



Model TC351T YL

Tychem® 2000

DuPont™ Tychem® 2000, model TC351T YL. Pants. Elastication at waist and ankles. Stitched and over-taped seams. No pockets. Yellow.

Name	Description
Full Part Number	TYCPT30TYLA0
Fabric/Materials	Tychem® C
Design	Trousers with elasticated waist
Seam	Stitched and over-taped
Color	Yellow
Quantity/Box	50 per box, individually packed

FEATURES & PRODUCT DETAILS

DuPont™ Tychem® 2000, model TC351T YL. Pants available in yellow and in sizes MD to 2XL. Without pockets. Elasticated waist and ankles.

Specially designed for use with Tychem® apparel, Tychem® accessories can help offer enhanced protection for body parts that are more exposed to hazardous substances.

Made from a lightweight and durable fabric (<450g per garment), Tychem® 2000 garments and accessories utilise the strength of Tyvek® and a polymeric barrier coating to offer good permeation barrier protection against a wide range of inorganic chemicals and biological hazards (even under pressure).

Tychem® 2000 is used for splash or pressurised splash protection in a variety of industrial environments, including pulp and paper manufacturing, food processing, chemical processing and pharmaceutical manufacturing.

- Stitched and over-taped seams with barrier tape for protection and strength
- Pants without pockets
- Antistatic treatment (EN 1149-1) - on inside; see footnotes
- EN 14126 (barrier to infective agents).

ADDITIONAL EQUIPMENT NEEDED

- This garment only provides partial body coverage. It may be worn in combination with other chemical resistant PPE as required based on the hazard assessment.
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- Wear other appropriate PPE such as, but not limited to, respiratory, eye, head, hand, and foot protection based on the hazard assessment.

Physical Properties



Data relating to mechanical performance of the fabrics used in DuPont chemical protective clothing, listed for the selected garment according to the test methods and relevant European standard, if applicable. Such properties, including abrasion and flex-cracking resistance, tensile strength and puncture resistance can help in the assessment of protective performance.

Property	Test Method	Typical Result	EN
Abrasion Resistance ⁷	EN 530 Method 2	>1500 cycles	5 of 6 1
Basis Weight	DIN EN ISO 536	83g/m ²	N/A
Bursting Strength (Mullenburst)	ISO 2758	475 kPa	N/A
Colour.	N/A (598)	Yellow	N/A
Exposure to high Temperature	N/A (598)	Garments seams opens at 98°C	N/A
Exposure to low Temperature	N/A (598)	Flexibility retained down to -73°C	N/A
Flex Cracking Resistance ⁷	EN ISO 7854 Method B	>5000 cycles	3 of 6 1
Flex Cracking Resistance at -30 °C	EN ISO 7854 Method B	>500 cycles	N/A
Puncture Resistance	EN 863	18 N	2 of 6 1
Resistance to Ignition ⁷	EN 13274-4 Method 3	No after flame, no drop formation, hole formation	N/A
Resistance to water penetration	DIN EN 20811	>30 kPa	N/A
Surface Resistance at RH 25% ⁷	EN 1149-1	≤ 2,5x10 ⁹ Ohm	N/A
Surface Resistance at RH 25%, outside ⁷	EN 1149-1	No antistatic treatment	N/A

Tensile Strength (MD)	DIN EN ISO 13934-1	160 N	3 of 6 1
Tensile Strength (XD)	DIN EN ISO 13934-1	150 N	3 of 6 1
Thickness (PPSH-249)	DIN EN ISO 534	180 µm	N/A
Trapezoidal Tear Resistance (MD)	EN ISO 9073-4	35 N	1 of 6 1
Trapezoidal Tear Resistance (XD)	EN ISO 9073-4	30 N	1 of 6 1

1 According to EN 14325 2 According to EN 14126 3 According to EN 1073-2 4 According to EN 14116 12
According to EN 11612 5 Front Tyvek ® / Back 6 Based on test according to ASTM D-572 7 See Instructions for
Use for further information, limitations and warnings > Larger than < Smaller than N/A Not Applicable STD DEV
Standard Deviation

GARMENT PERFORMANCE



Information relating to the protective performance of a garment according to European standards where applicable. Includes important characteristics such as protection against radioactive contamination, seam strength and shelf life. Inward leakage and resistance to penetration by liquids, according to the relevant Type classification, are also detailed.

