

Chemical Leak Detection

[Tape, Band, Monitoring sensor]

What are Chemical Leak Detection Tape and Band?

- ❖ Chemical tapes that visually warns workers upon leakage of hazardous chemicals used in industry.
- ❖ Applicable to all connection areas of indoor/outdoor reactors, valves, and storage tanks.
- ❖ Less limited by space than electronic sensors and easier to find leak points.

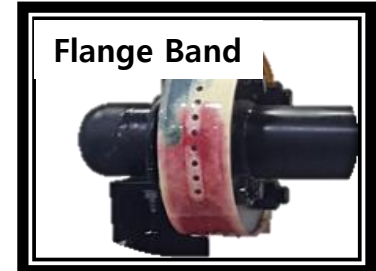
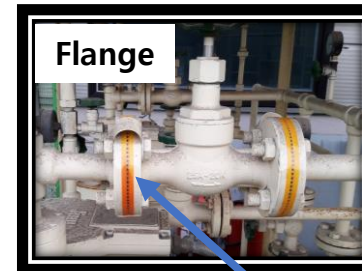
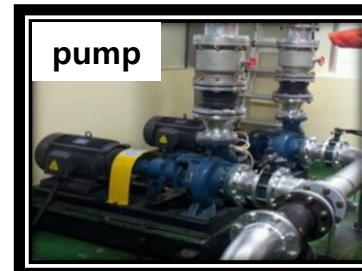
HCl Gas Leak



Chemical leak
→
Early detection



Application



Visual detection of
chemical leak

Products

(I. Chemical Leak Detection Tapes)



Acid



Alkaline

Immediate color change when chemical leaks

1. Acid/Alkaline Dual Detection Tape

DT Tape



FT Tape



❖ Product Specification

Use	Product name	Dimension ¹ W(mm)xL(m)	Applicable chemicals		Clean room	Detection range ⁴
			Acid ²	Alkaline ³		
Acid/Alkaline leak detection	DT30 ⁵	30x30	Liquid	Liquid	O	> 0.1%
	DT50	50x30	Liquid	Liquid	O	
	FT30 ⁶	30x30	Liquid, Gas	Liquid	X	
	FT50	50x30	Liquid, Gas	Liquid	X	

REF 1: Sensing width 15 (30x30 tape), 30 (50x30 tape)

REF 2: Hydrochloric acid, Nitric acid, Sulfuric acid, Hydrofluoric acid, Phosphoric acid, Acetic acid, etc

REF 3: Sodium hydroxide, Potassium hydroxide, Ammonium hydroxide, etc

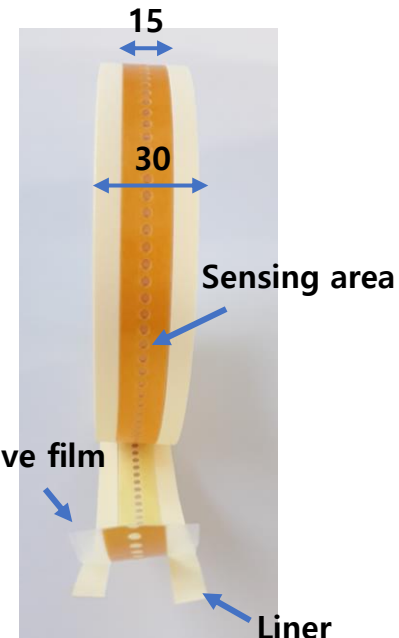
REF 4: Reference chemical (Hydrochloric acid and Potassium hydroxide)

REF 5: Excellent weatherability and can be used in clean rooms

REF 6: More reactive to acid gases

※ Adhesion test method KS T 1028 (SUS 304)

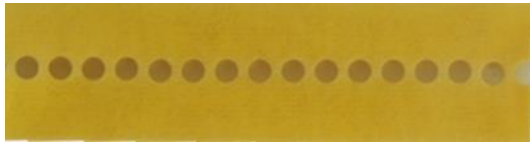
DT30 Dimension



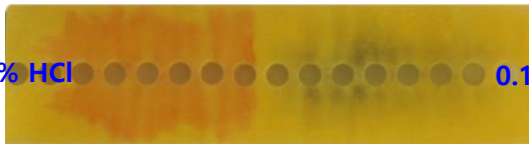
Acid/Alkaline Response Test (DT Tape)

