

TECH SERVICES DOCUMENT

ChemTape[®] & Frequently Asked Questions

Rev. (12/17)

1. <u>Will ChemTape[®] provide a liquid tight seal?</u>

The performance of ChemTape[®] is dictated by the care taken when applying the product. ChemTape[®] is ideal for situations requiring protection from chemical splashes. ChemTape[®] should not be immersed, although a liquid-tight seal is attainable with the proper application technique. Users should avoid wrinkles and folds when applying the tape. ChemTape[®] utilizes a pressure-sensitive adhesive, the optimum seal will be obtained with a high degree of pressure during application.

2. Will using ChemTape[®] make suits gas-tight?

No. ChemTape[®] should not be used instead of an alternative garment design if conditions exist that require gas-tight protection.

3. How should ChemTape[®] be properly applied? On what areas of the suit should it be used?

ChemTape[®] was designed to create and improve the liquid resistance of interfaces and closures found on protective garments and ensembles. ChemTape[®] can be used to minimize and possibly eliminate liquid penetration through the following interfaces; glove/sleeve, boot/boot flap, zipper, storm flap, around respirator face pieces, etc. ChemTape[®] should be applied by hand with a high degree of pressure. A sufficient length of ChemTape[®] should be wound off the roll and either cut with a knife/scissors or torn by hand by pulling firmly and rapidly across the tape a right angle. A single continuous length of tape should be used whenever possible. Several wraps or lengths of tape may be necessary to obtain the desired level of coverage and performance based on the specific scenario.

4. Is it possible to reuse ChemTape[®]?

No. ChemTape[®] is a single-use, disposable item.

5. Does removing ChemTape[®] have an effect on the chemical resistance of the suit material?

ChemTape[®] has a very aggressive adhesive system to maximize the bond to the fabric. Some fabrics can be affected when ChemTape[®] is removed from the suit; however this will be most likely in with Provent[®] and other very lightweight fabrics. Temperature, exposure scenario, and the length of time the tape has been on a fabric will all affect the release characteristic after use. It is up to the user to inspect the garment for signs of degradation, delamination and/or tearing if a

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CAUTION: Do not use for fire protection. Avoid open flame or intense heat.

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garment is a candidate for re-use.

6. Will Kappler be testing additional chemicals for permeation or penetration against

<u>ChemTape</u>[®]? Yes. Kappler will arrange testing for any of its products in exchange for a commitment to purchase if desired results are met.

7. Will chemicals affect or attack the adhesive on ChemTape[®]?

ChemTape[®] includes a polyisoprene (i.e., natural rubber) based adhesive system that can be affected by certain chemicals. Proper application (i.e., avoidance of wrinkles and gaps) in the tape will help to minimize degradation of the adhesive since a flat edge minimizes the actual amount of adhesive that is available for chemical exposure.

8. Is ChemTape[®] available in other roll sizes? What about in other colors?

No. ChemTape[®] is available in individually shrink-wrapped rolls. Rolls are $\sim 2^{\circ} \times 6^{\circ}$ yd (48mm wide x 50 meters long). ChemTape[®] is yellow imprinted with a black logo.

9. What is the difference between ChemTape[®] and standard duct tape?

Standard duct tape is designed to minimize the gross leakage of air in and around seams and joints in heating, air-conditioning, and ventilation equipment (HVAC). ChemTape[®] is a conformable, hand-<u>tearable</u>, high chemical barrier closure and attachment tape system designed to minimize or eliminate the influx of hazardous particles and liquids into the interfaces unique to chemical protective clothing ensembles. ChemTape[®] was designed using the same technology used to develop limited-use chemical protective clothing fabrics such as Zytron[®] fabrics.

10. Will ChemTape[®] removal affect the chemical resistance of gloves or will the adhesive <u>effect the resistance?</u>

Unlikely. Most chemically resistant gloves such as PVC, Butyl, Viton and Neoprene are either "cured" or "vulcanized" making them essentially unaffected by rubber-based pressure sensitive adhesives. Film -based gloves such as the 4H and SilverShield products may be affected if ChemTape® is removed from the glove. In either case, the user should fully inspect the glove for signs of physical and/or chemical deterioration/degradation and discard as necessary.

11. Is it possible to use ChemTape[®] over serged or bound seams to enhance holdout?

Yes, ChemTape[®] can be used to improve the performance of seams, closures, and other interfaces present on a protective garment or ensemble. The ultimate performance of ChemTape[®] is dictated by how it is applied.

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12. What is the temperature service range of ChemTape[®]?

Our supplier has done a limited study on this product. The maximum recommended storage temperature is 120°F (49°C). During this study they found that storage for 1 month at this temperature equates to about 1 year at the standard conditions of 73°F (23°C).

13. What are the temperature parameters for using ChemTape[®] to interface gloves / suit while handling hot chemicals?

Using chemicals at elevated temperatures can be a potentially dangerous situation and precautions should be taken. Kappler would need know what chemicals are being used and expected exposure duration. Kappler makes no claims as to the chemical resistance of ChemTape[®] at elevated temperatures. Also, no claims are made on the chemical resistance of the adhesive. Users should contact Kappler for more information and possible referral to a lab so exposure conditions may be reproduced and expected performance evaluated. Service temperature range given on ChemTape[®] is related to the softening point of the films and not the operating temperature of the adhesive on most duct tape.

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