Property	Test Method	Typical Result	EN
Seam Strength	KOSHA	>125 N	4 of 6 ⁸
Shelf Life (PPSH-190)	N/A (598)	5 years	N/A

1 According to EN 14325 3 According to EN 1073-2 12 According to EN 11612 13 According to EN 11611 5 Front Tyvek ® / Back 6 Based on test according to ASTM D-572 7 See Instructions for Use for further information, limitations and warnings 11 Based on the average of 10 suits, 3 activities, 3 probes > Larger than < Smaller than N/A Not Applicable * Based on lowest single value

COMFORT



The comfort of a protective garment during use is largely determined by its weight, its permeability to vapour and air (breathability) and insulating properties. Data on these attributes is provided according to test method and, as with other data, can be compared by garment.

Property	Test Method	Typical Result	EN
Air Permeability (Gurley method)	ISO 5636-5	No	N/A

2 According to EN 14126 5 Front Tyvek ® / Back > Larger than < Smaller than N/A Not Applicable

PENETRATION AND REPELLENCY



A specific test method, EN ISO 6530, is used to measure the indexes of penetration, absorption and repellency of protective clothing material exposed to liquid chemicals. Results listed here reflect the penetration resistance and repellency of DuPont fabrics to 30% sulphuric acid and 10% sodium hydroxide.

Property	Test Method	Typical Result	EN
Repellency to Liquids, Butan-1-ol	EN ISO 6530	<1 %	3 of 3 ¹
Repellency to Liquids, Sodium Hydroxide (10%)	EN ISO 6530	<1 %	3 of 3 ¹
Repellency to Liquids, Sulphuric Acid (30%)	EN ISO 6530	<1 %	3 of 3 ¹
Repellency to Liquids, o-Xylene	EN ISO 6530	<1 %	3 of 3 ¹
Resistance to Penetration by Liquids, Butan-1-ol	EN ISO 6530	>90 %	2 of 3 ¹
Resistance to Penetration by Liquids, Sodium Hydroxide (10%)	EN ISO 6530	>95 %	3 of 3 ¹
Resistance to Penetration by Liquids, Sulphuric Acid (30%)	EN ISO 6530	>95 %	3 of 3 ¹
Resistance to Penetration by Liquids, o-Xylene	EN ISO 6530	>95 %	3 of 3 ¹

¹ According to EN 14325 > Larger than < Smaller than

BIOLOGICAL BARRIER



Detailed information on the protective performance (resistance to penetration) of DuPont clothing when exposed to biologically contaminated aerosols, liquids and dusts as well as blood, body fluids and blood-borne pathogens. Sorted by relevant European standard.

Property	Test Method	Typical Result	EN
Resistance to Penetration by Biologically Contaminated Aerosols	ISO/DIS 22611	log ratio >5	3 of 3 2
Resistance to Penetration by Biologically Contaminated Dust	ISO 22612	log cfu <1	3 of 3 2
Resistance to Penetration by Blood-borne Pathogens using Bacteriophage Phi-X174	ISO 16604	20 kPa	6 of 6 2
Resistance to Penetration by Contaminated Liquids	EN ISO 22610	>75 min	6 of 6 2

2 According to EN 14126 > Larger than < Smaller than

WARNING

- The information provided herein corresponds to our knowledge on the subject at the date of its publication. This information may be subject to revision as new knowledge and experience becomes available. The data provided fall within the normal range of product properties and relate only to the specific material designated; these data may not be valid for such material used in combination with any other materials or additives or in any process, unless expressly indicated otherwise. The data provided should not be used to establish specification limits or used alone as the basis of design; they are not intended to substitute for any testing you may need to conduct to determine for yourself the suitability of a specific material for your particular purposes. Since DuPont cannot anticipate all variations in actual end-use conditions DuPont makes no warranties and assumes no liability in connection with any use of this information. Nothing in this publication is to be considered as a license to operate under or a recommendation to infringe any patent rights.
- This garment and/or fabric are not flame resistant and should not be used around heat, open flame, sparks or in potentially flammable environments.
- Working in Ex-Zones: Please take this into account for your risk-assessment that the attached socks may isolate the wearer. There is the possibility that the garment and wearer cannot be grounded via the shoes and other measures for grounding the garment and the wearer are required

PERMEATION DATA



Permeation is the process by which a solid, liquid or gaseous chemical moves through a protective clothing fabric at a molecular level. Permeation data assist in the selection of the most appropriate protective garment for a particular application and in the estimation of how long it can be safely worn. Standardised test methods are used to determine the resistance of DuPont materials to permeation, the results of which can be selected according to a specific chemical, chemical class or fabric.

