esko®

TITAN® 400 DISPOSABLE COVERALLS

TITAN 400 COVERALL TYPE 4/5/6

T400

Rated to CE Category III, Type 4/5/6 protection, the T400 Protective Coverall has a high level of liquid barrier protection whilst maintaining soft feel and durable stitching. Heat taped seams for protection and seam durability versus Type 5/6 products.

Approved for asbestos removal, meth lab decontamination, radioactive and biohazards

Stitched with heat taped seam. Covered seam offers ultimate protection against particles and liquids



Passes EN14126 for protection against biological hazards and infective agents (Type 4-B, 5-B, 6-B)

Penetration resistance for premium protection—Chemical (EN368) and Blood (ASTM F1670)



APPROVED FOR a ASBESTOS REMOVAL

CAT III Type 4/5/6 Protective Coverall
(Non-Medical)



TYPE 4-B | TYPE 5-B | TYPE 6-B



EN 1149-5 | EN 14126 | EN 1073-2

PERFORMANCE FEATURES

- Coverall made of microprous polypropylene + polyethylene, 63g/m2
- Approved for asbestos removal, meth lab decontamination and biohazards
- Stitched with heat taped seam. Covered seam offers ultimate protection against particles and liquids
- Elastic is stitched outside the coverall to avoid any possible allergy reaction
- Double sided tape on zip
- Chemical liquid (EN368) and blood (ASTM F1670) penetration resistance for premium protection
- Passes EN1149-5 antistatic property
- Passes EN1073-2 for protection against radioactive particulate contamination
- Passes EN14126 for protection against biological hazards and infective agents (Type 4-B, 5-B, 6-B)
- Low linting to reduce the risk of contamination in environment
- Reaches class 6/6 of ISO 16603 for resistance of penetration by blood and body fluids
- Achieves ISO class 6 and above cleanroom standard at the Helmke Drum test
- Two-way zipper for easy access to clothing underneath
- Sizes: M–2XL

DESIGN FEATURE

One-piece coverall, white colour with hood, zipper at front opening covered by flap, elastic cuffs, elasticated ankles, hood and waist. Fabric: microporous polypropylene + polyethylene, 63 g/m2 white colour. Heat taped seams

APPROVALS

CE approved under PPE regulation EU 2016/425, Category III, certification number CE1239200301-00-00

SUITABLE FOR

- Asbestos abatement
- Paint spraying
- Fibreglass work
- Cleaning/hygiene
- Forensic
- Decontamination
- Biohazards and infective agents
- Insulation installation
- Pharmaceutical areas
- Biosecurity
- Veterinary
- Healthcare
- Laboratory
- Critical manufacturing
- General trades

SIZING

An appropriate size should be selected to allow sufficient movement for the task

ESKO COVERALL SIZE CHART				
Size (cm)	**M**	**L**	**XL**	**2XL**
Height	170	173	180	183
Chest	60	65	69	73

Intended to be used as a guide only, comfortable fit will vary for individual wearers.

STORAGE AND DISPOSAL

- Store in clean conditions in original packaging within the temperature range 15°C to 25°C (58°F to 78°F and with relative humidity below 80%.
- Store away from direct sunlight, sources of high temperature, and solvent vapors.
- Shelf life is 60 months from date of manufacture when stored as stated above.
- Handle and dispose of contaminated garments with care and in accordance with national regulations.

MATERIAL

Fabric: Microporous film laminated fabric in 63gsm

Zipper: Nylon on polyester braid

Elastic: Neoprene rubber (latex free)

Thread: Polyester

PACKING

- 1 piece per sealed PE bag
- 50 pieces per carton

LIMITATION


Do not wash


Do not iron


Do not reuse


Do not clean dry


Do not machine dry


Keep away from fire

TECHNICAL DATA

Titan 400 is approved to the following standards:

