



古藤工業株式会社

V\_200625

STANDARD GRADE (100% Air Tight & Water Tight)

Origin: Made in Japan

## Self-Healing series ANTI-CORROSION TAPE

[Self-Amalgamates (Self-Fusion) Type] Butyl Rubber Adhesive, Cold Apply.



Plant: Fukushima, Japan



A Leading Adhesive Tape Maker in Japan Since 1940

Manufacturer : **FURUTO INDUSTRIAL CO., LTD.** (Japan)

International Customer Service : **Furuto (HK) Ltd. / Furuto International Corp.**

**Exclusive Agent in Singapore, Malaysia (Authorized by Furuto HK Limited) :**

**HELEFLO PRODUCTS PTE. LTD.** TEL:65-6258-9966, email: [heleflo@singnet.com.sg](mailto:heleflo@singnet.com.sg)

51, Jalan Pemimpin, #03-04, Mayfair Industrial Bldg. Singapore 577206

\* **Primer** \* (Solvent Type –contents Toluene)

CODE	COLOR	FUNCTION	BACKING MATERIAL	TEMP. RESISTANCE	WET COAT THICKNESS	Packing
#10	Black	Primer	Butyl Rubber	100°C	100 g/M2	40g / 3kgs / 14kgs

- An under coating to improve the Anchor-Force between the Object and Anti-Corrosion Tape.
- No need to use for new pipe and facility, unless it's the underground object or the construction temperature was under 5°C. Repairing the old object must be clean the rust and oil before use.

\* (Self-Healing) Anti-Corrosion **Sealing Tape** \*

Available Width: 25-950mm

CODE	COLOR	FUNCTION	BACKING MATERIAL	TEMP. RESISTANCE	THICKNESS mm	WIDTH mm	LENGTH M
SM	Black	Sealing	Non	100°C	10	100	300mm
	Black	Sealing	Non	100°C	2.0	≤ 950	5M

- As a Filler to Molding or Sealing for the uneven surface or irregular sections, such like Weld End, Flange, Valve, Clamp, Pipe Support, Tank Bottom, Screw & Nut of Steel Construction....etc.

\* (Self-Healing) Anti-Corrosion **Wrapping Tape** \*

Available Width: 25-950mm

CODE	COLOR	FUNCTION	BACKING MATERIAL	TEMP. RESISTANCE	THICKNESS mm	WIDTH mm	LENGTH M
ST	Black	Wrapping	Non	100°C	2.0 / 1.0	≤ 950	5M/10M
ST-FR	Yellow	Wrapping	Non	100°C	1.0	≤ 950	5M/10M
ST-FR is a Flame Retardant type (meet JIS-A1322A, Grade 2)							

- As an under-wrapping material for the uneven surface or irregular sections of Weld End, Flange, Valve, Clamp, Pipe Support, Tank Bottom, Screw of Steel Construction....etc.

\* (Self-Healing) Anti-Corrosion **Surface Protection Tape** \* Available Width: 25-1050mm

CODE	COLOR	FUNCTION	BACKING MATERIAL	TEMP. RESISTANCE	THICKNESS mm	WIDTH mm	LENGTH M
K450	Black, Blue, Silver	Surface Protection	Cable Grade PE Film	70°C	0.4	≤ 950	10M
#402	Silver	Surface Protection	Reinforcement AL. Foil	120°C	0.5	≤ 1050	20M
VC	Black	Surface Protection	Anti-Impact Rubber Sheet	100°C	1.0	≤ 950	8M