Hazard / Chemical Name	Physical State	CAS	BT Act	BT 0.1	BT 1.0	EN	SSPR	MDPR	Cum 480	Time 150	ISO
Acetic acid (10%)	Liquid	64-19-7	>480	>480	>480	6	<0.04	0.04	<19.2	>480	6
Acetic acid (2%)	Liquid	64-19-7	>480	>480	>480	6	<0.04	0.04	<19.2	>480	6
Acetic acid (>95%)	Liquid	64-19-7	imm	imm	imm		3	0.05 ppm			
Acetic acid ethyl ester	Liquid	141-78-6	imm	imm	imm		12.7	0.11 ppm			
Acetone	Liquid	67-64-1	imm	imm	imm		<20	0.02	>908	13	1
Acetonitrile	Liquid	75-05-8	imm	imm	imm		9.4	0.13 ppm			
Acroleic acid	Liquid	79-10-7	imm	imm	imm		5.4	0.2			
Acrylic acid	Liquid	79-10-7	imm	imm	imm		5.4	0.2			
Acrylonitrile	Liquid	107-13-1	imm	imm	imm		10.6	0.005			
Amino benzene	Liquid	62-53-3	imm	imm	imm		2.1	0.14			
Ammonia (gaseous)	Vapor	7664-41-7	imm	imm	imm		3.1	0.001			
Ammonium hydroxide (28% - 30%)	Liquid	1336-21-6	imm	imm	imm		62	0.035			
Aniline	Liquid	62-53-3	imm	imm	imm		2.1	0.14			
Benzenamine	Liquid	62-53-3	imm	imm	imm		2.1	0.14			
Bromine	Liquid	7726-95-6	imm	imm	imm		>50	0.0064			
Butadiene, 1,3- (gaseous)	Vapor	106-99-0	imm	imm	imm		>12	0.001			
Butanal, n-	Liquid	123-72-8	imm	imm	imm		22	0.0063			
Butanol, 1-	Liquid	71-36-3	imm	imm	imm		1.6	0.057 ppm			
Butanol, n-	Liquid	71-36-3	imm	imm	imm		1.6	0.057 ppm			
Butyl alcohol, n-	Liquid	71-36-3	imm	imm	imm		1.6	0.057 ppm			
Butyraldehyde, n-	Liquid	123-72-8	imm	imm	imm		22	0.0063			
Carbon disulfide	Liquid	75-15-0	imm	imm	imm		4367	0.0057 ppm			
Carboplatin (10 mg/ml)	Liquid	41575-94-4	>240	>240	>240	5	<0.001	0.001			
Carburant n° 2	Liquid	68476-30-2	imm	imm	imm		1.776	0.01			
Carmustine (3.3 mg/ml, 10 % Ethanol)	Liquid	154-93-8	>10	>240	>240	5	0.002	0.001			
Caustic ammonia (28% - 30%)	Liquid	1336-21-6	imm	imm	imm		62	0.035			
Caustic soda (42%)	Liquid	1310-73-2	>480	>480	>480	6	<0.005	0.005	<2.4	>480	6
Caustic soda (50% at 50 °C)	Liquid	1310-73-2	>480	>480	>480	6	<0.02	0.02	<9.6	>480	6
Caustic soda (50%)	Liquid	1310-73-2	>480	>480	>480	6	<0.005	0.005	<2.4	>480	6
Chlorine (gaseous)	Vapor	7782-50-5	imm	imm	imm		>50	0.2			

Hazard / Chemical Name	Physical State	CAS	BT Act	BT 0.1	BT 1.0	EN	SSPR	MDPR	Cum 480	Time 150	ISO

