

LIMITED LIFE GAS-TIGHT SUIT

TYCHEM® TK



RESPIREX™

Description

This fully encapsulating **Type 1A - ET** regular robustness gas tight suit is designed to protect the emergency responder against toxic or corrosive gases, liquids and solid chemicals.

The suit is manufactured from DuPont™ **Tychem® TK**, a high performance, seven layer, nonwoven, chemical barrier fabric that is also light in weight.



Applications



Fire
Brigades



Health
Authorities



Civil
Defence



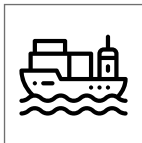
Water
Companies



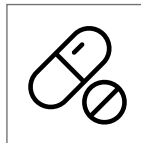
Nuclear



Petro-
Chemical



Shipping



Pharma-
ceutical

Certification



TYPE 1 | EN 943-2:2019 (ET)
Gas-Tight Chemical Protective Clothing



SOLAS 1974/1988
Reg. II-2, 19.3.6.1

Material Performance



FINABEL 0.7.C
Chemical Warfare Agents



EN 14126:2003
Protective Clothing Against Infective Agents

Product Documentation



The CE Certificate, Declaration of Conformity and user instructions can all be downloaded from the product page on the Respirex website, links are in the downloads tab.

There are also additional photos and videos on donning procedure.

Key Features

Encapsulating design for **Self Contained Breathing Apparatus (SCBA) worn inside the suit**

Gas-tight zip running from side of head to lower thigh, covered by zip flap with hook & loop fastener

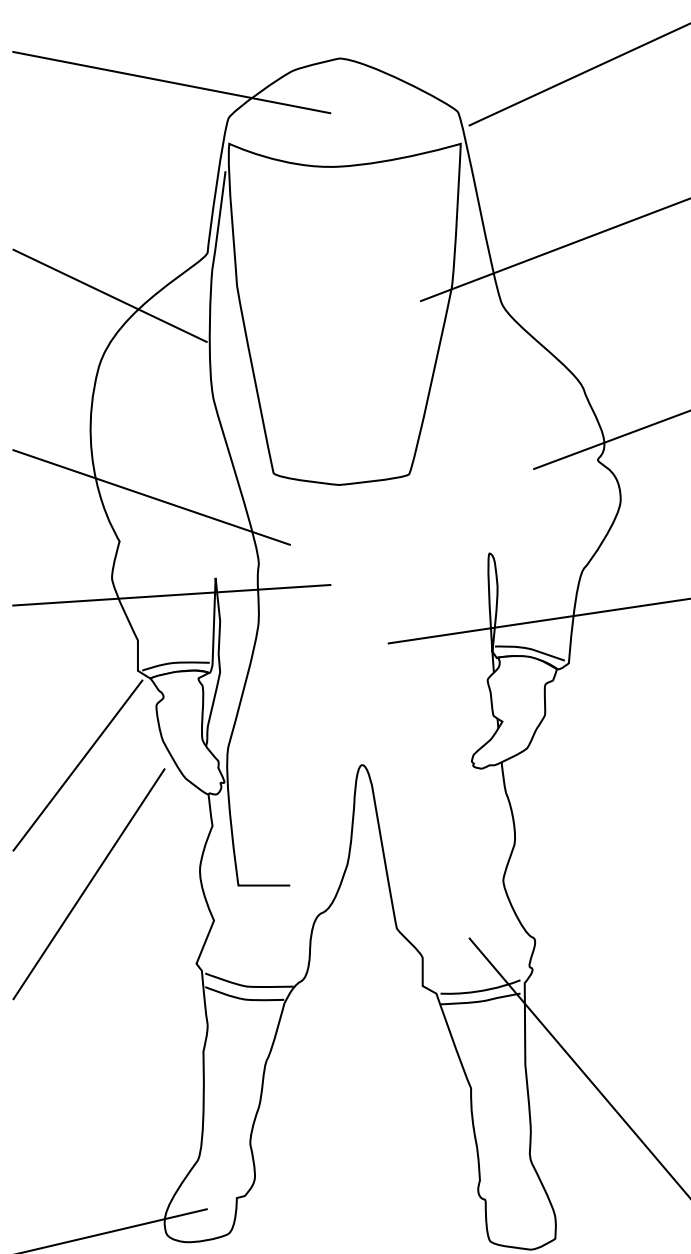
Protection against liquid & gaseous chemicals (**Type 1**), infective agents and chemical warfare agents