DT Tape

Before test



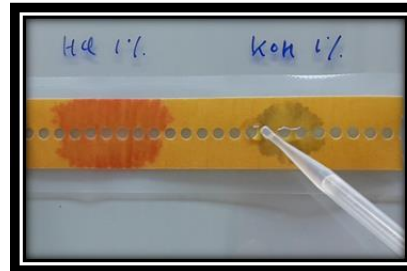
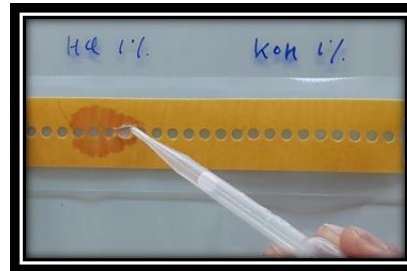
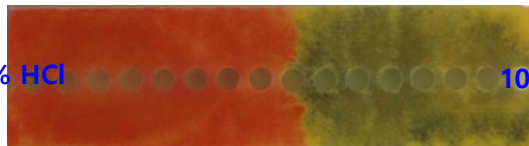
0.1% HCl 0.1% KOH



1% HCl 1% KOH



10% HCl 10% KOH



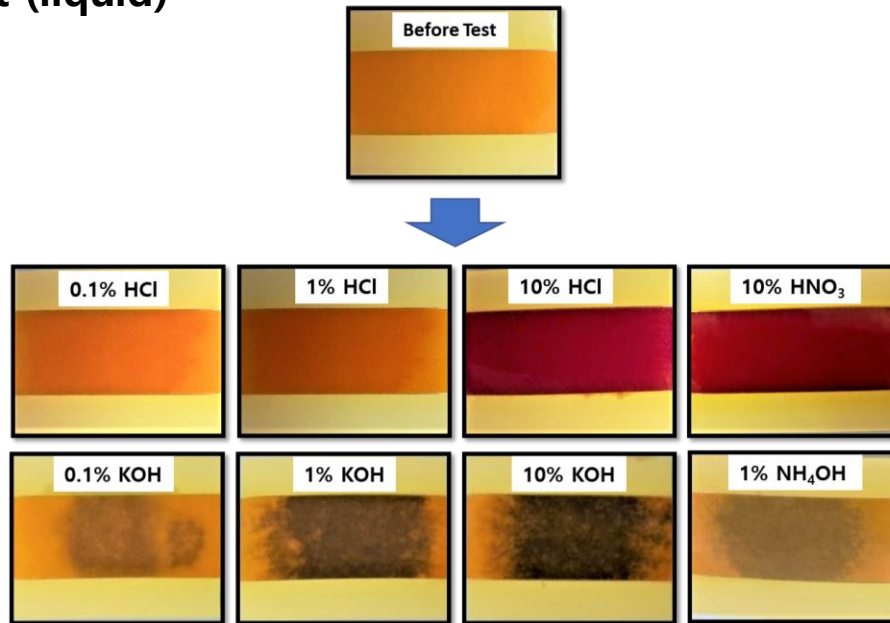
Immediate
color change



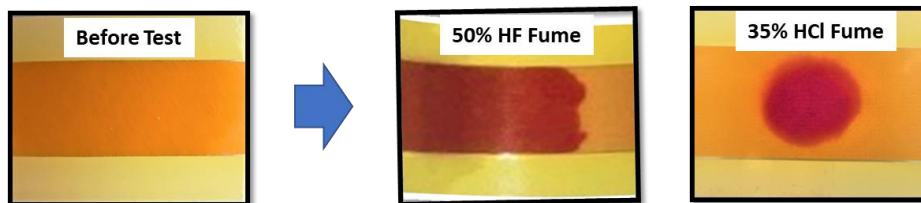
35% HCl fume

Acid/Alkaline Response Test (FT Tape)

