

Tychem® QC

Lightweight protection from liquid splashes.

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

A comfortable, lightweight and durable fabric, Tychem® QC utilizes the strength of Tyvek® fabric and a polyethylene quality coating, making this one of the more comfortable and protective garments available. DuPont Quality Assurance gives you a consistent "quality coated" fabric.

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

Visibility

When working in hazardous conditions, the color and visibility of protective apparel can greatly affect the overall safety of the worker. Visibility of a color is governed by three principles:

1. Optic sensitivity to the color under bright light (photopic visibility)
2. Optic sensitivity to the color under dim lighting (scotopic visibility)
3. Contrast of the color against background colors

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.

Permeation

Documentation is available on how 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 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.

Note: While the uncoated Tyvek® substrate performs well in tests with light splash with low pressure, 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.

Physical Properties of Tychem® QC

| | | | |
|-------------------------------------|------------------------|--|-----------|
| Total Basis Weight ASTM D3776-90 | 2.5 oz/yd ² | Breaking Strength Grab (md/cd) ASTM D5034-90 | 43/49 lbs |
| Thickness ASTM D1777-75 | 10 mils | Tearing Strength Trapezoid (md/cd) ASTM D1117-80 | 7/5 lbs |
| Mullen Burst ASTM D3786-87 | 65 psi | | |



Tychem QC
CHEMICAL PROTECTIVE CLOTHING

Tychem® QC

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

| CHEMICAL NAME | PHYSICAL PHASE | AVERAGE NORMALIZED BREAKTHROUGH TIME (minutes) | AVERAGE PERMEATION RATE (µg/cm²/minute) |
|-----------------------------|-------------------|--|---|
| Acetone | L | immed. | 10 |
| Acetonitrile | L | immed. | 16 |
| Ammonia | G | immed. | 3.1 |
| 1,3-Butadiene | G | immed. | 12 |
| Carbon disulfide | L | immed. | high |
| Chlorine gas | G | immed. | >50 |
| Dichloromethane | L | immed. | high |
| Diethylamine | L | immed. | 64 |
| N,N-Dimethylformamide | L | immed. | 0.72 |
| Ethyl acetate | L | immed. | 13 |
| Ethylene oxide | G | immed. | 167 |
| n-Hexane | L | immed. | high |
| Hydrogen chloride | G | immed. | 9.3 |
| Methanol | L | immed. | 2.2 |
| Methyl chloride | G | immed. | 0.23 |
| Nitrobenzene | L | immed. | 18 |
| Sodium hydroxide, 50% | L | >480 | <0.1 |
| Sulfuric acid (conc.) | L | >480 | <0.1 |
| 1,1,2,2-Tetrachloroethylene | L | immed. | high |
| Tetrahydrofuran | L | immed. | 183 |
| Toluene | L | immed. | 50.3 |

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.

* 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".

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.

For more information:

Visit our website at:

www.DuPontProtectiveApprl.com

For specific permeation data and breakthrough times for other chemicals:

DuPont Protective Apparel Fax-On-Demand Service
1-800-558-9329

To place an order please call our customer service center:

phone: **1-800-845-6962** fax: **1-843-335-8599**

To find a distributor in your area, please call:

1-888-577-6960



Tychem®
CHEMICAL PROTECTIVE CLOTHING

DuPont Tychem® Protective Apparel

A wide variety of dependable protection from encapsulated suits to coveralls.



37120

COVERALL

collar
front zipper closure
bound seams



37125

COVERALL

collar
elastic wrists, elastic ankles
front zipper closure
bound seams



63125

COVERALL

collar
elastic wrists, elastic ankles
front zipper closure
storm flap over zipper
Thermo Bond seams



35122

COVERALL

attached hood (elastic face)
elastic wrists
front zipper closure
attached boots*
sewn seams



63122

COVERALL

attached hood
(elastic closure)
elastic wrists
front zipper closure, storm flap over zipper
attached boots*
Thermo Bond seams



63127

COVERALL

attached hood
(elastic face)
elastic wrists
elastic ankles
front zipper closure
storm flap over zipper
Thermo Bond seams



37133

FULLY ENCAPSULATED/LEVEL B

standard faceshield (20 mil PVC)
flat back
expanded respirator fit hood
rear entry
zipper closure, storm flap over zipper
elastic wrist
bound seams
one exhaust vent
over-boots



35300

LABCOAT

collar
snap front
sewn seams



35303

SHIRT

collar
snap front
long sleeve
sewn seams

Tychem® QC
is also available
in gray for
special orders.
Minimum quantity
requirements may
be applicable.



37500

SLEEVE

elastic tops
elastic wrists
18" long



35440

SHOE COVER

low elastic top
sewn seams
(intended to be worn
over your own shoes)



35444

BOOT COVER

elastic top
17" high
sewn seams
(intended to be worn
over your own boots)



37444

BOOT COVER

elastic top
17" high
bound seams
(intended to be worn
over your own boots)

*Attached boots should be worn inside your own shoes or boots.



35124

COVERALL

attached hood
(elastic face—respirator fit)
elastic wrists
front zipper closure
attached boots*
sewn seams



35127

COVERALL

attached hood (elastic face)
elastic wrists, elastic ankles
front zipper closure
sewn seams



37122

COVERALL

attached hood (elastic face)
elastic wrists
front zipper closure
attached boots*
bound seams



37124

COVERALL

attached hood
(elastic face—respirator fit)
elastic wrists
front zipper closure
attached boots*
bound seams



37127

COVERALL

attached hood
(elastic face)
elastic wrists, elastic ankles
front zipper closure
bound seams



35350

PANTS

elastic waist
sewn seams



37470

APRON

bib style
bound neck & ties
28" x 36"



37472

APRON

attached sleeve
elastic wrist
bound neck & ties
26" x 52"
bound seams



37386

HOOD

pullover
elastic face
shoulder length
bound seams



35386

HOOD

pullover
elastic face
shoulder length
sewn seams

Tychem® QC

Permeation Information on Common Industrial Chemicals

| CHEMICAL NAME | PHYSICAL STATE | CAS # | AVERAGE NORMALIZED BREAKTHROUGH TIME ^{1A} |
|---------------------------------|----------------|-------------|--|
| Acrylonitrile | L | 107-13-1 | 382 |
| Black liquor | L | 123465-36-1 | >480 |
| Chlorine gas, 20 ppm | G | 7782-50-5 | >480 |
| Chromic acid, 60% | L | 1333-82-0 | >480 |
| Ethylene glycol | L | 107-21-1 | >480 |
| Green liquor | L | 68131-30-6 | >480 |
| Hydrofluoric acid, 48% | L | 7664-39-3 | >480 |
| Hydrogen peroxide, 70% | L | 7722-84-1 | >480 |
| Lithium chloride, 20% | L | 7447-41-8 | >480 |
| Lithium hydroxide, 20% | L | 1310-65-2 | >480 |
| Nitric acid, 70% | L | 7697-37-2 | 410 |
| Oleum, 40% free SO ₃ | L | 8014-95-7 | 398 |
| Sodium hydroxide, 50% | L | 1310-73-2 | >480 |
| Sodium hypochlorite, 17% | L | 7681-52-9 | >480 |
| Sulfuric acid | L | 7664-93-9 | >480 |
| White liquor | L | 68131-33-9 | >480 |

L = liquid, G = gas, > = greater than ^{1A} Normalized Breakthrough Time shown in minutes