

DuPont™ Tychem® QC

CHEMICAL PROTECTIVE CLOTHING

Lightweight protection from liquid splashes.



When you need more than dry particulate protection, consider DuPont™ Tychem® QC for protection from light liquid splashes and occasional contact with pesticides, inorganic acids, alkalis, and acids.

A comfortable, lightweight, and durable fabric, DuPont™ Tychem® QC utilizes the strength of DuPont™ Tyvek® fabric and a polyethylene quality coating, making this one of the more comfortable and protective garments available. Tychem® QC is used for light splash protection in a variety of industrial environments, including petroleum refining, pulp and paper manufacturing, food processing, chemical processing, and pharmaceutical manufacturing.¹

Tychem® QC provides excellent resistance against biohazards such as blood, body fluid, and viral contaminants, and passes ASTM F1670 for blood penetration and F1671 for viral penetration.

Visibility

When working in hazardous conditions, the color and visibility of protective apparel can greatly affect the overall safety of the worker. When workers wear high-visibility colors, it improves how well they are seen and distinguished from the background. Obviously, safety is enhanced when workers can clearly see co-workers. The Tychem® QC yellow color is often a preferred choice because it provides contrast across a wide range of natural backgrounds. In a laboratory study, Tychem® QC received high overall ratings for visibility in dim light, bright light, and contrast with natural backgrounds.²

Durability

Tychem® QC consists of a durable Tyvek® substrate quality-coated with polyethylene. Rugged and durable, Tychem® QC is a tough barrier fabric that resists punctures and tears. Yet even in cold temperatures, Tychem® QC remains flexible compared to competitive fabrics, based on measurements over a wide range of temperatures.³

Tychem® QC is the only polyethylene-coated fabric backed by DuPont quality standards.



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Permeation

Documentation is available on how DuPont™ Tychem® QC performs against more than 80 chemicals. DuPont makes the only polyethylene-coated fabric for which testing data is provided. This testing data provides detailed information on how well this fabric performs against various chemical classes.⁴

Note: While the uncoated DuPont™ Tyvek® substrate performs well in tests with light splash with low pressure, DuPont™ Tychem® QC passes penetration tests that include high pressures.

Pesticides: To determine the appropriate garment for a liquid application, read the EPA Product Registration Label. If the signal word is "CAUTION" or "WARNING" (only one will be listed), Tychem® QC may be the appropriate choice. If the signal word is "DANGER," Tychem® SL may be appropriate.

¹ General Garment Specification/Wear Guidelines: Potential for light splash AND no pressure — Select serged seam construction for **small volumes of fluids with minimal or no pressure.**

Potential for light to moderate splash — Select bound seams that are tightly sewn and have a reinforced outer binding to enhance seam strength and barrier quality.

Potential for moderate to heavy splash — Select sewn and taped seams that offer higher strength and penetration resistance. All apparel used in liquid applications should have bound or sealed seams. A storm flap that covers zipper/closure area should also be considered. In the event of a splash or drench, the contaminated garment should be removed and clean apparel donned.

² ASTM E 308-95 — "Standard Practice for Computing Colors of Objects by Using the CIE System."

³ ASTM D747 — "Apparent Bending Modulus of Plastic by Means of a Cantilever Beam."

⁴ DuPont Publication — "Permeation Guide for DuPont™ Tychem® & DuPont StaSafe® Protective Fabrics."

Typical Physical Properties of DuPont™ Tychem® QC

| Property | Units | Standard |
|--|-------|---------------|
| Total Basis Weight, oz/yd ² | 2.5 | ASTM D3776-90 |
| Thickness, mil | 10 | ASTM D1777-75 |
| Mullenburst, psi | 71 | ASTM D3786-87 |
| Breaking Strength Grab, md/cd, lb | 41/47 | ASTM D5034-90 |
| Tearing Strength Trapezoid, md/cd, lb | 7/5 | ASTM D1117-80 |

This information is based upon technical data that DuPont believes to be reliable. It is subject to revision as additional knowledge and experience are gained. DuPont makes no guarantee of results and assumes no obligation or liability in connection with this information.

It is the user's responsibility to determine the level of toxicity and the proper personal protective equipment needed. The information set forth herein reflects laboratory performance of fabrics, not complete garments, under controlled conditions. It is intended for information use by persons having technical skill for evaluation under their specific end-use conditions, at their own discretion and risk.

Anyone intending to use this information should first verify that the garment selected is suitable for the intended use. In many cases, seams and closures have shorter breakthrough times and higher permeation rates than the fabric. Please contact the garment manufacturer for specific data. If fabric becomes torn, abraded or punctured, end user should discontinue use of garment to avoid potential exposure to chemical. SINCE CONDITIONS OF USE ARE OUTSIDE OUR CONTROL, WE MAKE NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE AND ASSUME NO LIABILITY WHATSOEVER IN CONNECTION WITH ANY USE OF THIS INFORMATION.

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WARNINGS: 1) Tychem® QC is not flame-resistant and should not be used around heat, flame, sparks or in potentially flammable or explosive environments. 2) Garments made of Tychem® QC should have slip-resistant or antislip materials on the outer surface of boots, shoe covers or other garment surfaces in conditions where slipping could occur.

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Permeation Data for ASTM Recommended List of Chemicals for Evaluating Protective Clothing Materials (ASTM F1001)

| Challenge Chemical | Physical Phase | Average Breakthrough Time, min. | Average Permeation Rate, µg/cm ² /min. |
|---------------------|----------------|---------------------------------|---|
| Acetone | L | immed. | 10 |
| Acetonitrile | L | immed. | 16 |
| Anhydrous ammonia | G | immed. | 3.1 |
| 1,3-Butadiene | G | immed. | 12 |
| Carbon disulfide | L | immed. | high |
| Chlorine | G | immed. | >50 |
| Dichloromethane | L | immed. | >50 |
| Diethyl amine | L | immed. | 216 |
| Dimethyl formamide | L | immed. | 0.72 |
| Ethyl acetate | L | immed. | high |
| Ethylene oxide | G | immed. | 167 |
| Hexane | L | immed. | high |
| Hydrogen chloride | G | immed. | 9.3 |
| Methanol | L | immed. | high |
| Methyl chloride | G | immed. | 0.23 |
| Nitrobenzene | L | immed. | 18 |
| Sodium hydroxide | L | >480 | <0.1 |
| Sulfuric acid | L | >480 | <0.1 |
| Tetrachloroethylene | L | immed. | high |
| Tetrahydrofuran | L | immed. | 183 |
| Toluene | L | immed. | high |

Index of Codes:

> = greater than, < = less than, **L** = liquid, **G** = gas, **immed.** = immediate (<10 minutes)

Numbers reported are averages of samples tested by the ASTM F739 test method. Sample results do vary and therefore averages for these results are reported.

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