- Chemical Test (liquid)



- Chemical Test (Gas)

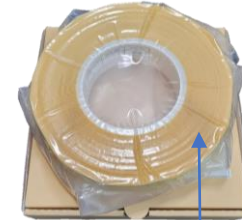
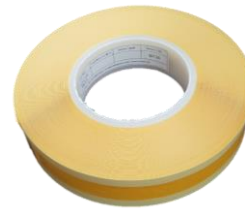


2. Alkaline Gas Detection Tape

AT Tape



SAT Tape



vacuum packed for long-term product storage

❖ Product Specification

Use	Product name	Dimension W(mm)xL(m)	Applicable chemicals	Detection range
Alkaline Gas leak detection	AT30	30x30	Ammonia, amine etc	> 1%
	AT50	50x30		
	SAT30	30x30		>100ppm
	SAT50	50x30		

※ Tape discoloration may occur due to water, but interference by moisture in the air is minimized.

28% Ammonium hydroxide fume test



AT tape

100ppm Ammonia test

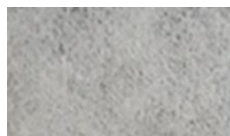


SAT tape

3. Organic Solvent Detection Tape



Before test



Color change after reaction with organic solvent



Use	Product name	Dimension ¹ W(mm)xL(m)	Applicable chemicals
Solvent leak detection	GST30	30x30	Alcohols, Ketones, Esters Aromatics, hydrocarbons, etc
	GST50	50x30	

REF 1: Sensing width 15 (30x30 tape), 30 (50x30 tape)

※ The tape can be used in cleanroom

Front side



After reacting with the chemicals

MEK



Hexane



HMDI



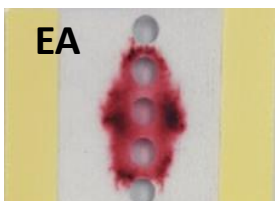
IPA



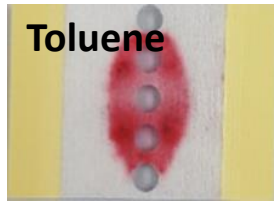
Back side



EA



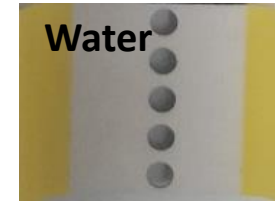
Toluene



PGME



Water



※ EA: Ethyl acetate, IPA: Isopropyl alcohol, MEK: Methyl ethyl ketone, HMDI: Hexamethylene diisocyanate, PGME: Propylene glycol methyl ether

4. Hydrogen Sulfide Detection Tape



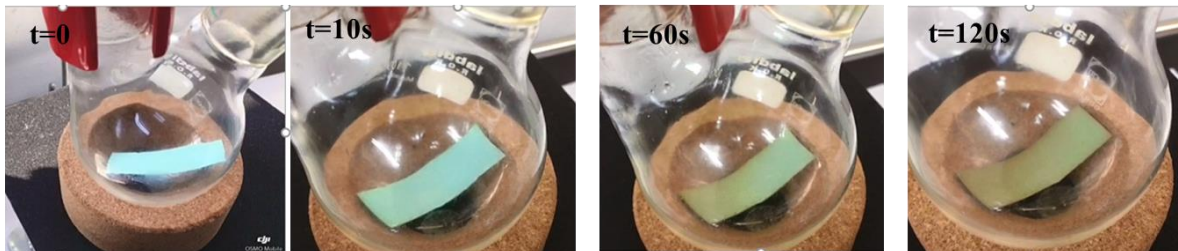
Before test



❖ Product Specification

Use	Product name	Dimension W(mm)xL(m)	Applicable chemicals	Detection range
Hydrogen sulfide leak detection	HST30	30x30	Hydrogen sulfide	> 1%
	HST50	50x30		

