SUMITUBE™

A
C
A4
SUMITUBE LA
C (UL)
D
A2

B
SUMITUBE LB

F (Z)
F3 (Z)
SUMITUBE NHR2
NHR4
V (300V)
V (600V)

F2 (Z)
F4 (Z)
SUMITUBE B2
B2 (3X)
B8

K
SUMITUBE K2

SUMITUBE KH200 (TW)

SUMITUBE KH230 (TW)

B11
SUMITUBE B6
R
AN25

SUMITUBE W

O2C
SUMITUBE W3C

O2B2
W3F2
W3B2
SUMITUBE W3B2 (4X)
W5B11
SA2
SA3

IRRAX™ TUBE IRRAX™ TAPE

A
B
F2
F2 (UL)
V2
IRRAX™ TUBE RP3
B8
ER2
NHR
NHR4
FE2
IRRAX™ TAPE VZL

IRRAX™ SLEEVE

SCM2
IRRAX™ SLEEVE SBI 300/350
SNHM

Composite articles

SUMISEAL
SUMITUBE SA3 CAP

Processing equipment

SUMISHRINKER / HEATING GUN