Oil & Gas

< DUPONT >

Personal protective solutions for oil & gas industry applications

Because everyone has someone depending on them to get home safely

DuPont is more focused than ever on providing innovative protection solutions and expert technical support tailored to meet the specific needs of workers in the oil & gas industry around the world.

Because their safety is our business, workers in the oil & gas industry can rely on the world-class people, products and innovation that have made DuPont a trusted partner in personal protection.

With a wide range of industry-leading personal protective equipment (PPE) solutions and a global network of PPE specialists, technical experts and manufacturing, DuPont is uniquely suited to provide the protection and comfort every worker deserves to face a range of workplace hazards with confidence.

Our brands

Nomex®

DuPont[™] Nomex[®] offers a tested and proven portfolio of protective solutions that continues to meet or exceed global standards for heat, flame and electric arc flash protection.^{*}

Kevlar®

Gloves made with DuPont[™] Kevlar[®] offer industry-leading cut protection, built-in heat and flame resistance and electric arc flash protection, while providing the dexterity and comfort workers want.

Tyvek[®]

DuPont[™] Tyvek[®] garments provide workers with superior protection from small-sized hazardous particles, including lead, asbestos and mold. And because protection is built into the fabric itself, there are no films or laminates to abrade or wear away.

Tychem[®]

DuPont[™] Tychem[®] garments deliver durable protection and offer strong permeation barrier against a wide range of chemicals. Together with Tychem[®] gloves and tape, they create the Tychem[®] Trusted Chemical System[™] for complete protection.

Are your workers really protected?



Workers in the oil & gas industry face many on-the-job hazards, including flash fire; slick, oily surfaces; sharp edges; punctures; heat contact; uncontrolled pressure release; and exposure to hazardous chemicals, dust and solventsto name just a few.

Providing workers with the protection they need for the hazards they face is a major responsibility. DuPont Personal Protection has the in-depth knowledge, unparalleled expertise and broad portfolio of PPE solutions to help keep your workers safe.

DuPont PPE solutions are designed to meet or exceed global standards for protection and performance, including National Fire Protection Association (NFPA), ASTM International, Canadian General Standards Board (CGSB), American National Standards Institute (ANSI), International Organization for Standardization (ISO) and China GB National Standards.

implementation, we recommend using the 4P methodology:

Predict

Identify all potential risks associated with each activity.

Understand severity and likelihood of risks.

Provide

Document PPE selected to address each residual risk.

Build awareness with workers about their specific risks and selected PPE.

Train workers on correct use of PPE.

Protect

Ensure PPE meets performance and comfort requirements in the work environment.

Remember, PPE is the last line of defense.

To help you in the decision-making process, from risk assessment through

Analyze all activities required for each part of your operation.

Prevent

Evaluate ways to eliminate hazards.

Make substitutions when possible.

Reduce residual risks with engineering processes or operational changes.

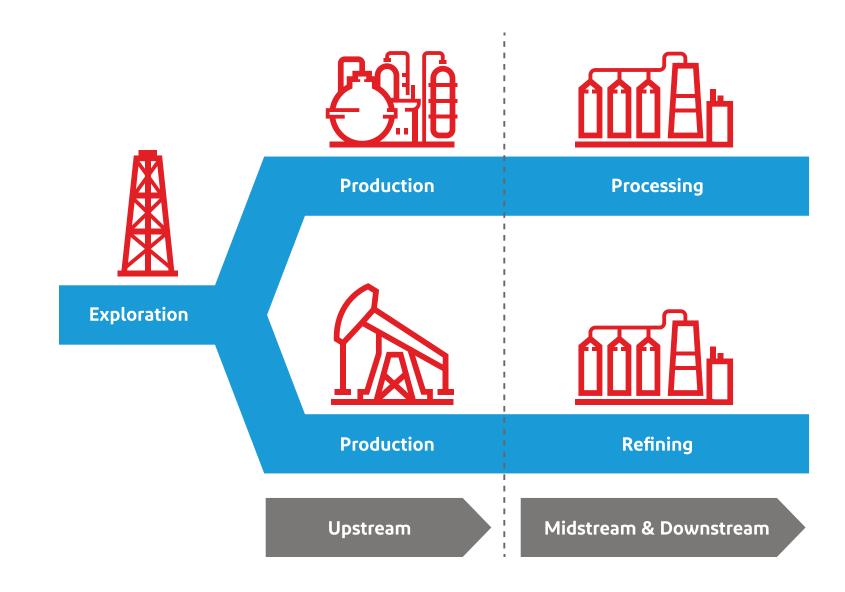
Select appropriate PPE to address residual risks.

Drilling, producing and refining oil & gas involves high-risk tasks in extreme conditions

To remain competitive, oil & gas companies are embracing new technology and focusing on improving productivity and efficiency from oil rigs to petrochemical refineries.

Workers in the oil & gas industry perform many high-risk tasks that involve potential flash fires, mechanical hazards and exposure to a wide range of hazardous chemicals. In some cases, these high-risk tasks are performed under extreme weather conditions and in remote locations.

As a result, workers in the oil & gas industry face multiple workplace hazards in a very dynamic work environment and health, safety and environment (HSE) managers have many tasks to balance. DuPont offers a broad range of PPE solutions to address these hazards, including: Nomex[®] garments for flash fire hazards; Tyvek[®] garments for protection against fine particle hazards and low level liquid splashes; Tychem[®] garments and tape for protection against concentrated chemicals; and gloves made with Kevlar[®] for cut and multi-hazard protection. DuPont experts are also available to work side by side with the HSE manager to help simplify the process of properly matching PPE to the hazards your workers face.