Standards		
	EN ISO 13688:2013	Protective clothing - general requirements
	EN 14605:2005 +A1:2009	Protective clothing against liquid chemicals - Performance requirements for clothing with liquid-tight (Type 3) or spray-tight (Type 4) connections, including items providing protection to parts of the body only (Types PB [3] and PB [4])
	EN ISO 13982-1:2004 +A1:2010	Protective clothing for use against solid particulates - Part 1: Performance requirements for chemical protective clothing providing protection to the full body against airborne solid particulates
	EN 13034:2005+A1:2009	Protective clothing against liquid chemicals - Performance requirements for chemical protective clothing offering limited protective performance against liquid chemicals
	EN 1073-2:2002	Protective clothing against radioactive contamination - Requirement and test methods for non-ventilated protective clothing against particulate radioactive contamination
	EN 14126:2003+AC:2004	Protective clothing - Performance requirements and tests methods for protective clothing against infective agents
	EN 1149-5:2018	Protective clothing – Electrostatic properties – Part 5 ; Material performance and design requirements
	EN 14325:2004	Protective clothing against chemicals - Test methods and performance classification of chemical protective clothing materials, seams, joins and assemblages
Performance levels		
EN 14605	**Type 4B**	Protective performance against spray and infective agents
EN ISO 13982-1	**Type 5B**	Protection against airborne solid particulates and infective agents
EN 13034	**Type 6B**	Limited protective performance against light spray, liquid aerosol or low pressure, low volume splashes and infective agents
EN 1073-2	**Class 1**	Total Inward Leakage
EN 14126	**Class 6**	Resistance to penetration by contaminated liquids under hydrostatic pressure
	Class 6	Resistance to penetration by infective agents due to mechanical contact with substances containing contaminated liquids
	Class 3	Resistance to penetration by contaminated liquid aerosols
	Class 3	Resistance to penetration by contaminated solid particles

Performance of whole suit

Test	Requirement				Result /Class/Conformity	
Resistance to liquid penetration Spray test type 4 (EN ISO 17491-4 met. B – EN 14605)					Pass	
Resistance to liquid penetration Spray test type 6 (EN ISO 17491-4 met. A – EN 13034)					Pass	
Resistance to aerosol penetration Inward leakage type 5 (EN ISO 13982-2 – EN ISO 13982)	$IL_{82/90} \leq 30\%$ $TILS_{8/10} \leq 15\%$				Pass	
Nominal protection factor (EN ISO 13982-2 – EN 1073-2)	Classe	TIL_E%	TIL_A%	Fpn	Pass	
	3	0.3	0.2	500	Class 1	
	2	3	2	50		
	1	30	20	5		
Practical performance tests (EN 1073-2)					Pass	
Seams: strength (EN ISO 13935-2)	Class 6		> 500 N		Class 3	
	Class 5		> 300 N			
	Class 4		> 125 N			
	Class 3		> 75 N			
	Class 2		> 50 N			
	Class 1		> 30 N			
Seams: permeation by liquids (EN ISO 6529-EN 14605)	Class 6		> 480 min		H2SO4 30%	Class 2
	Class 5		> 240 min			
	Class 4		> 120 min			
	Class 3		> 60 min			
	Class 2		> 30 min			
	Class 1		> 10 min			

