

FURUKAWA ELECTRIC TAPE FOR ELECTRICAL USES



FURUKAWA ELECTRIC POWER SYSTEMS

FURUKAWA ELECTRIC TAPE

LIVING OUR ADVANCED TECHNOLOGIES



Every type of Furukawa Electric tape is a high-quality tape manufactured utilizing the long years of electric insulation technology and synthetic resin engineering technology of Furukawa Electric, a leader in the electric wire and cable industries. Furukawa Electric tape is widely used and highly appreciated not only in Japan but throughout the world.

F-CO TAPE NO.2 is a high-voltage insulating tape composed of a polyethylene base material laminated with a butyl rubber-based self-bonding adhesive material. It is in conformity with the Black-Colored Adhesive Polyethylene Insulating Tape (in Japanese) of the Interior Wiring Standards ¹⁾, and is a standardized product in JCAA ²⁾ D 004. It is widely used for insulating the joints and terminations of various rubber- and plastic-insulated cables up to 69 kV.

Flame-retardant F-CO TAPE NO.2 is also available.

Note 1: Standards formulated by the Japan Electric Association

Note 2: Japan Power Cable Accessories Association



1 APPLICATIONS

1. Insulation of the joints and terminations of various rubber and plastic cables.

2. Repairing of damaged insulation portions of various cables described above.

*Primary electrical insulation for splicing cable from 600V to 69kV on all solid dielectric cables.

*Primary insulation for building stress cones on cables up to 36kV on all solid dielectric cables.

2 DIMENSIONS AND PACKING QUANTITY

Dimensions			Packing Quantity (roll/box)
Thickness (mm)	Width (mm)	Length (m)	
0.5	20	5	100
		10	

3 PROPERTIES

Item		Property	Test Conditions
Tensile Strength (N/mm ²)	4	450	JIS K 6251
	4		
Heat Resistance	Tensile Strength (N/mm ²)	400	After 100°C x 96 hr heating JIS K 6257
	Elongation (%)		
Adhesion Strength (N/20-mm width)		30	Lap Shear
Breakdown Voltage (kV/mm)		30	JIS K 6911
Volume Resistivity (Ω · cm)		1 x 10 ¹⁶	
Waterproof Property		Good	JCAA B 003
Weather Resistance		Good	Sunshine Weatherometer, 2000 hr
Ozone Resistance		Good	1 hr at 0.015 vol%, 25°C, 20% elongation
Tracking Resistance		Good	JIS C 3005, 100 times or more

Note: The above are measured values, not guaranteed values.

Product conforming to the Directive of RoHS, SGS report available.

4 HOW TO USE

Clean adequately the surface of the object, wind the tape half-lapped with the adhesive side inside, stretching it lightly to the extent that it closely adheres to the object without getting wrinkled, i.e., its original width is reduced by 1 ~ 2 mm. Take care not to stretch it too tightly, since it tends to go out of alignment due to too much tension. For use in cold seasons, warm it to around room temperature prior to application.

F-CO TAPE NO.1



F-CO TAPE NO.1 is a self-bonding tape composed mainly of a butyl rubber-based adhesive material, which is formed into the shape of tape.



1 APPLICATIONS

For filling up cable joints and branches where it would be difficult to use F-CO TAPE NO.2.

2 DIMENSIONS AND PACKING QUANTITY

Dimensions			Packing Quantity (roll/box)
Thickness (mm)	Width (mm)	Length (m)	
1.0	20	5	100

3 PROPERTIES

Item	Property	Test Conditions
Tensile Strength (N/mm ²)	0.5	JIS K 6251
Elongation (%)	1000	
Heat Resistance	Tensile Strength (N/mm ²)	After 100°C x 96 hr heating JIS K 6257
	Elongation (%)	
Volume Resistivity (Ω · cm)	1 x 10 ¹⁶	JIS K 6911
Breakdown Voltage (kV/mm)	30	
Self Adhesiveness	Good	Condition after winding at two-fold elongation and subsequent 5-min elapse time
Hardness	31	Penetrometer Depth

Note: The above are measured values, not guaranteed values.