Tasks

Confined space entry

Entering tanks, vessels or pits that may contain hazardous atmospheres to perform work

Hazards

Flash fire

Hazardous chemicals (liquids or solids)

Cut hazards requiring cut protection

Available PPE options Flame-resistant (FR) garments





Chemical-resistant/flame-resistant (CR/FR) garments





For a full list of PPE solutions, visit SafeSPEC^{**}.



Nomex[®] Comfort

Nomex[®] Comfort is a lightweight, quick-drying innovative fabric that delivers extreme heat and flame protection, maximum comfort and excellent durability. Garments are available in men's and women's styles and sizes.





NOTE: Certifications listed here are for Nomex[®] Comfort fabric; consult with garment manufacturer for garment certifications.

Nomex[®] Soft

A highly durable protective solution that helps minimize break-open and provides excellent heat and flame protection.



NOTE: Certifications listed here are for Nomex[®] Soft fabric; consult with garment manufacturer for garment certifications.

Tychem[®] 2000 SFR

Tychem[®] 2000 SFR provides chemical and secondary flame protection in a lightweight garment. Worn over primary FR garments such as Nomex[®] Comfort, they won't ignite if a flash fire occurs and won't contribute to additional burn injury.

Tychem[®] 6000 FR







Confined space entry

Entering tanks, vessels or pits that may contain hazardous atmospheres to perform work

Hazards

Hazardous chemicals (liquids or solids)

Cut hazards requiring cut protection

Flash fire

Tasks

Tychem[®] 2000 Tape

Tychem[®] 2000 Tape helps hold a sleeve over a glove, a pant leg over a boot or a closure flap closed, while providing protection against a variety of inorganic acids and bases, as well as common industrial cleaning agents, such as bleach. The tape tears easily for quick and convenient application. Repositionable once applied, the tape's elasticity enables tight adhesion to help prevent leaks.

*Tychem[®] tape should not be used around heat, open flame, sparks or in potentially flammable environments. For professional use only.

Cut-resistant gloves



Coated Gloves made with DuPont Kevlar[®] Fibre

Coated gloves made with Kevlar[®] fiber offer cut protection and are resistant to oil and hydrocarbons. The rough finish provides tactile feel and a better grip. Impermeable for working in damp or greasy environments.



Upstream





Tasks

Drilling

Boring into the earth to access either oil or gas reservoirs

Hazards

Mechanical hazards

Blowout or explosion

Flash fire

Caustic chemicals

Hydrogen sulfide or other asphyxiants

Cut hazards requiring cut protection



For a full list of PPE solutions, visit SafeSPEC[™].



For a full list of PPE solutions, visit SafeSPEC[™].



Flame-resistant (FR) garments

Nomex[®] Comfort

Nomex[®] Comfort is a lightweight, quick-drying innovative fabric that delivers extreme heat and flame protection, maximum comfort and excellent durability. Garments are available in men's and women's styles and sizes.

ASTM
F1506





NOTE: Certifications listed here are for Nomex® Comfort fabric; consult with garment manufacturer for garment certifications.

Nomex[®] Soft

A highly durable protective solution that helps minimize break-open and provides excellent heat and flame protection.

ASTM	N	FPA	ISO
F1506	2	112	11612
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NOTE: Certifications listed here are for Nomex[®] Soft fabric; consult with garment manufacturer for garment certifications.

Nomex[®] Essential Arc

Nomex[®] Essential Arc is engineered to provide >8 cal/cm² arc thermal performance value (ATPV) protection combined with enhanced durability against abrasion. Nomex[®] is resistant to many chemicals and oil stains are washed out easier than with standard cotton garments.

ASTM
F1506



NFPA
70E°
Cat 2

ISO
11612

NOTE: Certifications listed here are for Nomex® Essential Arc fabric; consult with garment manufacturer for garment certifications

FR face mask made with Nomex^{®*}

Made with Nomex[®] Comfort fabric, this FR face mask from PGI Safety may help meet guidance from the Centers for Disease Control and Prevention (CDC) for wearing masks in environments that require FR protection while social distancing. This FR face mask offers exceptional breathability and durability with inherent, built-in flame resistance that cannot be washed out or worn away.

*FR face masks are for use while social distancing and may be used for other tasks identified by a site hazard risk assessment.



Tasks

Drilling

Boring into the earth to access either oil or gas reservoirs

Hazards

Mechanical hazards

Blowout or explosion

Flash fire

Caustic chemicals

Hydrogen sulfide or other asphyxiants

Cut hazards requiring cut protection

For a full list of PPE solutions, visit SafeSPEC[™].





Tychem[®] 2000 Tape helps hold a sleeve over a glove, a pant leg over a boot or a closure flap closed, while providing protection against a variety of inorganic acids and bases, as well as common industrial cleaning agents, such as bleach. The tape tears easily for quick and convenient application. Repositionable once applied, the tape's elasticity enables tight adhesion to help prevent leaks.

*Tychem® tape should not be used around heat, open flame, sparks or in potentially flammable environments. For professional use only.

Cut-resistant gloves



Coated Gloves made with DuPont Kevlar[®] Fibre

Coated gloves made with Kevlar[®] fiber offer cut protection and are resistant to oil and hydrocarbons. The rough finish provides tactile feel and a better grip. Impermeable for working in damp or greasy environments.



Upstream





Tasks

Drilling fluid (mud) management

Creating appropriate mud with additives, pumps, pressurized hoses, mud tank system, moving parts, open fluid-filled pits

Hazards

Dirt/dust

Chemical exposures

Pressurized equipment

Confined spaces

Flash fire

Cut hazards requiring cut protection

Tyvek®400



For a full list of PPE solutions, visit SafeSPEC[™].



Flame-resistant (FR) garments

Nomex[®] Comfort

Nomex[®] Comfort is a lightweight, guick-drying innovative fabric that delivers extreme heat and flame protection, maximum comfort and excellent durability. Garments are available in men's and women's styles and sizes.

