

FURUKAWA ELECTRIC TAPE FOR ELECTRICAL USES



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

Standardized product in
JCAA D 004



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 33 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.

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 | JIS K 6251 |
| Elongation (%) | | 450 | |
| Heat Resistance | Tensile Strength (N/mm ²) | 4 | After 100°C x 96 hr heating JIS K 6257 |
| | Elongation (%) | 400 | |
| 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.

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.

Use F-CO TAPE NO.2 at temperatures below 70°C .

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) | 0.7 | After 100°C x 96 hr heating JIS K 6257 |
| | Elongation (%) | 1000 | |
| 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.

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

Standardized product in
JCAA D 034



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 ($\Omega \cdot \text{cm}$) | 6×10^{14} | 1×10^{12} or higher | |
| Flame Retardance | Good | 600 kW/m ² x 10 sec or lower | |
| Weather Resistance | Good | Sunshine Weatherometer, 2000 hr | |
| Harmful Substances (ppm) | Mercury, Lead, Hexavalent Chromium | Below measurable limits | 1000 or lower |
| | Cadmium | Below measurable limits | 100 or lower |

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

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 ~ 36 kV power cable joints.

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 (Ω · cm) | 1 x 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.

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

Standardized product in
JCAA D 029

C TAPE is a semiconductive tape composed of a conductive vulcanized rubber sheet laminated with an adhesive material on its one side.

1 APPLICATIONS

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

2 DIMENSIONS AND PACKING QUANTITY

| Dimensions | | | Packing Quantity (roll/box) |
|----------------|------------|------------|--------------------------------|
| Thickness (mm) | Width (mm) | Length (m) | |
| 0.7 | 30 | 5 | 50 |



3 PROPERTIES

| Item | Property | Test Conditions |
|---------------------------------------|---------------------|---|
| Tensile Strength (N/mm ²) | 5 | JIS K 6251 |
| Elongation (%) | 250 | |
| Adhesion Strength (N/30-mm width) | 90 | Lap Shear |
| Volume Resistivity (Ω · cm) | 2 x 10 ¹ | SRIS 2301 (The Society of Rubber Industry, Japan) |

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

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.

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 |

| Item | Property |
|-----------------------------|----------------------|
| Volume Resistivity (Ω · cm) | 2 x 10 ¹⁵ |
| Breakdown Voltage (kV/mm) | 30 |
| Waterproof Property | Good |

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

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.

1. Protective covering of the joints of various rubber and plastic cables.
2. 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) | 9 |
| Elongation (%) | 400 |
| Adhesion Strength (N/20-mm width) (Lap Shear) | 100 |
| Oil Resistance | Good |

| Item | Property |
|-------------------------------------|----------|
| 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.

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.



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