Product conforming to the Directive of RoHS, SGS report available.

4 HOW TO USE

Clean adequately the surface of the object, wind the tape half-lapped while peeling off the separator, stretching evenly to the extent that its original width is reduced by about 20%. In case of application to filling portions, form it into an appropriate shape beforehand not to include air in the filling. For use in cold seasons, warm it to around room temperature.

Take care not to leave it under direct sunlight in the summer season, since this makes the separator difficult to be peeled.

Be sure to apply F-CO TAPE NO.2 for insulation over the surface.

NON-HALO F-CO ENB is a halogen-free flame-retardant adhesive tape. In addition to its flame retardance, it does not emit toxic gases such as halogen gases when incinerated. It is an environmentally friendly tape, suitable for replacing PVC tape.

1 APPLICATIONS

For insulation, protection and bundling of power cables and communication cables up to 600 V.



2 DIMENSIONS AND PACKING QUANTITY

Dimensions			Packing Quantity (roll/box)
Thickness (mm)	Width (mm)	Length (m)	
0.2	19	10	100

3 PROPERTIES

Item	Property	JCAA D 034 specifications
Tensile Strength (N/mm ²)	35	28.5 or higher
Elongation (%)	300	100 or higher
Adhesion Strength (N/19-mm width)	39	28.5 or higher
Breakdown Voltage (kV/0.2 mm)	12	6 or higher
Volume Resistivity (Ω · cm)	6 × 10 ¹⁴	1 × 10 ¹² or higher
Flame Retardance	Good	600 kW/m ² × 10 sec or lower
Weather Resistance	Good	Sunshine Weatherometer, 2000 hr
Harmful Substances (ppm)	Mercury, Lead, Hexavalent Chromium	Below measurable limits
	Cadmium	Below measurable limits

Note: The above are measured values, not guaranteed values.

Product conforming to the Directive of RoHS, SGS report available.

4 HOW TO USE

Clean adequately the surface of the object, wind the tape half-lapped, with the adhesive side inside, stretching it lightly to the extent that it closely adheres to the object without getting wrinkled. Take care not to stretch it too tightly, since it tends to break or go out of alignment due to too much tension. For use in cold seasons, warm it to around room temperature prior to application.

F-CO TAPE NO.35

Standardized product in
JCAA D 005

F-CO TAPE NO.35 is a self-bonding electric insulation tape for high-voltage insulation, composed mainly of no-vulcanized EPDM.

1 APPLICATIONS

For insulation of 6.6 kV ~ 69 kV power cable joints.

*Primary electrical insulation for splicing cable from 600V to 69kV on all solid dielectric cables.

*Primary insulation for building stress cones on cables up to 36kV on all solid dielectric cables.



2 DIMENSIONS AND PACKING QUANTITY

Dimensions			Packing Quantity (roll/box)
Thickness (mm)	Width (mm)	Length (m)	
0.5	20/30	10	100/50

3 PROPERTIES

Item	Property
Tensile Strength (N/mm ²)	4
Elongation (%)	900
Volume Resistivity ($\Omega \cdot \text{cm}$)	1×10^{16}
Breakdown Voltage (kV/mm)	50

Item	Property
Dielectric Power Factor (%)	0.4
Dielectric Constant (ϵ)	2.9
Adhesion Strength (N/20-mm width)	30
Ozone Resistance	Good

Note: The above are measured values, not guaranteed values.

Product conforming to the Directive of RoHS, SGS report available.

4 HOW TO USE

Clean adequately the surface of the object, wind the tape half-lapped while peeling off the separator, stretching it evenly to the extent that its original width is reduced by about 50%.

C TAPE No.117S

C TAPE No.117S is a self-bonding semi-conductive tape composed of butyl rubber based conductive rubber sheet. It's an environmentally friendly tape which doesn't contain any lead compounds.

1 APPLICATIONS

To be used in the inner and outer conductive layers of the terminals and joints of rubber or plastic insulated cables.