A	STM
F	1506





NOTE: Certifications listed here are for Nomex[®] Comfort fabric; consult with garment manufacturer for garment certifications.

Nomex[®] Soft

A highly durable protective solution that helps minimize break-open and provides excellent heat and flame protection.

1	STM	
ŀ	1506	

NFPA
2112



NOTE: Certifications listed here are for Nomex[®] Soft fabric; consult with garment anufacturer for garment certifications

ProShield[®] 20 SFR

Providing a barrier against non-hazardous aerosols and particles, ProShield® 20 SFR is a cost-effective solution designed to help protect and preserve primary protective garments. ProShield[®] 20 SFR garments are designed to keep primary FR garments clean from things like dirt, dust and grime, while not contributing to burn injury when exposed to a flame source. This coverall should be worn on top of an FR garment, such as a garment made of Nomex[®] Comfort.

Non-FR/chemical-protective garments

An ideal balance of protection, durability, and comfort for maintenance activities

- Non-woven material that protects against particles (down to 1.0 micron)
- Delivers consistently better protection even after wear and abrasion
- Flashspun high-density polyethylene with superior durability over microporous film fabrics
- Comfort-fit design that enables a greater range of movement while performing tasks













EN 1073-2* Class 1

Tyvek[®] 800 J

 Tyvek° 800 J garments combine resistance to low-concentration, water-based inorganic chemicals with the strength and durability of Tyvek[®]. The coveralls provide an effective barrier against many water-based inorganic chemicals in low concentration and particles (down to 1.0 micron in size).



14
Type 4-B

Type 5-B



Type 6-B



Tasks

Drilling fluid (mud) management

Creating appropriate mud with additives, pumps, pressurized hoses, mud tank system, moving parts, open fluid-filled pits

Hazards

Dirt/dust

Chemical exposures

Pressurized equipment

Confined spaces

Flash fire

Cut hazards requiring cut protection

Tvchem[®] 2000

Tychem[®] 2000 is a lightweight and durable fabric that uses the strength of Tyvek[®] fabric and polyethylene coating. Tychem[®] 2000 offers permeation barrier protection for at least 30 minutes against more than 40 chemical challenges.



Tychem[®] 4000 provides effective protection against a range of chemical environments, offering at least 30 minutes of protection against more than 120 chemical challenges.

Chemical-resistant/flame-resistant (CR/FR) garments



Tychem[®] 2000 SFR

Tychem[®] 2000 SFR provides chemical and secondary flame protection in a lightweight garment. Worn over primary FR garments such as Nomex® Comfort, they won't ignite if a flash fire occurs and won't contribute to additional burn injury.

Tychem[®] 2000 Tape

Tychem[®] 2000 Tape helps hold a sleeve over a glove, a pant leg over a boot or a closure flap closed, while providing protection against a variety of inorganic acids and bases, as well as common industrial cleaning agents, such as bleach. The tape tears easily for quick and convenient application. Repositionable once applied, the tape's elasticity enables tight adhesion to help prevent leaks.

*Tychem® tape should not be used around heat, open flame, sparks or in potentially flammable environments. For professional use only.

Cut-resistant gloves



Coated Gloves made with DuPont Kevlar[®] Fibre

Coated gloves made with Kevlar[®] fiber offer cut protection and are resistant to oil and hydrocarbons. The rough finish provides tactile feel and a better grip. Impermeable for working in damp or greasy environments.



Upstream





Tasks

Electrical work

Performing electrical work

Hazards

Arc flash

Hazards requiring gloves made with Kevlar arc rated 2 up to 4

Chemical exposures





Cut-resistant gloves



For a full list of PPE solutions, visit SafeSPEC[™].



For a full list of PPE solutions, visit SafeSPEC[™].





Flame-resistant (FR) garments

Evolv[™] built with Nomex[®]

This lightweight Nomex[®] blended fabric is CAT 2 arc-rated/flame-resistant (AR/FR) and NFPA 2112 compliant, providing workers with comfortable protection. Garments are available in men's and women's styles and sizes.





Nomex[®]: High Arc Rated Suit

These multi-layer garments built with Nomex® are used for protection against high incident energy hazard levels and meet U.S. Occupational Safety and Health Administration (OSHA) 1910.269 and NFPA 70E° standards.

NOTE: For additional high-arc rated solutions, consult Use of layered solutions to address COVID-19 ation concerns with high-arc suits to see currently available Nomex® layering systems.

Chemical-resistant/flame-resistant (CR/FR) garments

Tychem[®] 2000 SFR

Tychem[®] 2000 SFR provides chemical and secondary flame protection in a lightweight garment. Worn over primary FR garments such as Nomex® Comfort, they won't ignite if a flash fire occurs and won't contribute to additional burn injury.

Tychem[®] 6000 FR

Tychem[®] 6000 FR styles TP198T and TP199T are single-layer garments that provide triple hazard protection against liquid chemical splash, flash fire and electric arc flash. Tychem[®] 6000 FR offers at least 30 minutes of protection against more than 180 toxic industrial chemicals and may be used as a primary FR garment.



Coated Gloves made with DuPont Kevlar[®] Fibre

Coated gloves made with Kevlar® fiber offer cut protection and are resistant to oil and hydrocarbons. The rough finish provides tactile feel and a better grip. Impermeable for working in damp or greasy environments.



Tasks

Cleaning

Pigging

Hydroblasting

Pressure washing

Sand blasting

Hazards

Pressurized liquids

Liquids or gases

Abrasives

Cut hazards requiring cut level protection

High temperatures

Mechanical hazards

Available PPE options

Flame-resistant (FR) garments

Nomex[®] Comfort



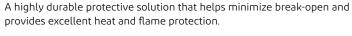
Nomex[®] Comfort is a lightweight, quick-drying innovative fabric that delivers extreme heat and flame protection, maximum comfort and excellent durability. Garments are available in men's and women's styles and sizes.