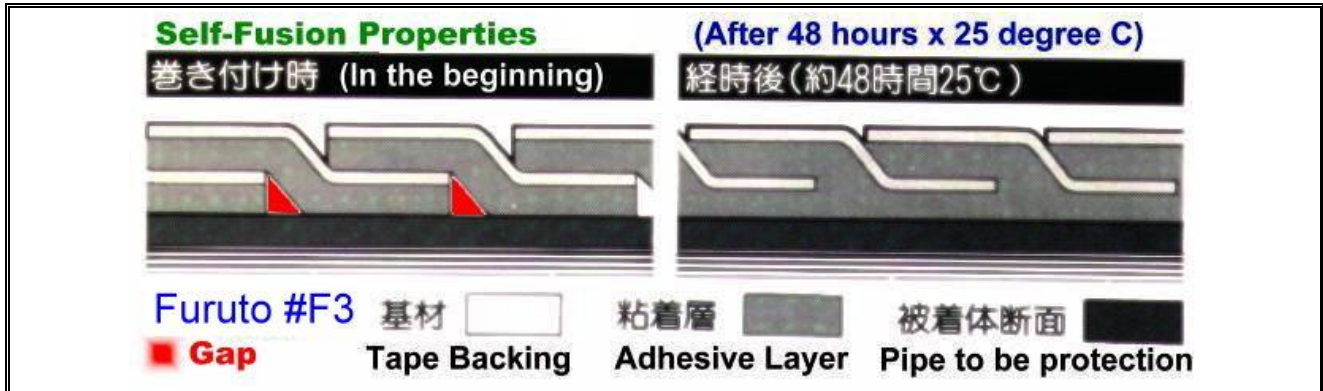
- As an Outer Wrap Surface Protection Tape for both above or underground pipe and facility.
- The general Straight Pipe is only need to use K-450. Excellent Resistance to UV, Chemical, Salt..etc , ■ VC is a special designed for Impact Resistance or Anti-Friction if required.

### Salient Feature of FURUTO (Standard Grade) Self-Healing series ANTI-CORROSION TAPE

<p>100% Air Tight &amp; Water Tight IMMERSION RESISTANCE</p>	<ul style="list-style-type: none"> <li>▪ Excellent Self-Healing (Self-Amalgamates) properties could be let the overlap gap of adhesive became to Self-Healing within 48 hours.</li> <li>▪ Excellent Softness can easy apply to any of uneven surface or irregular sections.</li> <li>▪ Excellent IMMERSION RESISTANCE to stop the Air &amp; Water immersion for long period without failure, as a final solution for the Anti-Corrosion application.</li> </ul>
<p>Prevent corrosion deterioration, as a Semi-Permanent Anti-Corrosion solution</p>	<ul style="list-style-type: none"> <li>▪ Did not add any of Asphalt, Bitumen or Tar oil which were rich content of Sulfide (it's on the contrary to accelerate the corrosion for the steel object).</li> <li>▪ Excellent Softness, would not be hardening to avoid the Air &amp; Water immersion which caused by the cracking of anti-corrosion material after aging, heating or cooling, vibration from daily operation or earth quake.</li> <li>▪ FURUTO's Self-Healing (Self-Amalgamates) Anti-Corrosion Tape is a special designed as a long-terms protection solution. (It's a Semi-Permanent Anti-Corrosion material).</li> </ul>
<p>Suitable for any of harsh environment and various industrial use</p>	<ul style="list-style-type: none"> <li>▪ <b>Special designed for the Petrochemical Industrial's facility</b> (above or underground) <b>in coastal region (= serious corrosion environment)</b>.</li> <li>▪ Premium grade formula of Furuto Butyl Rubber Adhesive is recognized very good chemical and thermal stability, insoluble in ethanol and acetone, the ability of resistant to acid, alkali, animal and vegetable oils, oxygen and ozone. Excellent weather resistance, temperature resistance, insulation properties, suitable for various industrial.</li> <li>▪ # K-450. backing material is a superior Cable Grade LDPE film, -provide an excellent outdoor UV, Chemical and Salt resistance to protection the object in coastal region for long period without failure (as a final solution for the Anti-Corrosion application).</li> </ul>
<p>Easy to use, cold apply , as an Environmental Protection Material</p>	<ul style="list-style-type: none"> <li>▪ Excellent Self-Healing (Self-Amalgamates) Adhesive <u>unlike other 『 Immediate Adhesion type 』</u> (which was contents of Hazardous <u>Materials, such like Volatile Solvent, Asphalt, Bitumen, Tar Oil or Plasticizer to let the Adhesive to be very STICKY and easy CRACKING</u>).</li> <li>▪ Cold apply, easy to use, without bad smell, the special Self-Healing Adhesive is amalgamates to the object only (not in worker's hand), to protect environment and workers' health.</li> </ul>

## Self-Healing (Self-Amalgamates) Properties of FURUTO series

test sample by Furuto's K-450



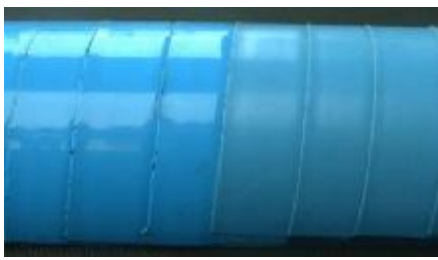
LEFT:

The Self-Healing (Self-Amalgamating) Tape apply to the pipe in the beginning, we can see the "GAP" (red color area) between each layers of Tape.

