

# DuPont™ Tychem® CPF 3 garments

## TECHNICAL DATA SHEET



### Strong and durable with broad chemical barrier.

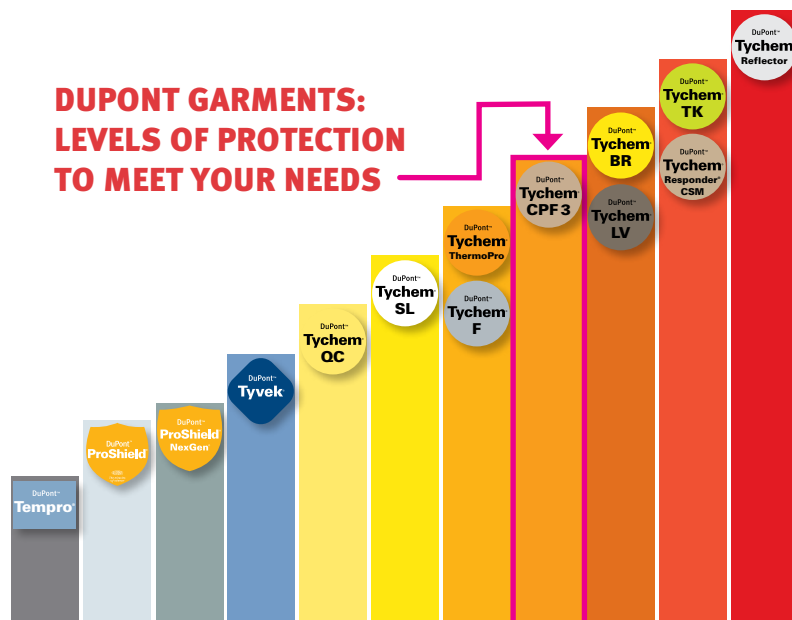
When you need chemical protection, consider DuPont™ Tychem® garments. Tychem® CPF 3 is a multi-layer barrier film laminated to a durable polypropylene substrate.

Tychem® CPF 3 is often the garment of choice by hazardous material response teams and other emergency services when potential exposure to chemical warfare agents exists.

These strong, durable garments are used in industry to protect against a broad range of chemicals. Tychem® CPF 3 provides protection against more than 149 chemical challenges.

The tan color of Tychem® CPF 3 makes it an excellent choice when there is a need for low visibility.

### DUPONT GARMENTS: LEVELS OF PROTECTION TO MEET YOUR NEEDS



#### Coverall C3 127 T shown above, featuring:

- taped seams
- attached hood
- front zipper closure
- storm flap with tape closure
- elastic wrists
- elastic ankles



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## Physical Properties of DuPont™ Tychem® CPF 3

Property	Values	Standard
Basis Weight	4.4 oz/yd <sup>2</sup>	ASTM D751
Thickness	17.5 mil	ASTM D1117
Ball Burst	68 lbf	ASTM D3787
Grab Tensile, MD/CD	62/58 lbf	ASTM D751
Puncture Propagation Tear, MD/CD	7.7/13.2 lbf	ASTM D2582
Trap Tear, MD/CD	21/30 lbf	ASTM D751
Flammability, Class 1		16CFR1610

These results are measured using the latest ASTM test methods. Results will vary due to the changes in test methods. A true test of performance is IN USE.

## Chemical Warfare Agents

Agent	Protocol	Time	Minimum detectable permeation rate (µg/cm <sup>2</sup> /min)
GB, Sarin	DN5	120 min	0.004
GD, Soman	DN5	>480 min	0.004
HD, Sulfur Mustard	DN3	120 min	0.004
L, Lewisite	DN3	120 min	0.005
VX, VX Nerve Agent	DN5	>480 min	0.0042

**Fabric Test Protocols.** All tests performed in triplicate for DuPont Personal Protection by an independent accredited laboratory at 22°C, 50% R.H.  
**Protocol DN3**—MIL-STD-282, Method T-209 (HD) or modified for Lewisite, for 12 hours at 10 g/m<sup>2</sup>.  
**Protocol DN5**—MIL-STD-282, Method T-208 (GB) or modified for GA, GD, and VX, for 12 hours at 10 g/m<sup>2</sup>.

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

Chemical Name	Physical Phase	Avg. Normalized Breakthrough Time (min)	Avg. Permeation Rate (µg/cm <sup>2</sup> /min)
Acetone	L	>480	<0.1
Acetonitrile	L	immed.	0.78
Ammonia	G	12	1.4
1,3-Butadiene	G	>480	<0.1
Carbon disulfide	L	16	0.51
Chlorine	G	>480	<0.1
Dichloromethane	L	immed.	>11.0
Diethylamine	L	>480	<0.1
N,N-Dimethylformamide	L	>480	<0.1
Ethyl acetate	L	>480	<0.1
Ethylene oxide	G	>480	<0.1
n-Hexane	L	>480	<0.1
Hydrogen chloride	G	>480	<0.01
Methanol	L	immed.	0.98
Methyl chloride	G	>480	<0.01
Nitrobenzene	L	>480	<0.1
Sodium hydroxide, 50%	L	>480	<0.1
Sulfuric acid, 98%	L	>480	<0.1
Tetrachloroethylene	L	>480	<0.1
Tetrahydrofuran	L	>480	<0.1
Toluene	L	>480	<0.1

**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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### WARNINGS:

Tychem® should not be used around heat, flames, sparks or in potentially flammable or explosive environments. Consult the Tychem® user manual, located on our website, for instructions on proper use, care and maintenance of your Tychem® garments.

Tychem® garments with attached socks made of the garment material must be worn inside protective outer footwear and are not suitable as outer footwear. These attached socks do not have adequate durability or slip resistance to be worn as the outer foot covering.

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