500 ppm H₂S, 100cc/min



5. Hydrogen Peroxide Detection Tape



Before Test



35% H₂O₂



1% H₂O₂

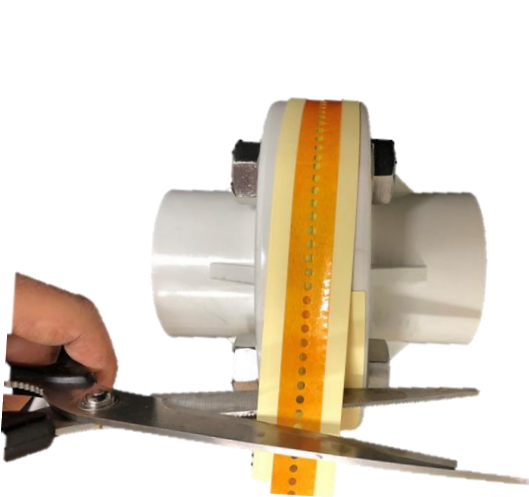


water

❖ Product Specification

Use	Product name	Dimension W(mm)xL(m)	Applicable chemicals	Detection range
Hydrogen peroxide leak detection	HPT30	30x30	Hydrogen peroxide	> 1%
	HPT50	50x30		

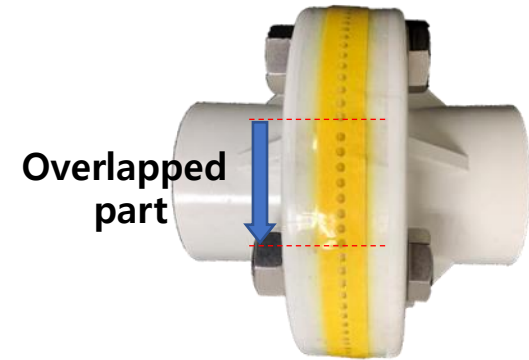
6. How to Use the Chemical Tapes



Step 1. Cut the tape slightly longer than a flange perimeter



Step 2. Remove the release liner



Step 3. Attach the longer end of the tape over the already placed tape



Acid



Alkaline

Color change upon chemical leak

Products

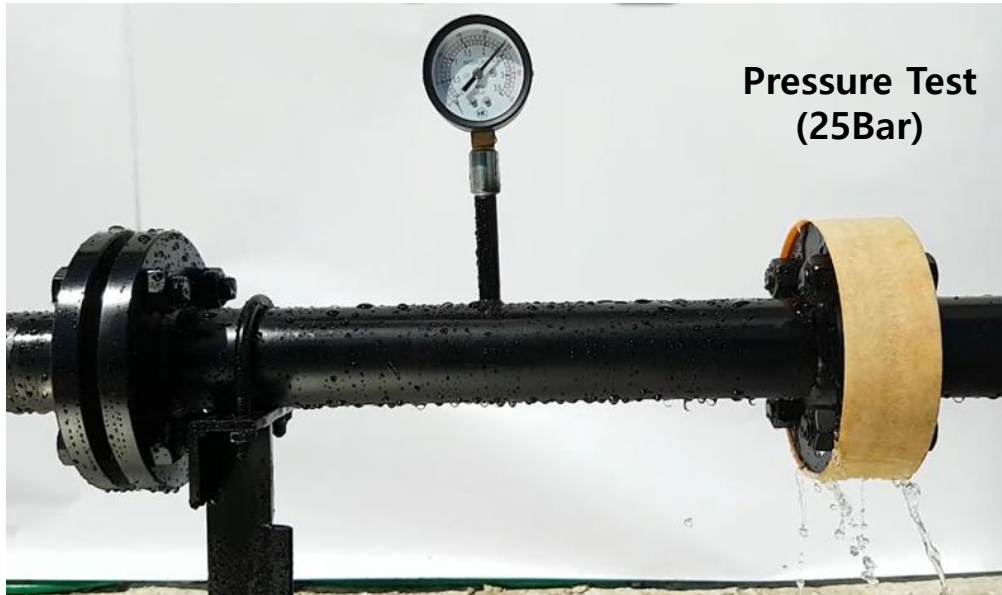
(II. Safety Spray Shield)



Prevention of chemical spray
Early detection of chemical leak

1. Safety Spray Shield

What is a Chemical Leak Detecting Flange Band?

