

# Irrax™ tube F2

(Flexible heat-resistant tubing with UL and  
Electrical Appliance And Material Safety Law)

Catalog No. 716, 845

## ● Basic Properties

★ RoHS Compliant

- (1) Materials : Cross-linked, flexible, flame-retardant polyolefin resin
- (2) Continuous operating temperature : -55 to 125°C

## ● Features & Benefits

- (1) Compliant with UL224 and Electrical Appliance And Material Safety Law
- (2) Flexible
- (3) Flame-retardant

## ● Specifications & Approvals

UL224 **For size AWG24 to AWG18** (Catalog No. 716)

File No.: E70631

Flammability rating : VW-1

UL224 **For size bigger than AWG17** (Catalog No. 845)

File No.: E75077

Operating temperature : 125°C

Voltage rating : 600V

Flammability rating : VW-1

Electrical Appliance and Material Safety Law

Operating temperature 125°C (provisional registration)

(Registration No. : Z004CC0176)

Registration of flammability rating (-F-)

(Registration No. : F-STS3-009 to F-STS3-016)

## ● Markings

The following letters are printed on the surface of Irrax™ tube F2.

**For size AWG24 to AWG18** (Catalog No. 716)

◆VW-1 SUMITOMO IRRAX TUBE F2 -F-

**For size bigger than AWG17** (Catalog No. 845)

◆VW-1 SUMITOMO IRRAX TUBE F2 125°C -F-

## ● Applications

- (1) Insulation, protection and reinforcement of terminations and joints of electric wires
- (2) Identification and bundling of electric wires

## ● Colors

Standard colors : Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray and White

## ● Properties

Properties	Items	Requirements	Typical values
Mechanical	Tensile Strength (before aging)	10.4MPa min.	13.2MPa
	Tensile Strength(after aging)	158°C×7 days, 7.3MPa min.	13.4MPa
	Ultimate Elongation (before aging)	200% min.	325%
	Ultimate Elongation (after aging)	158°C×7 days, 100% min.	350%
	Heat Shock	250°C×4 hours, No cracking	Pass
	Cold Bend	-30°C×1 hour, No cracking	Pass
Electrical	Dielectric Voltage Withstand (before aging)	A.C.2.5kV×60 sec., No breakdown	Pass
	Dielectric Voltage Withstand (after aging)	158°C×7 days, A.C.2.5kV×60 sec., No breakdown	Pass
	Dielectric Voltage Breakdown (before aging)	A.C.2.5kV min.	19.1kV
	Dielectric Voltage Breakdown (after aging)	158°C×7 days Percent of original 50% min.	Pass
	Volume Resistivity	1.0×10 <sup>14</sup> Ω ·cm min.	1.6×10 <sup>16</sup> Ω ·cm
	Chemical	Copper Corrosion	After leaving for 24 hours at relative humidity 95% and temperature 23°C, 158°C×7 days, No corrosion
Copper Stability		After leaving for 24hours at relative humidity 95% and temperature 23°C, 158°C×7 days, Stretch 100% min.	325%
Flammability		Flame-retardant, Pass VW-1	Pass

## ● Sizes

Nominal Size	Inside Diameter (mm)	Wall Thickness (mm)	Unit Length (m)
AWG24	0.55±0.10	0.50±0.06	500 min.
AWG22	0.65±0.10	0.50±0.06	500 min.
AWG20	0.80±0.10	0.50±0.06	500 min.
AWG19	0.90±0.10	0.50±0.06	500 min.
AWG18	1.00±0.10	0.50±0.06	250 min.
AWG17	1.15±0.10	0.62±0.06	250 min.
AWG16	1.30±0.10	0.62±0.06	250 min.
AWG15	1.45±0.10	0.62±0.06	200 min.
AWG14	1.65±0.10	0.62±0.06	200 min.
AWG13	1.80±0.15	0.62±0.06	200 min.
AWG12	2.10±0.15	0.62±0.06	400 min.
AWG11	2.30±0.15	0.62±0.06	400 min.
AWG10	2.60±0.15	0.62±0.06	400 min.
AWG9	2.90±0.15	0.62±0.06	400 min.
AWG8	3.30±0.15	0.62±0.06	400 min.
AWG7	3.70±0.15	0.62±0.06	400 min.
AWG6	4.10±0.20	0.62±0.06	200 min.
AWG5	4.60±0.20	0.62±0.06	200 min.
AWG4	5.20±0.20	0.62±0.06	200 min.
AWG3	5.80±0.20	0.62±0.06	100 min.
AWG2	6.5±0.2	0.62±0.06	100 min.
AWG1	7.3±0.3	0.62±0.06	100 min.
AWG0	8.3±0.3	0.62±0.06	100 min.

Longitudinal change : -20% min. (125°C×1 minute)

## ● 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.