RIGHT:

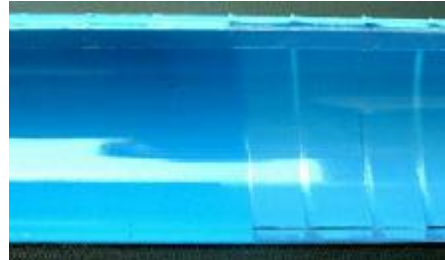
After applied 48hrs (25 degree C), the "GAP" between each layer of Tape has been Self-Healing by itself, to provide the excellent Insulating and Anti-Corrosion properties (100% Air Tight & Water Tight).

**Below: Self-Healing Properties (demo on a transparent plastic pipe)**



LEFT: Outside appearance of Furuto K-450 Self-Healing Anti-Corrosion Surface Protection Tape.

RIGHT: Outside appearance of other Pipe Wrapping Tape. [Adhesive: Solvent Rubber or Asphalt, Bitumen...etc.]



LEFT: Inside appearance of Furuto K-450 Self-Healing Anti-Corrosion Surface Protection Tape.

Applied within 48hrs (25 degree C), The "GAP" between each layer of Tape has been Self-Healing by itself to provide the excellent Insulating and Anti-Corrosion properties (100% Air Tight & Water Tight). The user will be save a lot of expanse for the pipe maintenance with long period.

RIGHT: Inside appearance of other Pipe Wrapping Tape. [Adhesive: Solvent Rubber or Asphalt, Bitumen...etc.]

Applied within 48hrs (25 degree C), The "GAP" between each of layer STILL and forever EXIST. the Corrosion will be starting from the GAP area day by day.

The user have to spend a lot of expanse for the pipe repair. and maintenance within half ~ 2 years.

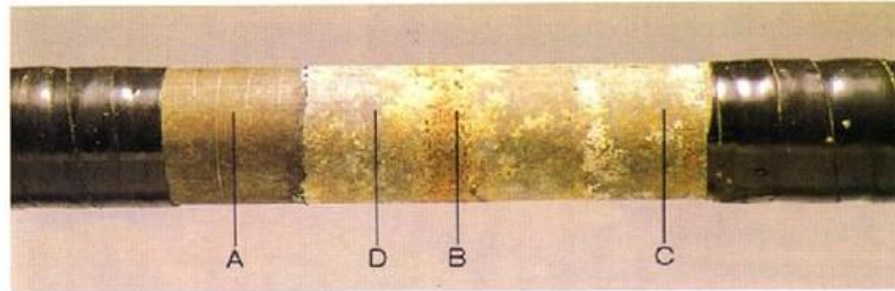


## Anti-Corrosion Test - for FURUTO Self-Healing series ANTI-CORROSION TAPE

(1) Underground Aging Test for 10 years

test sample by Furuto's K-450

防食効果



Above #A:

Protected by Furuto K-450 Self-Healing Anti-Corrosion Surface Protection Tape. after 10 years, no any corrosion was found.

Above #B, C, D, Protected by other Pipe Wrapping Tape had serious Corrosion. #B (=10 years), C (=9 years), D (=4 years),

(2) Outdoor Aging Test for 3 years : (below photo, test sample by Furuto's #10, SM, ST & K-450)

Test Condition: serious corrosion environment (facilities of Oil Refinery in coastal region)

Test Result: (No any corrosion) = EXCELLENT Water & Air Immersion Resistance, and UV Resistance. (Both Weld End and Pipe's surface are still showing Metallic Luster, which same as the original status before wrapping the Furuto Self-Healing Anti-Corrosion series products).



## Accelerate Aging Test - for FURUTO Self-Healing series ANTI-CORROSION TAPE

(3) Under Sea accelerated Aging Test for 6 months : (below photo, test sample by Furuto's K-450)

Test Condition: serious corrosion environment (facilities of Oil Refinery in coastal region)

Under 10 meters of the sea for 6 month (4,320 hours) : under high pressure of seawater with rich salt (Chlorine & Iodine) condition to test the Accelerate Aging (= use more Harsh Test Condition to against the general Salt Spray Test method such like ASTM B117 and ISO 9227).