Inward Leakage tested to **EN 1073-2:2002, Class 3** with an assigned Nominal Protection Factor (NPF) >9090

Gas-tight locking cuff system for changing gloves

Dual glove system consisting of a **Kemblok™** chemical barrier inner glove bonded to an outer neoprene glove for mechanical protection.

Choice of fixed or detachable **chemical safety boots or sock feet** (see below)



Two exhalation valves maintain a comfortable working pressure inside the suit

Large flexible visor for wide field of view

Bat-wing sleeves allow wearer to remove their hand from the glove to check gauges and other equipment inside the suit

Adjustable internal **support belt**

Five year maintenance free shelf-life, with annual test from year 5 up to the maximum shelf life of 10 years

Internal **pressure test to EN 464** conducted prior to despatch to confirm the suit is gas-tight

Foot or Boot Configuration



Sock Foot and Outer Leg

A sock foot of the suit fabric as the is fitted with an outer splash guard leg, allowing the use of customers own heat & flame resistant chemical safety boots (required as par of EN943-2). This also reduces pack size.



Detachable Boots

Detachable **Hazmax™ FPA** heat and flame resistant chemical safety boots are attached by a locking ring and can be replaced during suit servicing.



Fixed Boots

Hazmax™ FPA heat and flame resistant chemical safety boots are permanently attached to the suit. The suit needs to be returned to Respirex for boot replacement.

Suit Options



Suit/Brigade ID

Customer Identification names & codes can be added to the base of the visor or on the back of the suit.



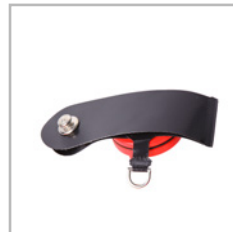
Pass-Through

Allows the connection of a second cylinder or an air-line to the second man attachment on the breathing apparatus during decontamination.



Anchor Hook

External equipment attachment point



Personal Line Attachment

External equipment attachment point



DSU Attachment

External equipment attachment point for a Distress Signal Unit (DSU)



Torch Ring Attachment

External equipment attachment point

Accessories



Hazbag Containment Bag

A hazardous material containment bag manufactured from Chemprotex™ 300 material. Supplied with a cable tie, tag and wallet for sealing and identification. Dimensions: 1050 x 1370mm



Gas-Tight Suit Test Unit -

Computer controlled test unit that automatically inflates a suit from a compressed air supply and performs an internal pressure test to EN464:1994 as required by clause 6.3 of EN943-1:2002

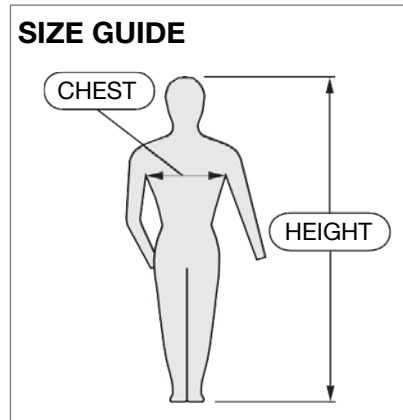


Training Suit

A training version of the operational suit manufactured in green PVC and designed for multiple re-use with no testing required.

