DuPont

Tyvek. Tychem.

PROTECTIVE GARMENTS FOR THE OIL AND GAS INDUSTRY

Despite the very high health and safety standards prevalent within the oil and gas industry, its workers can still face a vast number of hazards as well as being potentially exposed to explosive atmospheres. In addition to being dissipative and suitable for use in certain Ex-Zones, DuPont™ Tyvek® and DuPont™ Tychem® coveralls can help offer much needed protection against many harmful chemicals, whether in liquid or particulate form.

More information: chemicalprotection.dupont.co.uk

Picture: Panthermedia/Flavijus Piliponis

Protection against multiple hazards

Whether it's rig, refinery or delivery, or some other stage of the oil and gas business, frontline professionals face a vast number of life-threatening chemical hazards on a daily basis. In off-shore drilling, the dangers range from blow-outs, hydrogen sulphide gas during drilling, heavy metals and benzene present in crude, to asbestos, formaldehyde, hydrochloric acid and naturally occurring radioactive materials (NORMs), all combined with the day-to-day exposure to sludge, grit and sea water.

Even in normally safe refineries, certain activities – process sampling, inspection, handling or recharging catalysts – pose chemical risks as high as anywhere else on the plant. Risk of exposure is also higher during regularly scheduled maintenance and repair shutdowns.

Safety in potentially explosive areas

At the same time, workers can also be potentially exposed to the consequences of explosions caused by a spark igniting certain vapours or gases. It is therefore vital for workers in such potentially explosive areas to follow strict safety rules and to be provided with appropriate garments consisting of materials which do not give rise to electrostatic discharges.

The surface of antistatic garments and accessories made of Tyvek® or Tychem® is coated with an antistatic chemical that allows the charge to dissipate, i.e. any locally generated charge – caused by friction, for example – is slowly discharged to earth, if the resistance to earth is sufficiently low.* Tyvek® and Tychem® protective clothing meets the requirements of the EN 1149-5 standard.

Chemical protection afforded by Tyvek® and Tychem® garments

Limited-life chemical protective coveralls made of Tychem® help offer lightweight yet tough protection, starting at low toxic chemicals up to biological hazards. They are particularly suitable for jobs with frequent exposure to dangerous chemicals – particularly Tychem® F, for its excellent barrier to a broad range of organic and inorganic chemicals (see examples in table below), and Tychem® F2, for its reinforced strength.

Breakthrough time (BT) for DuPont™ Tychem® F & F2 materials (according to EN ISO 6529 Method A)

Chemical name	Actual BT [minutes]	Normalised BT at 0.1 µg/(cm²•min) [minutes]	Normalised BT at 1.0 µg/(cm²•min) [minutes]	EN-Class according to EN 14325
Benzene	› 480	› 480	› 480	6
Ethanol	› 480	› 480	› 480	6
Gasoline, unleaded	› 480	› 480	› 480	6
Hexane -n	› 480	› 480	› 480	6
Kerosene	› 480	› 480	› 480	6
Methanol	56	117	› 480	6
Toluene	› 480	› 480	› 480	6

Please note: Consult the DuPont Permeation Guide for the complete list of permeation data and guidance.

The Tyvek® Classic Xpert and Tyvek® Classic Plus limited-use coveralls help offer inherent protection against fine particles and low pressurised inorganic water-based chemicals of low concentration, while being robust, breathable and comfortable. They are well-suited for a broad range of tasks within the oil and gas industry.

** The antistatic properties of Tyvek® and Tychem® protective clothing are only effective if the relative humidity is above 25%. Please note that the antistatic treatment only means the clothing material can dissipate a charge; the clothing must first be properly earthed for a controlled discharge to take place.*

Protective clothing and accessories from DuPont for the oil and gas industry

DuPont™ Tychem® F and F2 are limited-life chemical protective coveralls (Category III, Type 3-B, 4-B, 5-B and 6-B) that provide a lightweight yet tough protection to chemical hazards from low toxicity to the hydrocarbons encountered in the oil and gas industry.