Test Result: (No any corrosion) = EXCELLENT Water & Air Immersion Resistance.



appearance of demo sample before check -  
10 meters under the sea for 6 month  
Tape's surface covered plankton and sea shells.



Furuto #K-450 couldn't peel-off from the pipe due to its Self-Healing Adhesive Layer was very tight covered the Pipe surface (became a part of Pipe). (= 100% Air Tight & Water Tight)

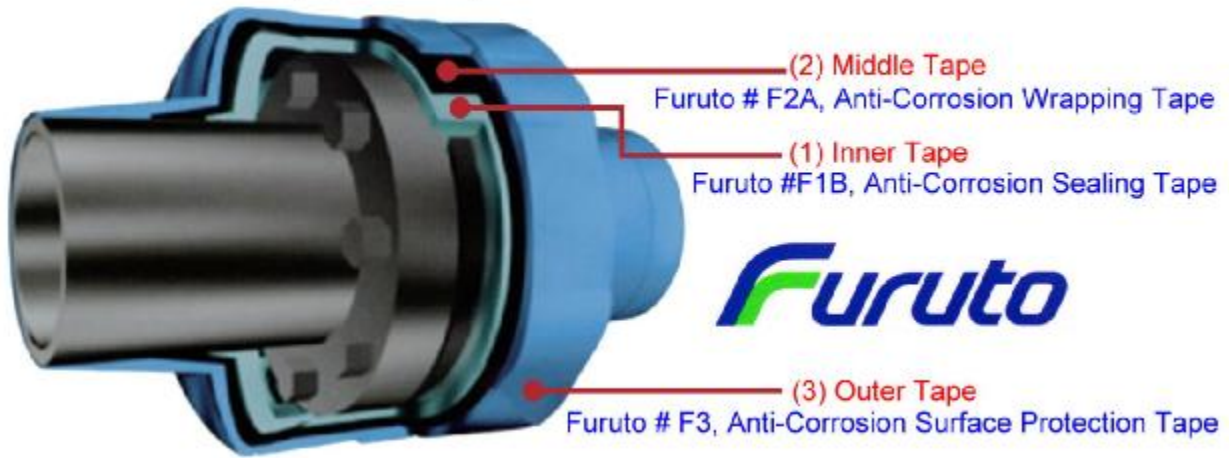
## FURUTO (Standard Grade) Self-Healing series ANTI-CORROSION TAPE

Rough guide to use (In accordance with the construction sequence)

<p><b>Furuto #10 Primer</b> Wet Weight: 100g/m2 <b>Under Coating</b></p>	<p><b>Furuto SM (Inner)</b> Thickness: 2mm <b>Sealing for uneven &amp; irregular sections</b></p>	<p><b>Furuto ST (Middle)</b> Thickness: 2mm <b>Wrapping for uneven &amp; irregular surface</b></p>	<p><b>Furuto K-450 (Outer)</b> Thickness: 0.4mm <b>Surface protection for Pipe &amp; Facility</b></p>
 <p><b>Solvent Type</b> - contents Toluene</p>	 <p>with Release Liner</p>	 <p>with Release Liner</p>	 <p><b>without</b> Release Liner</p>

**Engineering Method –(1) for FURUTO Self-Healing series ANTI-CORROSION TAPE**

Anti-Corrosion for Flange, Valve & Pipe.....



(1)  
Repairing the old object must be clean the rust and oil before use the #F0 Primer.  
New pipe is no need the primer.

(2)  
Apply Furuto #F0 PRIMER (brush or spray) as an under coating for the object.

(3)  
Use Furuto #F1B, Sealing Tape to fill the uneven surface or irregular section of Flange.



(4)  
Use Furuto # F2A, Wrapping Tape to be around the irregular surface of Flange.