Sizing Chart

Size	Chest (cm)	Height (cm)
Small	88-96	163-175
Medium	96-104	169-182
Large	104-112	176-188
X-Large	112-124	182-194
XX-Large	124-136	188-200



Specifications

Tychem® TK GT Suit

Pack Size (max)	26 x 58 x 36 cm
Pack Weight (max)	8 kg
Carton Qty	3
Outer Carton Size	84 x 62 x 40 cm
Outer Carton Weight (max)	26 kg
Commodity Code	62104000

Specifications are based on an XL sized suit with boots, but without optional accessories and are for guidance only

Material Properties

Property	Test Method	Property value of Tychem®TK.	Performance Class of Tychem® TK	Minimum Class Required for EN 943-2:2019
Basis Weight	ISO 536:1995	360 g/m ²	N/A	N/A
Thickness	ISO 534:1998	500 µm	N/A	N/A
Abrasion resistance	EN ISO 12947-2 (inc. pressure drop)	> 2000 cycles	6 (out of 6)	4
Flex cracking resistance	ISO 7854 Method B (inc. pressure drop)	> 1250 cycles	2 (out of 6)	1
Trapezoidal tear resistance	EN ISO 9073-4	> 100 N	5 (out of 6)	3
Puncture resistance	EN 863	> 10 N	2 (out of 6)	2*
Tensile Strength	EN ISO 13934-1	> 250 N	4 (out of 6)	4
Resistance to flame	EN 13274-4 Method 3 modified (inc. pressure drop)	No part ignited or continued to burn on removal from the flame	2 (out of 3)	1
Seam strength	ISO 5082 Annex A2†	> 500 N	6 (out of 6)	5

Material tested in accordance with Table 1 of EN943-2:2019 - Minimum performance requirements of chemical protective clothing materials for regular robustness suits.

* The suit may not be suitable for use where there is a high risk of puncture - see Respirex GTB Reusable suit.

Chemical Permeation

Chemical	Physical State	Tychem®TK. Material	Suit Seams	Kemblok™ Glove	Visor
Acetone	Liquid	> 480 mins	> 480 mins	> 480 mins	> 480 mins
Acetonitrile	Liquid	> 480 mins	> 480 mins	> 480 mins	> 480 mins
Ammonia	Gas	> 480 mins	> 480 mins	> 480 mins	> 480 mins
Carbon Disulphide	Liquid	> 480 mins	> 480 mins	> 480 mins	> 480 mins
Chlorine	Gas	> 480 mins	> 480 mins	> 480 mins	> 480 mins
Dichloromethane	Liquid	> 480 mins	> 480 mins	> 480 mins	> 480 mins
Diethylamine	Liquid	> 480 mins	> 480 mins	> 480 mins	> 480 mins
Ethyl Acetate	Liquid	> 480 mins	> 480 mins	> 480 mins	> 480 mins
n-Heptane	Liquid	> 480 mins	> 480 mins	> 480 mins	> 480 mins
Hydrogen Chloride	Gas	> 480 mins	> 480 mins	> 480 mins	> 480 mins
Methanol	Liquid	> 480 mins	> 480 mins	> 480 mins	> 480 mins
Sodium Hydroxide 40%	Liquid	> 480 mins	> 480 mins	> 480 mins	> 480 mins
Sulphuric Acid 98%	Liquid	> 480 mins	> 480 mins	> 480 mins	> 480 mins
Tetrahydrofuran	Liquid	> 480 mins	> 480 mins	> 480 mins	> 480 mins
Toluene	Liquid	> 480 mins	> 480 mins	> 480 mins	> 480 mins

All tests carried out under laboratory conditions by independent accredited laboratories in accordance with EN ISO 6529 unless otherwise stated. Table shows average breakthrough times in minutes.

For full details of the chemical permeation performance of Tychem® TK and its performance against chemical warfare and infective agents, please visit the materials section of the Respirix website www.respirex.com.

Specifications, configurations and colours are subject to change without notice. DuPont™ and Tychem® are trademarks or registered trademarks of E.I. du Pont de Nemours and Company. Respirix™, Hazmax™ and Kemblok™ are registered trademarks of Respirix International Limited



RESPIREX™

Living + Breathing Personal Protection

Respirex International Limited, Unit F Kingsfield Business Centre, Philanthropic Road, Redhill, Surrey, RH1 4DP, United Kingdom

🌐: www.respirex.com 📞: +44 (0)1737 778600 ✉: info@respirex.co.uk