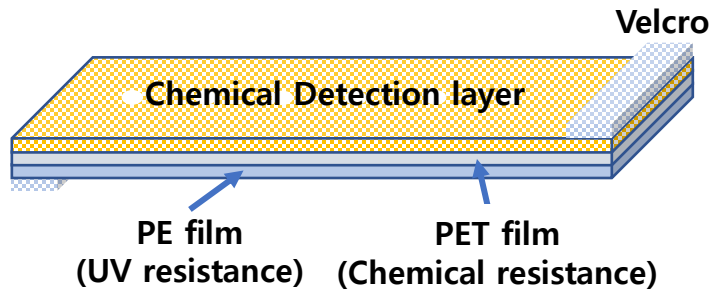


- ✓ Prevention of chemical spray
- ✓ Fast detection of chemical leak
- ✓ Competitive price
- ✓ Patented product

- ❖ Prevents injury or damage to workers and equipment from a leak or spray out of hazardous chemicals from joint parts such as flanges, valves, chemical pumps, and storage tanks.
- ❖ Easy to find the leakage point through an immediate color change of the chemical tape in the presence of chemicals.
- ❖ Easy to install and maintain the flange band.
- ❖ Competitive price compared to conventional flange guards

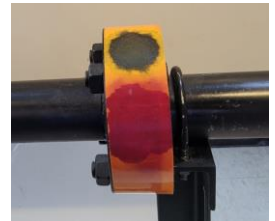
2. Feature and Specification (Flange Band)

Flange Band (FBGT)

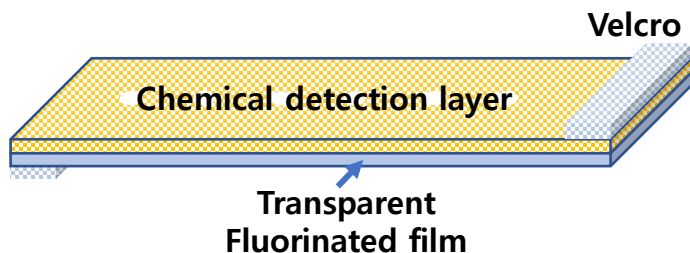


[Specification]

- ❖ Material: PE film (UV resistance) + PET film (chemical resistance) + Chemical detection layer
- ❖ Detectable chemicals: Acid/alkaline
- ❖ Operating Temperature: RT
- ❖ Max. Temperature: 80 °C (acid/alkaline)



Flange Band (FBFT)



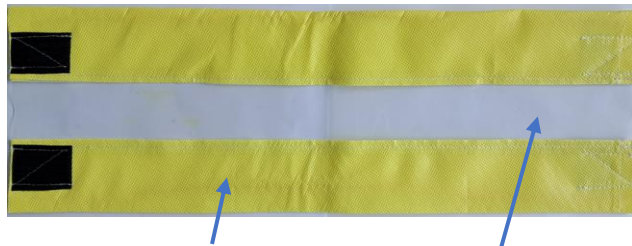
[Specification]

- ❖ Material: Fluorinated film (Excellent weatherability and chemical resistance) + Chemical detection layer
- ❖ Detectable chemicals: Acid/alkaline
- ❖ Operating Temperature: RT
- ❖ Max. Temperature: 80 °C



3. Feature and Specification (Safety Spray Shield)

Safety Spray Shield (FCGT)



Chemical resistant
fabric

PVC film

Safety Spray Shield (FCFT)



Silicone coated
grey fiberglass

Fluorinated
film

[Specification]

- ❖ Material: Clear PVC film + Chemical resistant fabric + PTFE sewing thread + PP rope (can be used along with our leak detection tape)

