

Visualization of Leaks

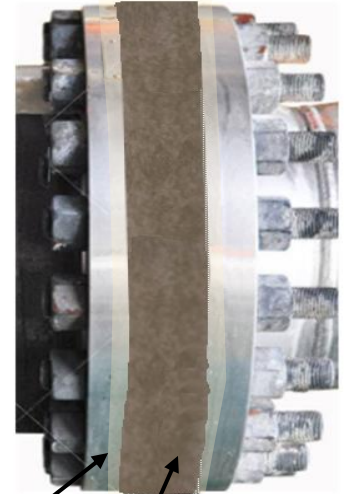
Hydrocarbon Liquid and Gas
&
Various Chemicals



Visualization of Leaking of Hydrocarbon Gas or Liquid

Features

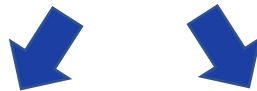
- The color changes (black to purple) occurs by contact with hydro-carbon fume or liquid.
- The time to change the color by hydro-carbon contact takes from a few seconds to few hours.



UV Resistance Clear Tape

Hydro-carbon Leak-Detect Tape

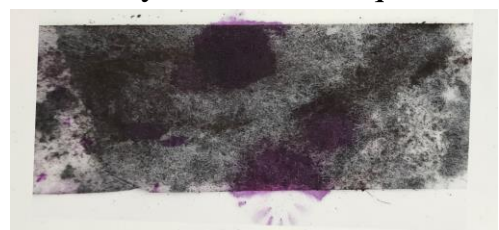
Hydro-carbon Leak-Detect Tape



After Expose to
Hydro-carbon Fume



After Contacted to
Hydro-carbon Liquid



Note: Hydro-carbon is paint thinner in the pictures.



Features

- It has elasticity and can be wound freely around complex shapes.
- It can be fixed simply by pressing against the wound Leak-Detect Tape.
- Adhesives, fasteners, cutting tools are not required.
- Not sticky.
- It can be re-wrapped if required.

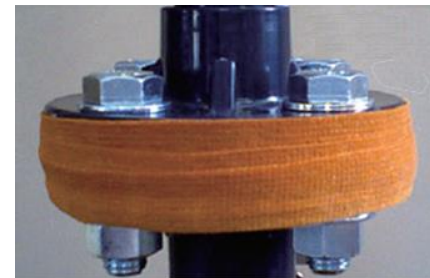
Notes:

- The color changes typically occur by chemicals less than pH of 2.
- The time to change the color by chemical contact take from a few seconds to few hours.
- Outside in weather, the color may gradually fade over several years, making it difficult to see the color change at the time of leakage. Please change to new Leak-Detect Tape.
- When it is exposed to strong acid (e.g., 60% of Sulfuric acid), the base cloth may be dissolved.

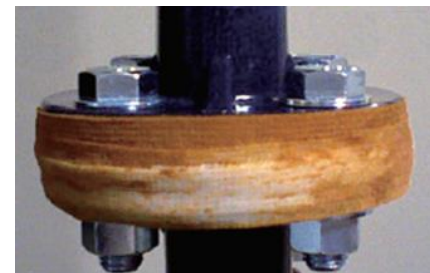
Detectable Acid Chemicals:

- | | |
|--|---|
| • Sulfuric acid (H ₂ SO ₄), | • Arsenic acid (H ₃ AsO ₄) |
| • Nitric acid (HNO ₃) | • Selenous acid (H ₂ SeO ₃) |
| • Hydrochloric acid (HCl) | • Chromic acid (H ₂ CrO ₄) |
| • Selenic acid (H ₂ SeO ₄) | • Citric acid (H ₃ Citrate) |
| • Hydroiodic acid (HI) | • Hydrofluoric acid (HF) |
| • Hydrobromic acid (HBr) | • Nitrous acid (HNO ₂) |
| • Orthophosphoric acid (H ₃ PO ₄) | • Oxalic acid (C ₂ H ₂ O ₄) |

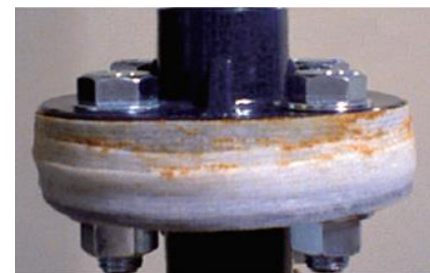
Note: Low concentration of acid chemical may not react.
Please test specific chemicals before application.



No Leak

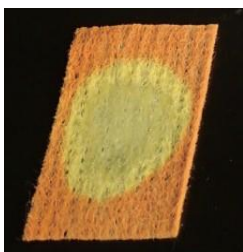


Initial Leak

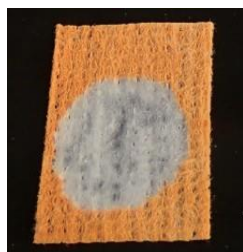


After Color Change

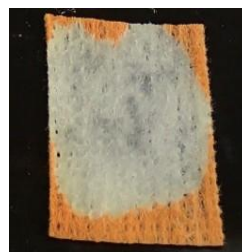
Examples of Color Changes by Acid Chemicals



10% HCl



H₂SO₄



Oxalic acid

One Roll: 25 mm W x 10 m per Roll
Carrier: Stretchable Polyester Cloth

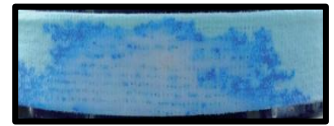


Features

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Sodium Hydroxide
(NaOH) 10% to 40%
Light Blue → Blue/Black



Ammonia Hydrogen Carbonate
NH₄HCO₃ aq. 10%, pH 8.1

Leak Center Color
Surrounding Color
After Dry

White	Wet	Dry
Blue/Navy Blue		
Blue to Black		

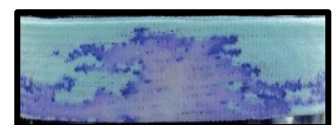
White	Wet	Dry
Blue/Navy Blue		
Light Blue		



Ammonia Liquid or Gas
(NH₃, HH₄) 1% to 28%, pH 14.0
Light Blue → Navy Blue



Sodium Hydroxide
NaOH aq. 1%, pH 13.4

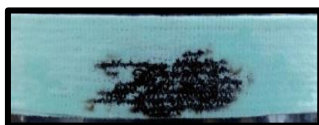


Polyethylene Amin
NH₂ (NH₂CH₂NH)_nH
10%, pH 12.5

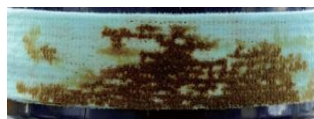
White	Wet	Dry
Dark Blue/Navy Blue		
Light Blue		

Blue/Navy Blue	Wet	Dry
White		
Blue to Black		

Blue/Navy Blue	Wet	Dry
White		
Blue to Black		



Sodium Hypochlorite
NaClO aq. 6%, pH 13.0



Hydrogen Peroxide
H₂O₂ aq. 3%, pH 5.0

Black	Wet	Dry
Black		
Black		

Brown	Wet	Dry
Brown		
Light Brown		

One Roll:
25 mm W x 10 m per Roll
Carrier:
Stretchable Polyester Cloth



 **LEAK-DETECH**
TAPE



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