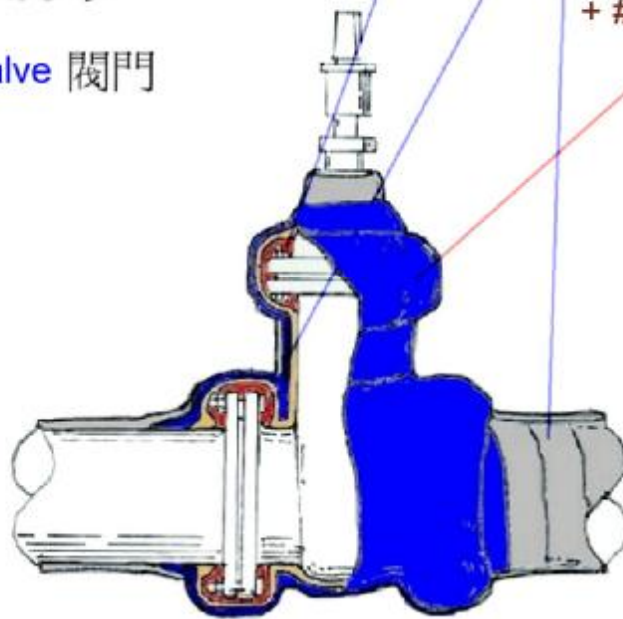
(5)  
Use Furuto # F3, Surface Protection Tape to be around the irregular surface of Flange.

(6)  
Use Furuto # F3, to wrapped again and extend to the both side of pipe (10~20cm), and avoid the wrinkles.

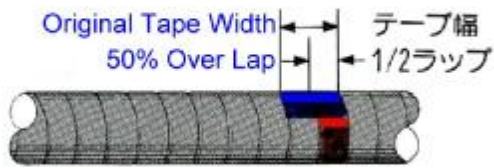


バルブ use Furuto #F1 + #F2 + #F3 + #F3 sheet

Valve 閥門



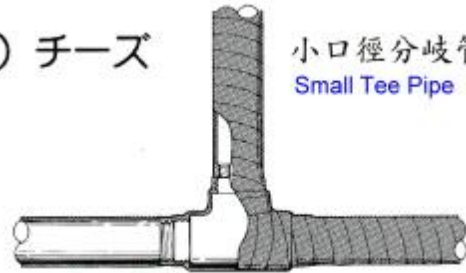
1) 直管部 **Straight Pipe**



use Furuto #F3

2) チーズ

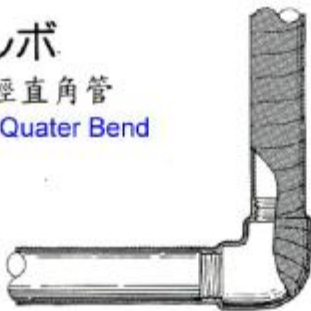
小口径分岐管  
Small Tee Pipe



use Furuto #F3

3) エルボ

小口径直角管  
Small Quarter Bend

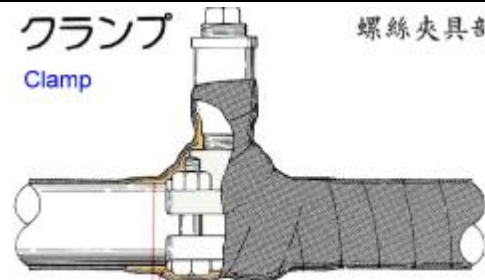


use Furuto #F3

4) クランプ

Clamp

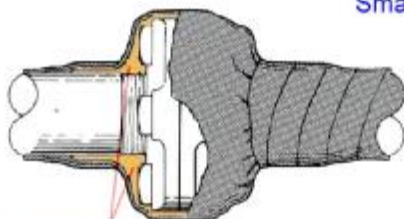
螺絲夹具部位



use Furuto #F2A + #F3

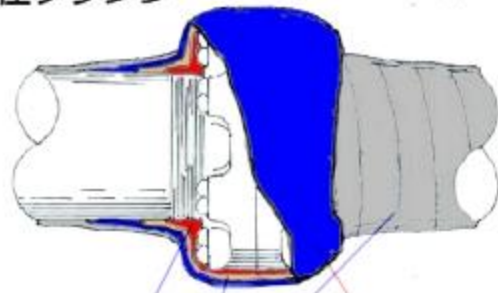
5) 小径フランジ

小口径法蘭  
Small Flange



use Furuto #F2 + #F3







大径フランジ **Big Flange** 大口径法蘭



use Furuto #F1 + #F2 + #F3 + #F3 sheet



**End Application - for FURUTO Self-Healing series ANTI-CORROSION TAPE**

Water Industry (Japan)	Power Industry (Japan)	Chemical Industry (Japan)
		
		

Oil Refinery	Power Industry	Steel Construction
		
		