NOTE: Certifications listed here are for Nomex[®] Comfort fabric; consult with garment manufacturer for garment certifications.





ASTM

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NFPA ISO 2112 11612

NOTE: Certifications listed here are for Nomex[®] Soft fabric; consult with garment manufacturer for garment certifications

Chemical-resistant/flame-resistant (CR/FR) garments





Tychem[®] 6000 FR

Tychem[®] 6000 FR styles TP198T and TP199T are single-layer garments that provide triple hazard protection against liquid chemical splash, flash fire and electric arc flash. Tychem[®] 6000 FR offers at least 30 minutes of protection against more than 180 toxic industrial chemicals and may be used as a primary FR garment.





Non-FR/chemical-protective garments



Tyvek[®] 800 J

Tyvek® 800 J garments combine resistance to low-concentration, water-based inorganic chemicals with the strength and durability of Tyvek[®]. The coveralls provide an effective barrier against many water-based inorganic chemicals in low concentration and particles (down to 1.0 micron in size).







Upstream



Tasks

Cleaning

Pigging

Hydroblasting

Pressure washing

Sand blasting

Hazards

Pressurized liquids

Liquids or gases

Abrasives

Cut hazards requiring cut level protection

High temperatures

Mechanical hazards









For a full list of PPE solutions, visit SafeSPEC[™].



Tychem[®] 2000

Tychem[®] 2000 is a lightweight and durable fabric that uses the strength of Tyvek[®] fabric and polyethylene coating. Tychem[®] 2000 offers permeation barrier protection for at least 30 minutes against more than 40 chemical challenges.

Tychem[®] 2000 Tape

Tychem® 2000 Tape helps hold a sleeve over a glove, a pant leg over a boot or a closure flap closed, while providing protection against a variety of inorganic acids and bases, as well as common industrial cleaning agents, such as bleach. The tape tears easily for quick and convenient application. Repositionable once applied, the tape's elasticity enables tight adhesion to help prevent leaks.

*Tychem[®] tape should not be used around heat, open flame, sparks or in potentially flammable environments. For professional use only.

Coated Gloves made with DuPont Kevlar® Fibre

Coated gloves made with Kevlar® fiber offer cut protection and are resistant to oil and hydrocarbons. The rough finish provides tactile feel and a better grip. Impermeable for working in damp or greasy environments.



Tasks

Well/pipeline operations

Inspections

Operate valves

Draining

Venting

Hazards

Chemical exposures

Flash fire

Ergonomic issues

Cut hazards requiring cut protection

Available PPE options

Flame-resistant (FR) garments

Nomex[®] Comfort



Nomex[®] Comfort is a lightweight, quick-drying innovative fabric that delivers extreme heat and flame protection, maximum comfort and excellent durability. Garments are available in men's and women's styles and sizes.

ISO

11612

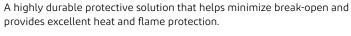


NFPA 2112

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Chemical-resistant/flame-resistant (CR/FR) garments



Tychem[®] 2000 SFR

Tychem[®] 2000 SFR provides chemical and secondary flame protection in a lightweight garment. Worn over primary FR garments such as Nomex® Comfort, they won't ignite if a flash fire occurs and won't contribute to additional burn injury.

Tvchem[®] 6000 FR

NFPA

1992

Tychem[®] 6000 FR styles TP198T and TP199T are single-layer garments that provide triple hazard protection against liquid chemical splash, flash fire and electric arc flash. Tychem[®] 6000 FR offers at least 30 minutes of protection against more than 180 toxic industrial chemicals and may be used as a primary FR garment.





Tychem[®] 2000 Tape

Tychem[®] 2000 Tape helps hold a sleeve over a glove, a pant leg over a boot or a closure flap closed, while providing protection against a variety of inorganic acids and bases, as well as common industrial cleaning agents, such as bleach. The tape tears easily for quick and convenient application. Repositionable once applied, the tape's elasticity enables tight adhesion to help prevent leaks.

Tychem tape should not be used around heat, open flame, sparks or in potentially flammable environments. For professional use only.

Cut-resistant gloves



Coated Gloves made with DuPont Kevlar[®] Fibre

Coated gloves made with Kevlar[®] fiber offer cut protection and are resistant to oil and hydrocarbons. The rough finish provides tactile feel and a better grip. Impermeable for working in damp or greasy environments.



Tasks

Upstream

Offshore drilling and production

All land-based tasks associated with

drilling but performed in an open

water environment







For a full list of PPE solutions, visit SafeSPEC[™].





visit SafeSPEC[™].

For a full list of PPE solutions,



Flash fire

Blowout

Hazards

Cut hazards requiring cut protection

Available PPE options

Flame-resistant (FR) garments

Nomex[®] Comfort

Nomex[®] Comfort is a lightweight, guick-drying innovative fabric that delivers extreme heat and flame protection, maximum comfort and excellent durability. Garments are available in men's and women's styles and sizes.



NOTE: Certifications listed here are for Nomex* Comfort fabric; consult with garment manufacturer for garment certifications.

Nomex[®] Soft

A highly durable protective solution that helps minimize break-open and provides excellent heat and flame protection.

ASTM	
F1506	





NOTE: Certifications listed here are for Nomex[®] Soft fabric; consult with garment manufacturer for garment certifications.