Chloro ethanol, 2-	Liquid	107-07-3	imm	imm	imm		3.1	0.06 ppm			
Chloro form	Liquid	67-66-3	imm	imm	imm		348	1 ppm			
Chromic acid (CrO3) (44.9%)	Liquid	1333-82-0	>480	>480	>480	6	<0.07	0.07	<33.6	>480	6
Chromic acid (H2SO4 x CrO3) (80%)	Liquid	1333-82-0	>480	>480	>480	6	<0.005	0.005	<2.4	>480	6
Cisplatin (1 mg/ml)	Liquid	15663-27-1	>240	>240	>240	5	<0.002	0.002			
Cyanoethylene	Liquid	107-13-1	imm	imm	imm		10.6	0.005			
Cyanomethane	Liquid	75-05-8	imm	imm	imm		9.4	0.13 ppm			
Cyclo phosphamide (20 mg/ml)	Liquid	50-18-0	imm	>240	>240	5	<0.01	0.002			
Dichloro methane	Liquid	75-09-2	imm	imm	imm		>50	0.001			
Diesel automotive test fuel	Liquid	mix	imm	imm	imm		3.29	0.01			
Diethyl amine	Liquid	109-89-7	imm	imm	imm		64.3	0.017 ppm			
Dimethyl fumarate (27 °C, solid)	Solid	624-49-7	177* /317	nm	291* /415	5	<0.39	0.39			
Dimethyl ketal	Liquid	67-64-1	imm	imm	imm		<20	0.02	>908	13	1
Dimethyl ketone	Liquid	67-64-1	imm	imm	imm		<20	0.02	>908	13	1
Doxorubicin HCl (2 mg/ml)	Liquid	25136-40-9	>240	>240	>240	5	<0.007	0.007			
Epoxy ethane (gaseous)	Vapor	75-21-8	imm	imm	imm		170	0.02			
Ethane 1,2-diol	Liquid	107-21-1	>480	>480	>480	6	<0.05	0.05	<24	>480	6
Ethane nitrile	Liquid	75-05-8	imm	imm	imm		9.4	0.13 ppm			
Ethyl acetate	Liquid	141-78-6	imm	imm	imm		12.7	0.11 ppm			
Ethyl ethanamine, N-	Liquid	109-89-7	imm	imm	imm		64.3	0.017 ppm			
Ethyl nitrile	Liquid	75-05-8	imm	imm	imm		9.4	0.13 ppm			
Ethylene carboxylic acid	Liquid	79-10-7	imm	imm	imm		5.4	0.2			
Ethylene chlorohydrin	Liquid	107-07-3	imm	imm	imm		3.1	0.06 ppm			
Ethylene glycol	Liquid	107-21-1	>480	>480	>480	6	<0.05	0.05	<24	>480	6
Ethylene oxide (gaseous)	Vapor	75-21-8	imm	imm	imm		170	0.02			
Ethylene tetrachloride	Liquid	127-18-4	imm	imm	imm		>400	0.11 ppm			
Etoposide (Toposar®, Teva) (20 mg/ml, 33.2 % (v/v) Ethanol)	Liquid	33419-42-0	>240	>240	>240	5	<0.01	<0.01			
Ferric (III) chloride (40%)	Liquid	7705-08-0	>480	>480	>480	6	<0.005	0.005	<2.5	>480	6
Fluorosilicic acid (33-35%)	Liquid	16961-83-4	>480	>480	>480	6	<0.04	0.04	<19.2	>480	6
Fluorouracil, 5- (50 mg/ml)	Liquid	51-21-8	>240	>240	>240	5	<0.002	0.002			