2 DIMENSIONS AND PACKING QUANTITY

Dimensions			Packing Quantity (roll/box)
Thickness (mm)	Width (mm)	Length (m)	
0.75	19	4.5	100



3 PROPERTIES

Item	Property	Test Conditions
Tensile Strength (N/mm ²)	1.9	JIS K 6251 and JIS K 6257
Elongation (%)	over 1500	
Adhesion Strength (N/19-mm width)	22	Lap shear
Volume Resistivity ($\Omega \cdot \text{cm}$)	1.5×10^2	JIS K 6271

Note: The above are measured values, not guaranteed values.

Product conforming to the Directive of RoHS, SGS report available.

4 HOW TO USE

Clean adequately the surface of the object, wind the tape half-lapped, stretching it lightly to the extent that it closely adheres to the object without getting wrinkled, i.e., its original width is reduced by 6 ~ 7mm.

Because this tape has conductivity, please check the location and usage in advance. The conductivity may decrease depending on the material of the object.

F-CO TAPE NO.70

Standardized product in
JCAA D 006



F-CO TAPE NO.70 is an insulating and waterproofing tape, composed of a vulcanized EP rubber sheet laminated with a special rubber-based adhesive material, realizing a separator-free structure.

1 APPLICATIONS

For insulation, protection and waterproofing of the joints and branches of mid- to low-voltage overhead distribution cables.

2 DIMENSIONS AND PACKING QUANTITY

Dimensions			Packing Quantity (roll/box)
Thickness (mm)	Width (mm)	Length (m)	
1.0	50	3	40



3 PROPERTIES

Item	Property
Tensile Strength (N/mm ²)	3
Elongation (%)	500
Adhesion Strength (N/20-mm width) (Lap Shear)	55
Volume Resistivity (Ω · cm)	2 × 10 ¹⁵
Breakdown Voltage (kV/mm)	30
Waterproof Property	Good

Note: The above are measured values, not guaranteed values.

Product conforming to the Directive of RoHS, SGS report available.

4 HOW TO USE

Wind the tape stretching it to the extent that it elongates 50%, and cut the tape end using scissors or a knife.
Do not elongate the tape end, but press it down firmly.

VUL-CO TAPE

Standardized product in
JCAA D 006

VUL-CO TAPE is a mechanically strong protection and waterproofing tape composed of a vulcanized chloroprene rubber sheet laminated with a self-bonding adhesive material.

1 APPLICATIONS

It is not for electrical insulation.

- Protective covering of the joints of various rubber and plastic cables.
- Waterproofing and moisture prevention.

2 DIMENSIONS AND PACKING QUANTITY

Dimensions			Packing Quantity (roll/box)
Thickness (mm)	Width (mm)	Length (m)	
1.0	20/40	10	60/30



3 PROPERTIES

Item	Property
Tensile Strength (N/mm ²)	8
Elongation (%)	500
Adhesion Strength (N/20-mm width) (Lap Shear)	100
Oil Resistance	Good
Waterproof Property	Good
Weather Resistance	Good
Ozone Resistance	Good
Low-temperature Resistance at -30°C	Flexible

Note: The above are measured values, not guaranteed values.

Product conforming to the Directive of RoHS, SGS report available.

4 HOW TO USE

Clean adequately the surface of the object, wind the tape half-lapped with the adhesive side inside, stretching it lightly to the extent that it closely adheres to the object without getting wrinkled, i.e., its original width is reduced by about 20%. For use in cold seasons, warm it to around room temperature.

Take care not to stretch it too tightly, since it tends to go out of alignment under too much tension.

FURUKAWA ELECTRIC POWER SYSTEMS CO., LTD. <http://www.feps.co.jp/english/>

Head office 2-11-16, Azamino Minami, Aoba-ku, Yokohama-shi, Kanagawa 225-0012, Japan
Overseas Sales Department TEL.+81-45-910-2814 FAX.+81-45-910-2839

Hiratsuka Works 1-9 HigashiYawata 5-chome, Hiratsuka-shi, Kanagawa, 254-0016, Japan
F-CO Engineering Department TEL.+81-463-21-4873 FAX.+81-463-21-5509

Contact us

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