Tychem[®] 2000 Tape

Tychem[®] 2000 Tape helps hold a sleeve over a glove, a pant leg over a boot or a closure flap closed, while providing protection against a variety of inorganic acids and bases, as well as common industrial cleaning agents, such as bleach. The tape tears easily for quick and convenient application. Repositionable once applied, the tape's elasticity enables tight adhesion to help prevent leaks.

*Tychem[®] tape should not be used around heat, open flame, sparks or in potentially flammable environments. For professional use only

Cut-resistant gloves

Coated Gloves made with DuPont Kevlar[®] Fibre

Coated gloves made with Kevlar[®] fiber offer cut protection and are resistant to oil and hydrocarbons. The rough finish provides tactile feel and a better grip. Impermeable for working in damp or greasy environments.



Tasks

Emergency response—fire or blowout, spill or release

Stop fuel source and extinguish fire

Stop liquid or gas release and clean up or neutralize

Hazards

Thermal burns

Chemical exposures

Flash fire

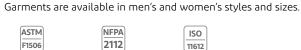
Available PPE options

Flame-resistant (FR) garments

Nomex[®] Comfort



Nomex[®] Comfort is a lightweight, quick-drying innovative fabric that delivers extreme heat and flame protection, maximum comfort and excellent durability.



ISO 11612

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Nomex[®] Soft



A highly durable protective solution that helps minimize break-open and provides excellent heat and flame protection.



ISO 11612

NOTE: Certifications listed here are for Nomex[®] Soft fabric; consult with garment manufacturer for garment certifications.

Hoods made with Nomex® Nano Flex



Upstream

Emergency response—fire or

Stop fuel source and extinguish fire

Stop liquid or gas release and clean

blowout, spill or release





Hazards

Tasks

Thermal burns

Chemical exposures

up or neutralize

Flash fire



Turnout gear made with Nomex[®], Nomex[®] Nano and Kevlar[®] Nomex[®], Nomex[®] Nano and Kevlar[®] fibers can be found in each layer of most firefighter turnout gear. Together, these innovative fibers help provide proven

protection, durability and comfort from the inside out.

Nomex[®], Nomex[®] Nano and Kevlar[®] fibers help manufacturers create fire-resistant liners, outer shells and accessories that not only stand up to the thermal hazards that firefighters may face, but also help them to get the job done without getting in the way of mobility.

DuPont is proud to partner with these manufacturers of turnout gear made with Nomex[®], Nomex[®] Nano and Kevlar[®]:

Fire-Dex	Innotex	Quaker Safety
Globe	Lakeland	Veridian
Honeywell	Lion	Viking

For a full list of PPE solutions, visit SafeSPEC[™].



For a full list of PPE solutions, visit SafeSPEC[™].



Thin, lightweight and durable, hoods made with Nomex[®] Nano Flex prevent potentially harmful particulates from being absorbed through the skin on

the neckline and upper jaw, which are areas that historically are known to be the most vulnerable and least protected. When added to a firefighter hood composite structure, hoods made with Nomex[®] Nano Flex result in up to a 4X increase in particle barrier efficiency.

This game-changing barrier protection is achieved without compromising thermal resistance, breathability, comfort or situational awareness.

DuPont is proud to partner with these manufacturers of hoods made with Nomex[®] Nano Flex:

Fire-Dex Veridian PGI Viking



Chemical-resistant/flame-resistant (CR/FR) garments

Tychem[®] 6000 FR

Tychem[®] 6000 FR styles TP198T and TP199T are single-layer garments that provide triple hazard protection against liquid chemical splash, flash fire and electric arc flash. Tychem[®] 6000 FR offers at least 30 minutes of protection against more than 180 toxic industrial chemicals and may be used as a primary FR garment.



Tychem[®] 2000 SFR

Tychem[®] 2000 SFR provides chemical and secondary flame protection in a lightweight garment. Worn over primary FR garments such as Nomex[®] Comfort, they won't ignite if a flash fire occurs and won't contribute to additional burn injury.

Tychem[®] 2000 Tape

Tychem[®] 2000 Tape helps hold a sleeve over a glove, a pant leg over a boot or a closure flap closed, while providing protection against a variety of inorganic acids and bases, as well as common industrial cleaning agents, such as bleach. The tape tears easily for quick and convenient application. Repositionable once applied, the tape's elasticity enables tight adhesion to help prevent leaks.

*Tychem® tape should not be used around heat, open flame, sparks or in potentially flammable environments. For professional use only.



Tasks

Laboratory

Perform analytical testing on all types of refinery inputs, outputs and intermediate streams

Hazards

Chemical exposures

Ergonomic issues

Thermal hazards

Cut hazards

Available PPE options

Flame-resistant (FR) garments

Nomex[®] Soft

ASTM

F1506



Nomex[®] Comfort is a lightweight, quick-drying innovative fabric that delivers extreme heat and flame protection, maximum comfort and excellent durability. Garments are available in men's and women's styles and sizes.

A highly durable protective solution that helps minimize break-open and

ISO

11612

ISO

11612



Nomex[®] Comfort



provides excellent heat and flame protection.

NFPA

2112

manufacturer for garment certifications.

NOTE: Certifications listed here are for Nomex[®] Comfort fabric; consult with garment manufacturer for garment certifications.

NOTE: Certifications listed here are for Nomex[®] Soft fabric; consult with garment

FR face mask made with Nomex^{®*}



Made with Nomex[®] Comfort fabric, this FR face mask from PGI Safety may help meet guidance from the CDC for wearing masks in environments that require FR protection while social distancing. This FR face mask offers exceptional breathability and durability with inherent, built-in flame resistance that cannot be washed out or worn away.

*FR face masks are for use while social distancing and may be used for other tasks identified by a site hazard risk assessment.