Hazard / Chemical Name	Physical State	CAS	BT Act	BT 0.1	BT 1.0	EN	SSPR	MDPR	Cum 480	Time 150	ISO
Formaldehyde (10%)	Liquid	50-00-0	>480	>480	>480	6	<0.1	0.1	<48	>480	6
Formaldehyde (37%)	Liquid	50-00-0	imm	imm	>480	6	0.31	0.1			
Formalin (10%)	Liquid	50-00-0	>480	>480	>480	6	<0.1	0.1	<48	>480	6
Formalin (37%)	Liquid	50-00-0	imm	imm	>480	6	0.31	0.1			
Fuel-oil no 2	Liquid	68476-30-2	imm	imm	imm		1.776	0.01			
Gemcitabine (38 mg/ml)	Liquid	95058-81-4	>10	>240	>240	5	<0.01	0.003			
Glycol alcohol	Liquid	107-21-1	>480	>480	>480	6	<0.05	0.05	<24	>480	6
Glycol chlorohydrin	Liquid	107-07-3	imm	imm	imm		3.1	0.06 ppm			
Hydrochloric acid (32%)	Liquid	7647-01-0	107* /179	240* /331	>480	6	<0.3	0.03	33.3	>480	6
Hydrochloric acid (37%)	Liquid	7647-01-0	imm/14	imm/29	38* /61	2	<2.5	0.03	105, 120 min	150	4
Hydrofluoric acid (48-51%)	Liquid	7664-39-3	imm	17	>480	6	na	0.005	134	>480	6
Hydrofluoric acid (60%)	Liquid	7664-39-3	imm	imm	81	3	na	0.005			
Hydrofluoric acid (70%)	Liquid	7664-39-3	imm	imm	15* /20	1	15.3	0.1			
Hydrogen chloride (gaseous)	Vapor	7647-01-0	imm	imm	imm						
Hydrogen peroxide (50%)	Liquid	7722-84-1	>480	>480	>480	6	<0.01	0.01	<4.8	>480	6
Hydrogen peroxide (70%)	Liquid	7722-84-1	>480	>480	>480	6	<0.02	0.02	<9.6	>480	6
Ifosfamide (50 mg/ml)	Liquid	3778-73-2	>240	>240	>240	5	<0.009	0.009			
Iodomethane	Liquid	74-88-4	imm	imm	imm		nm	0.07	4550/8 min	imm	
Isopropanol	Liquid	67-63-0	imm	imm	imm		8	0.04			
Isopropyl alcohol	Liquid	67-63-0	imm	imm	imm		8	0.04			
Ketone propane	Liquid	67-64-1	imm	imm	imm		<20	0.02	>908	13	1
Limonene d-	Liquid	5989-27-5	imm	imm	imm		29.8	0.02			
Mercuric II chloride (sat)	Liquid	7487-94-7	>480	>480	>480	6	<0.01	0.01	<4.8	>480	6
Mercury	Liquid	7439-97-6	>480	>480	>480	6	<0.09	0.09	<43.2	>480	6
Methanol	Liquid	67-56-1	imm	imm	imm		2.2	0.18 ppm			
Methotrexate (25 mg/ml, 0.1 N NaOH)	Liquid	59-05-2	>240	>240	>240	5	<0.001	0.001			
Methyl 4-isopropenyl-1-cyclohexene, 1-	Liquid	5989-27-5	imm	imm	imm		29.8	0.02			
Methyl acetyl	Liquid	67-64-1	imm	imm	imm		<20	0.02	>908	13	1
Methyl benzol	Liquid	108-88-3	imm	imm	imm			0.04			
Methyl cyanide	Liquid	75-05-8	imm	imm	imm		9.4	0.13 ppm			

Hazard / Chemical Name	Physical State	CAS	BT Act	BT 0.1	BT 1.0	EN	SSPR	MDPR	Cum 480	Time 150	ISO