DuPont™ Tychem® F, model CHA5

- ✔ antistatic treatment on inside
- ✔ stitched and over-taped seams with barrier tape for protection and strength
- ✔ self-adhesive double zipper flap closure system for higher protection
- ✔ lightweight (‹ 500g per garment) yet robust

Colours: grey, orange
Sizes: S to XXXL (grey); M to XXL (orange)

DuPont™ Tychem® F2, model CHZ5

- ✔ antistatic treatment on inside
- ✔ stitched and over-taped seams with barrier tape for protection and strength
- ✔ innovative double zipper and flap closure system with internal hook & loop fixation system, for pressurised liquid tightness and re-closable (easy to close)
- ✔ double cuff system for improved protection (recommended to be worn with double gloves)
- ✔ lightweight (‹ 850g per garment) yet robust

Colour: grey
Sizes: M to XXXL

DuPont™ Tychem® F accessories

In combination with chemical protective clothing, Tychem® F accessories can offer protection for body parts that are more exposed to low level risks. Antistatic treatment on inside.

Slip-retardant overboot, model POBA
Colour: grey; Size: one size

Sleeve, model PS32LA
Colour: grey; Size: one size

Apron, model PA30LO
Colour: grey; Size: one size

Gown, model PL50
Colour: grey; Sizes: S/M and L/XXL

DuPont™ ProShield® FR, model CHF5

ProShield® FR is a hooded coverall (Category III, Type 5 and 6) commonly worn as a sacrificial suit that protects reusable flame-retardant garments worn beneath it from light chemical spray, aerosol, particulates, dirt and grime. Providing limited protection against heat and flames (EN ISO 14116 Index 1), it must always be worn on top of Index 2 or 3 flame-retardant workwear.

- ✔ antistatic treatment on both sides
- ✔ stitched external seams in orange for visual identification and differentiation
- ✔ zipper flap for protection

Colour: white
Sizes: M to XXXL

DuPont™ Tyvek® Classic Xpert, model CHF5		
	The Tyvek® Classic Xpert is a limited-life coverall that offers Category III, Type 5-B and 6-B protection, combining liquid and particulate protection with antistatic properties. ✔ antistatic treatment on both sides* ✔ stitched external seams featuring patent-pending technology for enhanced liquid spray tightness ✔ new design and construction for greater protection	Colours: white, blue or green Sizes: S to XXXL (white); M to XXL (blue, green)

DuPont™ Tyvek® Classic Plus, model CHA5a		
	Performance of a Type 4 suit and the comfort of a nonwoven suit combined (also available with integrated socks). ✔ antistatic treatment on both sides* ✔ stitched and over-taped seams for protection and strength ✔ self-adhesive zipper and chin flap and hood optimised for use with respirators	Colours: white, green Sizes: S to XXXL (white); M to XXL (green)

** Antistatic treatment of coloured garments is on the inside only.*

NEED HELP FINDING AND SELECTING CHEMICAL PROTECTIVE CLOTHING?

Try DuPont™ SafeSPEC™ 2.0

Browse and compare products by brand, design or certification, with direct access to all relevant information including permeation data.

www.safespec.dupont.co.uk

MORE INFORMATION:

DuPont Personal Protection
DuPont de Nemours Luxembourg S.à r.l.
L-2984 Luxemburg
Tel.: +800 3666 6666 (international toll-free)
Fax: +352 3666 5098
chemicalprotection.dupont.co.uk

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It is the user's responsibility to determine the level of toxicity and the proper personal protective equipment needed. Anyone intending to use this information should first verify that the garment selected is suitable for the intended use. The end-user should discontinue use of the garment if the fabric becomes torn, worn or punctured, to avoid potential chemical exposure. Since conditions of use are beyond our control, we make no warranties, expressed or implied, including but not limited to warranties of merchantability or fitness for a particular purpose and assume no liability in connection with any use of this information.

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