Non-FR/chemical-protective garments



Tychem[®] 2000

Tychem[®] 2000 is a lightweight and durable fabric that uses the strength of Tyvek[®] fabric and polyethylene coating. Tychem[®] 2000 offers permeation barrier protection for at least 30 minutes against more than 40 chemical challenges.



Tychem[®] 4000

Tychem[®] 4000 provides effective protection against a range of chemical environments, offering at least 30 minutes of protection against more than 120 chemical challenges.

<u>18000</u>

Midstream/ Downstream





Tasks

Laboratory

Perform analytical testing on all types of refinery inputs, outputs and intermediate streams

Hazards

Chemical exposures

Ergonomic issues

Thermal hazards

Cut hazards

For a full list of PPE solutions, visit SafeSPEC[™].



For a full list of PPE solutions, visit SafeSPEC[™].



Tychem[®]6000

Garments made with Tychem[®] 6000 fabric provide at least 30 minutes of protection against a broad range of chemicals. The strong, durable, and lightweight shin-length wrap-over rear closure with tie, is stitched and has over-taped seams with barrier tape for protection and strength, including abrasion and flex-cracking resistance, tensile strength, and puncture resistance.

Tychem[®] 2000 Tape

Tychem[®] 2000 Tape helps hold a sleeve over a glove, a pant leg over a boot or a closure flap closed, while providing protection against a variety of inorganic acids and bases, as well as common industrial cleaning agents, such as bleach. The tape tears easily for quick and convenient application. Repositionable once applied, the tape's elasticity enables tight adhesion to help prevent leaks.

 $^{*}\mbox{Tychem}^{*}\mbox{tape should not be used around heat, open flame, sparks or in potentially flammable environments. For professional use only.$



Tasks

Loading/unloading rail cars or trucks

Attach loading/unloading hoses

Monitor and transfer materials

Hazards

Flash fire

Chemical exposures

Thermal hazards

Cut hazards requiring cut and thermal protection

Available PPE options Flame-resistant (FR) garments

Nomex[®] Soft

ASTM

F1506

ASTM

F1506

Nomex[®] Comfort



Tychem[®] 2000 SFR Tychem[®] 2000 SFR provides chemical and secondary flame protection in a lightweight garment. Worn over primary FR garments such as Nomex® Comfort,

they won't ignite if a flash fire occurs and won't contribute to additional burn injury.

A highly durable protective solution that helps minimize break-open and

ISO

11612

Nomex[®] Comfort is a lightweight, quick-drying innovative fabric that delivers

extreme heat and flame protection, maximum comfort and excellent durability.

ISO

11612

provides excellent heat and flame protection.

NFPA

2112

NFPA

2112

manufacturer for garment certifications.

NOTE: Certifications listed here are for Nomex[®] Soft fabric; consult with garment

Garments are available in men's and women's styles and sizes.

NOTE: Certifications listed here are for Nomex[®] Comfort fabric; consult with garment manufacturer for garment certifications.

Tychem[®] 6000 FR

Tychem[®] 6000 FR styles TP198T and TP199T are single-layer garments that provide triple hazard protection against liquid chemical splash, flash fire and electric arc flash. Tychem[®] 6000 FR offers at least 30 minutes of protection against more than 180 toxic industrial chemicals and may be used as a primary FR garment.



NFPA 2112





Midstream/ Downstream



Loading/unloading rail cars or trucks

Attach loading/unloading hoses

Monitor and transfer materials

Hazards

Flash fire

Chemical exposures

Thermal hazards

Cut hazards requiring cut and thermal protection Cut-resistant gloves



For a full list of PPE solutions, visit SafeSPEC[™].



For a full list of PPE solutions, visit SafeSPEC[™].



Tychem[®] 2000 Tape

Tychem[®] 2000 Tape helps hold a sleeve over a glove, a pant leg over a boot or a closure flap closed, while providing protection against a variety of inorganic acids and bases, as well as common industrial cleaning agents, such as bleach. The tape tears easily for quick and convenient application. Repositionable once applied, the tape's elasticity enables tight adhesion to help prevent leaks.

*Tychem[®] tape should not be used around heat, open flame, sparks or in potentially flammable environments. For professional use only.

Coated Gloves made with DuPont Kevlar[®] Fibre

Coated gloves made with Kevlar[®] fiber offer cut protection and are resistant to oil and hydrocarbons. The rough finish provides tactile feel and a better grip. Impermeable for working in damp or greasy environments.



Tasks

Operations—sampling

Collecting process and other samples

Hazards

Flash fire

Chemical exposures

Ergonomic issues

Available PPE options Flame-resistant (FR) garments

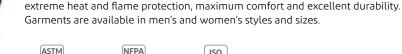
Nomex[®] Soft

ASTM

F1506

Nomex[®] Comfort







NOTE: Certifications listed here are for Nomex[®] Soft fabric; consult with garment manufacturer for garment certifications.

FR face mask made with Nomex^{®*}



*FR face masks are for use while social distancing and may be used for other tasks identified by a site hazard risk assessment

Chemical-resistant/flame-resistant (CR/FR) garments



Tvchem[®] 2000 SFR

Tychem[®] 2000 SFR provides chemical and secondary flame protection in a lightweight garment. Worn over primary FR garments such as Nomex® Comfort, they won't ignite if a flash fire occurs and won't contribute to additional burn injury.



Tychem[®] 6000 FR

Tychem[®] 6000 FR styles TP198T and TP199T are single-layer garments that provide triple hazard protection against liquid chemical splash, flash fire and electric arc flash. Tychem[®] 6000 FR offers at least 30 minutes of protection against more than 180 toxic industrial chemicals and may be used as a primary FR garment.





Midstream/ Downstream

Available PPE options Flame-resistant (FR) garments





Tasks

Pigging

Hydroblasting

Pressure washing

Sand blasting

Hazards

Pressurized liquids

Liquids or gases

Abrasives

Cut hazards requiring cut protection

High temperatures

Mechanical hazards

Non-FR/chemical-protective garments



For a full list of PPE solutions, visit SafeSPEC[™].