Performance of fabric

Test	Requirement		Result /Class/Conformity	
Resistance to penetration to liquid (EN ISO 6530 – EN 13034)	Class 3: < 1% Class 2: < 5% Class 1: < 10%		H_2SO_4 30%:	class 3
			NaOH 10%:	class 3
			o-xilene	class 3
			Butan-1-ol:	class 3
Repellency to liquid (EN ISO 6530 – EN 13034)	class 3: > 95% class 2: > 90% class 1: > 80%		H_2SO_4 30%:	class 3
			NaOH 10%:	class 3
			o-xilene	class 2
			Butan-1-ol:	class 3
Abrasion Resistance (EN 530 - method 2)	Class 6	> 2000 cycles	Class 2	
	Class 5	> 1500 cycles		
	Class 4	> 1000 cycles		
	Class 3	> 500 cycles		
	Class 2	> 100 cycles		
	Class 1	> 10 cycles		
Trapezoidal tear resistance (EN ISO 9073-4 – EN 1073-2)	Class 6	> 150 N	Class 3	
	Class 5	> 80 N		
	Class 4	> 40 N		
	Class 3	> 20 N		
	Class 2	> 10 N		
	Class 1	> 2 N		
Trapezoidal tear resistance (EN ISO 9073-4)	Class 6	> 150 N	Class 2	
	Class 5	> 100 N		
	Class 4	> 60 N		
	Class 3	> 40 N		
	Class 2	> 20 N		
	Class 1	> 10 N		
Tensile strength (EN ISO 13934-1)	Class 6	> 1000 N	Class 1	
	Class 5	> 500 N		
	Class 4	> 250 N		
	Class 3	> 100 N		
	Class 2	> 60 N		
	Class 1	> 30 N		
Puncture resistance (EN 863 - EN 1073-2)	Class 6	> 250 N	Class 2	
	Class 5	> 150 N		
	Class 4	> 100 N		
	Class 3	> 50 N		
	Class 2	> 10 N		
Puncture resistance (EN 863 - EN 13034)	Class 6	> 250 N	Class 2	
	Class 5	> 150 N		
	Class 4	> 100 N		
	Class 3	> 50 N		
	Class 2	> 10 N		
	Class 1	> 5 N		

Performance of fabric				
Test	**Requirement**		**Result /Class/Conformity**	
Flex cracking resistance (EN 7854)	Class 6	> 100 000 c.	Class 6	
	Class 5	> 40 000 c.		
	Class 4	> 15 000 c.		
	Class 3	> 5 000 c.		
	Class 2	> 2 500 c.		
	Class 1	> 1 000 c.		
Blocking resistance (EN 25978 - EN 1073-2)			Pass	
Ignition and flammability (EN 13274-4 - EN 1073-2)			Pass	
Permeation by liquids (EN ISO 6529 - EN 14605)	Class 6	> 480 min	H2SO4 30%	Class 2
	Class 5	> 240 min		
	Class 4	> 120 min		
	Class 3	> 60 min		
	Class 2	> 30 min		
	Class 1	> 10 min		
Charge decay (test condition EN 1149-3)	t50 <0.01		Pass	

EN 14126:2003			
Test	**Requirement**		**Result /Class/Conformity**
Bursting strength (13938-1)	Class 6	> 850 kPa	Class 3
	Class 5	> 640 kPa	
	Class 4	> 320 kPa	
	Class 3	> 160 kPa	
	Class 2	> 80 kPa	
	Class 1	> 40 kPa	
Resistance to penetration by blood-borne phatogens -phi-x174 bacteriophage test - ISO 16603/16604	Class 6	20 kPa	Class 6
	Class 5	14 kPa	
	Class 4	7 kPa	
	Class 3	3,5 kPa	
	Class 2	1,75 kPa	
	Class 1	0 kPa	
Resistance to penetration by infective agents due to mechanical contact with substances containing contaminated liquids -ISO 22610 (test microorganism: staphylococcus aureus)	Class 6	t > 75	Class 6
	Class 5	60 < t ≤ 75	
	Class 4	45 < t ≤ 60	
	Class 3	30 < t ≤ 45	
	Class 2	15 < t ≤ 30	
	Class 1	≤ 15 min	
Resistance to penetration by contaminated liquid aerosols -ISO DIS 22611 (test microorganism: staphylococcus aureus)	Class 3	log > 5	Class 3
	Class 2	3 < log ≤ 5	
	Class 1	1 < log ≤ 3	
Resistance to penetration by contaminated solid particles -EN ISO 22612 (test microorganism: spores of Bacillus subtilis)	Class 3	≤ 1	Class 3
	Class 2	1 < log ufc ≤ 2	
	Class 1	2 < log ufc ≤ 3	

EN ISO 13688:2013		
Test	**Requirement**	**Result /Class/Conformity**
pH (EN 340 – ISO 3071)	3.5 > pH > 9.5	Pass
Amines (EN 340 – ISO 3071)		Pass