Methyl iodide	Liquid	74-88-4	imm	imm	imm		nm	0.07	4550/8 min	imm	
Methyl ketone	Liquid	67-64-1	imm	imm	imm		<20	0.02	>908	13	1
Methylene chloride	Liquid	75-09-2	imm	imm	imm		>50	0.001			
Mitomycin (0.5 mg/ml)	Liquid	50-07-7	>240	>240	>240	5	<0.002	0.002			
Nicotine (9 mg/ml)	Liquid	54-11-5	>480	>480	>480	6	<0.08	0.08	<38.4	>480	6
Nitric acid (70%)	Liquid	7697-37-2	77	101	314	5	na	0.05	349	354	5
Nitro benzene	Liquid	98-95-3	imm	imm	imm		17.7	0.001			
Oleum (30% free SO3)	Liquid	8014-95-7	18	82	105	3	na	0.005			
Oxaliplatin (5 mg/ml)	Liquid	63121-00-6	>120	>240	>240	5	<0.1	0.008			
Paclitaxel (Hospira) (6 mg/ml, 49.7 % (v/v) Ethanol)	Liquid	33069-62-4	>240	>240	>240	5	<0.01	<0.01			
Perchloric acid (70%)	Liquid	7601-90-3	>480	>480	>480	6	<0.005	0.005	<2.4	>480	6
Phenyl amine	Liquid	62-53-3	imm	imm	imm		2.1	0.14			
Phosphoric acid (85%)	Liquid	7664-38-2	>480	>480	>480	6	<0.005	0.005	<2.4	>480	6
Potassium chromate (sat)	Liquid	7789-00-6	>480	>480	>480	6	<0.01	0.01	<4.8	>480	6
Potassium hydroxide (50%)	Liquid	1310-58-3	>480	>480	>480	6	<0.005	0.005	<2.4	>480	6
Propan -2-ol	Liquid	67-63-0	imm	imm	imm		8	0.04			
Propan -2-one	Liquid	67-64-1	imm	imm	imm		<20	0.02	>908	13	1
Propene acid	Liquid	79-10-7	imm	imm	imm		5.4	0.2			
Propenenitrile, 2-	Liquid	107-13-1	imm	imm	imm		10.6	0.005			
Propenoic acid nitrile	Liquid	107-13-1	imm	imm	imm		10.6	0.005			
Pyroacetic ether	Liquid	67-64-1	imm	imm	imm		<20	0.02	>908	13	1
Sodium cyanide (sat)	Liquid	143-33-9	>480	>480	>480	6	<0.07	0.07	<33.6	>480	6
Sodium fluoride (sat)	Liquid	7681-49-4	>480	>480	>480	6	<0.005	0.005	<2.4	>480	6
Sodium hydroxide (42%)	Liquid	1310-73-2	>480	>480	>480	6	<0.005	0.005	<2.4	>480	6
Sodium hydroxide (50% at 50 °C)	Liquid	1310-73-2	>480	>480	>480	6	<0.02	0.02	<9.6	>480	6
Sodium hydroxide (50%)	Liquid	1310-73-2	>480	>480	>480	6	<0.005	0.005	<2.4	>480	6
Sodium hypochlorite (15%)	Liquid	7681-52-9	>480	>480	>480	6	<0.05	0.05	<24	>480	6
Sulfuric acid (50%)	Liquid	7664-93-9	>480	>480	>480	6	<0.01	0.01	<4.8	>480	6
Sulfuric acid (98% at 50 °C)	Liquid	7664-93-9	>480	>480	>480	6	<0.02	0.02	<9.6	>480	6
Sulfuric acid (>95%)	Liquid	7664-93-9	>480	>480	>480	6	<0.03	0.03	<14.4	>480	6

Hazard / Chemical Name	Physical State	CAS	BT Act	BT 0.1	BT 1.0	EN	SSPR	MDPR	Cum 480	Time 150	ISO
Sulfuric acid fuming (30% free SO ₃)	Liquid	8014-95-7	18	82	105	3	na	0.005			
Tetrachloro ethylene, 1,1,2,2-	Liquid	127-18-4	imm	imm	imm		>400	0.11 ppm			
Tetrahydrofuran	Liquid	109-99-9	imm	imm	imm			0.05			
Tetramethyl ammonium hydroxide (25%)	Liquid	75-59-2	>480	>480	>480	6	<0.37	0.037	<17.7	>480	6
Thiotepa (10 mg/ml)	Liquid	52-24-4	imm	>240	>240	5	<0.01	0.001			
Toluene	Liquid	108-88-3	imm	imm	imm			0.04			
Toluene diisocyanate, 2,4-	Liquid	584-84-9	imm	imm	imm		7	0.01			
Trichloro benzene, 1,2,4-	Liquid	120-82-1	imm	imm	imm		8.4	0.001			
Trichloro methane	Liquid	67-66-3	imm	imm	imm		348	1 ppm			
Vinyl cyanide	Liquid	107-13-1	imm	imm	imm		10.6	0.005			
Vinyl ethylene (gaseous)	Vapor	106-99-0	imm	imm	imm		>12	0.001			

Important Note.