For a full list of PPE solutions, visit SafeSPEC[™].





Nomex[®] Comfort is a lightweight, quick-drying innovative fabric that delivers

A highly durable protective solution that helps minimize break-open and

ISO

11612

provides excellent heat and flame protection.

NFPA

2112

NOTE: Certifications listed here are for Nomex[®] Comfort fabric; consult with garment manufacturer for garment certifications

Nomex[®] Comfort

Nomex[®] Comfort is a lightweight, quick-drying innovative fabric that delivers extreme heat and flame protection, maximum comfort and excellent durability. Garments are available in men's and women's styles and sizes.

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NOTE: Certifications listed here are for Nomex® Comfort fabric: consult with garment manufacturer for garment certifications

Nomex[®] Soft

A highly durable protective solution that helps minimize break-open and provides excellent heat and flame protection.

ASTM	
F1506	





NOTE: Certifications listed here are for Nomex[®] Soft fabric; consult with garment manufacturer for garment certifications

Chemical-resistant/flame-resistant (CR/FR) garments

Tychem[®] 2000 SFR

Tychem[®] 2000 SFR provides chemical and secondary flame protection in a lightweight garment. Worn over primary FR garments such as Nomex they won't ignite if a flash fire occurs and won't contribute to additional burg injury.

Tychem[®] 6000 FR

Tychem[®] 6000 FR styles TP198T and TP199T are single-layer garments that provide triple hazard protection against liquid chemical splash, flash fire and electric arc flash. Tychem[®] 6000 FR offers at least 30 minutes of protection against more than 180 toxic industrial chemicals and may be used as a primary FR garment.

NFPA	
1992	



HRC 2 Requirements of NEPA 70F

Tyvek[®]400

An ideal balance of protection, durability, and comfort for maintenance activities

- Non-woven material that protects against particles (down to 1.0 micron)
- Delivers consistently better protection even after wear and abrasion
- Flashspun high-density polyethylene with superior durability over
- microporous film fabrics
- · Comfort-fit design that enables a greater range of movement while performing tasks

TYPE 6













EN 1149-5

EN 1073-2* Class 1



Tasks

Cleaning

Pigging

Hydroblasting

Pressure washing

Sand blasting

Hazards

Pressurized liquids

Liquids or gases

Abrasives

Cut hazards requiring cut protection

High temperatures

Mechanical hazards

For a full list of PPE solutions, visit SafeSPEC[™].

Tyvek[®] 800 J

Tyvek[®] 800 J garments combine resistance to low-concentration, water-based inorganic chemicals with the strength and durability of Tyvek[®]. The coveralls provide an effective barrier against many water-based inorganic chemicals in low concentration and particles (down to 1.0 micron in size).

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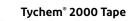








Tychem[®] 2000 is a lightweight and durable fabric that uses the strength of Tyvek[®] fabric and polyethylene coating. Tychem[®] 2000 offers permeation barrier protection for at least 30 minutes against more than 40 chemical challenges.



Tychem[®] 2000

Tychem[®] 2000 Tape helps hold a sleeve over a glove, a pant leg over a boot or a closure flap closed, while providing protection against a variety of inorganic acids and bases, as well as common industrial cleaning agents, such as bleach. The tape tears easily for quick and convenient application. Repositionable once applied, the tape's elasticity enables tight adhesion to help prevent leaks.

*Tychem[®] tape should not be used around heat, open flame, sparks or in potentially flammable environments. For professional use only.

Cut-resistant gloves



Coated Gloves made with DuPont Kevlar[®] Fibre

Coated gloves made with Kevlar® fiber offer cut protection and are resistant to oil and hydrocarbons. The rough finish provides tactile feel and a better grip. Impermeable for working in damp or greasy environments.

Midstream/ Downstream

Tasks

Confined space entry

Entering tanks, vessels or pits that may contain hazardous atmospheres to perform work

Hazards

Hazardous atmospheres

Flash fire

Hazardous chemicals (liquids or solids)

Cut hazards requiring cut protection

Available PPE options Flame-resistant (FR) garments









For a full list of PPE solutions, visit SafeSPEC[™].







Nomex[®] Comfort

Nomex[®] Comfort is a lightweight, quick-drying innovative fabric that delivers extreme heat and flame protection, maximum comfort and excellent durability. Garments are available in men's and women's styles and sizes.



manufacturer for garment certifications

Nomex[®] Soft

A highly durable protective solution that helps minimize break-open and provides excellent heat and flame protection.

ISO

11612

ASTM	NFPA
F1506	2112

NOTE: Certifications listed here are for Nomex[®] Soft fabric; consult with garment manufacturer for garment certifications.

Chemical-resistant/flame-resistant (CR/FR) garments

Tychem[®] 2000 SFR

Tychem[®] 2000 SFR provides chemical and secondary flame protection in a lightweight garment. Worn over primary FR garments such as Nomex® Comfort, they won't ignite if a flash fire occurs and won't contribute to additional burn injury.

Tychem[®] 6000 FR





Tasks

Confined space entry

Entering tanks, vessels or pits that may contain hazardous atmospheres to perform work

Hazards

Hazardous atmospheres

Flash fire

Hazardous chemicals (liquids or solids)

Cut hazards requiring cut protection

For a full list of PPE solutions, visit SafeSPEC[™].





Tychem[®] 2000 Tape helps hold a sleeve over a glove, a pant leg over a boot or a closure flap closed, while providing protection against a variety of inorganic acids and bases, as well as common industrial cleaning agents, such as bleach. The tape tears easily for quick and convenient application. Repositionable once applied, the tape's elasticity enables tight adhesion to help prevent leaks.