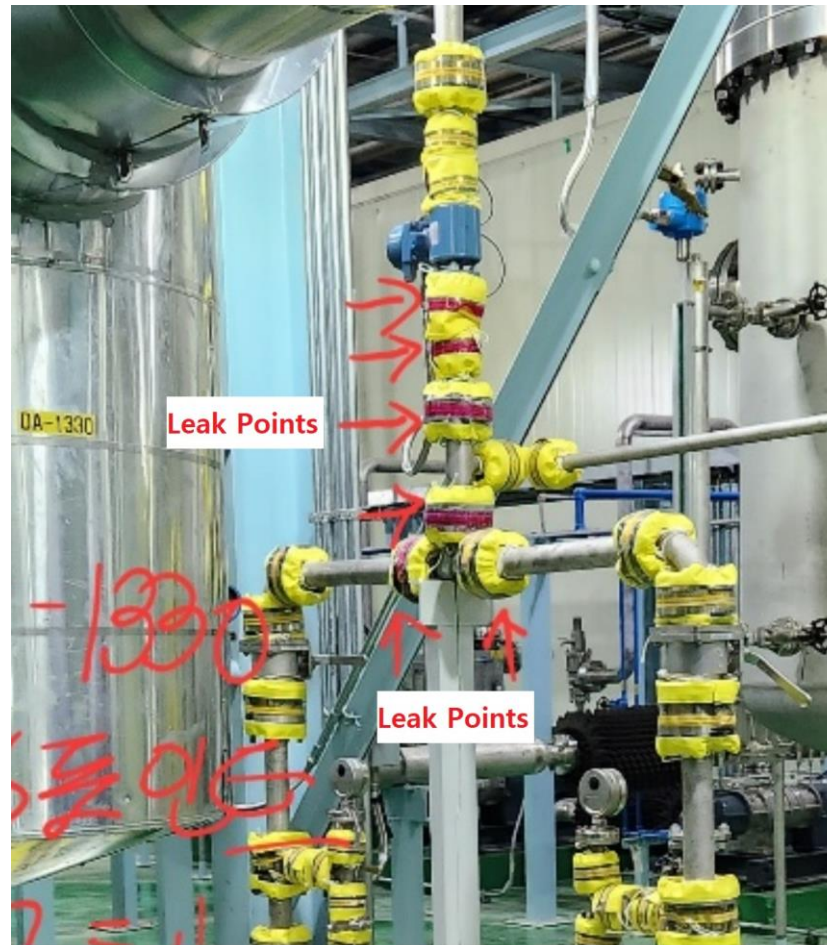


[Specification]

- ❖ Material: Clear fluorinated film + Silicone (or Teflon) coated grey fiberglass + PTFE sewing thread + PP rope (can be used along with our leak detection tape)

※ For high temperature applications, please contact our customer service (smtek100@gmail.com)

Application picture



※ Sulfuric acid leak detection



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Satisfaction, innovative material development and a spirit of challenge**

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Appendix 1. IP & Test Report

Patents and trademark



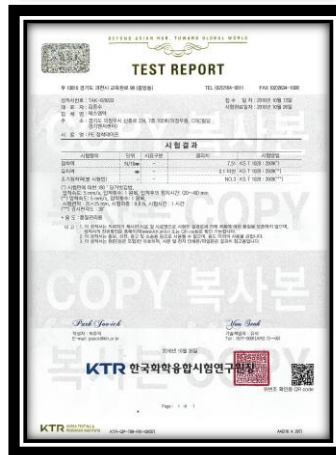
Weatherability test



REACH Test



Adhesion test



KC for LeakTel



LeakTel Test report



Appendix 2. Sales Reference

❖ Customers

- Petrochemical/Fine Chemical Companies, Power Plants, POSCO
Semiconductor Specialty Gas/Precursor manufacturing Companies,
Korea Hydro & Nuclear Power, Piping & Sealing Manufacturing Companies,
Samsung, LG, SK Hynix, Lotte, Hyundai Motors, etc.

❖ Applications

- Chemical resistant pumps, valves, flanges, reactors, chemical storage tanks