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Cut-resistant gloves



Coated Gloves made with DuPont Kevlar[®] Fibre

Coated gloves made with Kevlar[®] fiber offer cut protection and are resistant to oil and hydrocarbons. The rough finish provides tactile feel and a better grip. Impermeable for working in damp or greasy environments.



Midstream/ Downstream

Tasks

Insulation work—asbestos or non-asbestos

Handle thermal system insulation, metal bands and jacketing

Hazards

Sharp edges

Hazardous particles

Cut hazards requiring cut protection

Available PPE options Flame-resistant (FR) garments









For a full list of PPE solutions, visit SafeSPEC[™].



Nomex[®] Soft

A highly durable protective solution that helps minimize break-open and provides excellent heat and flame protection.

ASTM
F1506





NOTE: Certifications listed here are for Nomex[®] Soft fabric; consult with garment manufacturer for garment certifications.

Nomex[®] Comfort

Nomex[®] Comfort is a lightweight, quick-drying innovative fabric that delivers extreme heat and flame protection, maximum comfort and excellent durability. Garments are available in men's and women's styles and sizes.

ISO

11612

ASTM	NFPA
F1506	2112

NOTE: Certifications listed here are for Nomex[®] Comfort fabric; consult with garment manufacturer for garment certifications.

Chemical-resistant/flame-resistant (CR/FR) garments

Tychem[®] 2000 SFR

Tychem[®] 2000 SFR provides chemical and secondary flame protection in a lightweight garment. Worn over primary FR garments such as Nomex® Comfort, they won't ignite if a flash fire occurs and won't contribute to additional burn injury.

Tychem[®] 6000 FR

NFPA 1992	NFPA 2112	
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Downstream

Tasks

Insulation work—asbestos or non-asbestos

Handle thermal system insulation, metal bands and jacketing

Hazards

Sharp edges

Hazardous particles

Cut hazards requiring cut protection

Midstream/

Cut-resistant gloves



Coated Gloves made with DuPont Kevlar® Fibre

Coated gloves made with Kevlar® fiber offer cut protection and are resistant to oil and hydrocarbons. The rough finish provides tactile feel and a better grip. Impermeable for working in damp or greasy environments.

Cut-resistant sleeves

Sleeves made from DuPont Kevlar®

ANSI

3

Heat



This Cut Pro[®] sleeve with Hero[™] Technology offers high levels of protection and comfort for workers in tough environments. Made with blended Kevlar stainless steel and nylon fibers, this 18-inch sleeve with thumb slot provides excellent cut and abrasion resistance.

ANSI

A6

Cut







Midstream/ Downstream

Tasks

Hazards

Flash fire

Chemical exposures

Pressurized systems

Cut hazards requiring

cut protection

Line breaking/vessel opening

Shut down process

Determine hazards

Lockout/tagout (LOTO)

Monitor hazardous atmospheres

Perform work



For a full list of PPE solutions, visit SafeSPEC[™].



For a full list of PPE solutions, visit SafeSPEC[™].



Available PPE options Flame-resistant (FR) garments





Nomex[®] Soft

A highly durable protective solution that helps minimize break-open and provides excellent heat and flame protection.

ASTM
F1506





NOTE: Certifications listed here are for Nomex[®] Soft fabric; consult with garment manufacturer for garment certifications.

Nomex[®] Comfort

Nomex[®] Comfort is a lightweight, quick-drying innovative fabric that delivers extreme heat and flame protection, maximum comfort and excellent durability. Garments are available in men's and women's styles and sizes.

ASTM	NFPA
F1506	2112



NOTE: Certifications listed here are for Nomex[®] Comfort fabric; consult with garment manufacturer for garment certifications.

Chemical-resistant/flame-resistant (CR/FR) garments

Tychem[®] 2000 SFR

Tychem[®] 2000 SFR provides chemical and secondary flame protection in a lightweight garment. Worn over primary FR garments such as Nomex[®] Comfort, they won't ignite if a flash fire occurs and won't contribute to additional burn injury.

Tychem[®] 6000 FR

NFPA 1992	NFPA 2112	
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Tasks

Line breaking/vessel opening

- Shut down process
- Determine hazards
- Lockout/tagout (LOTO)
- Monitor hazardous atmospheres
- Perform work

Hazards

Chemical exposures

Flash fire

Pressurized systems

Cut hazards requiring cut protection

For a full list of PPE solutions, visit SafeSPEC[™].





Tychem[®] 2000 Tape

Tychem[®] 2000 Tape helps hold a sleeve over a glove, a pant leg over a boot or a closure flap closed, while providing protection against a variety of inorganic acids and bases, as well as common industrial cleaning agents, such as bleach. The tape tears easily for quick and convenient application. Repositionable once applied, the tape's elasticity enables tight adhesion to help prevent leaks.

*Tychem® tape should not be used around heat, open flame, sparks or in potentially flammable environments. For professional use only.

Cut-resistant gloves



Coated Gloves made with DuPont Kevlar[®] Fibre

Coated gloves made with Kevlar[®] fiber offer cut protection and are resistant to oil and hydrocarbons. The rough finish provides tactile feel and a better grip. Impermeable for working in damp or greasy environments.



Midstream/ Downstream

Tasks

Maintenance—electrical work

Performing electrical work

Hazards

Arc flash

Hazards requiring gloves made with Kevlar[®] that are arc rated 2 up to 4

Chemical exposures

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Chemical-resistant/flame-resistant (CR/FR) garments





For a full list of PPE solutions, visit SafeSPEC[™].



Available PPE options

Flame-resistant (FR) garments

Nomex[®] Essential Arc

Nomex[®] Essential Arc is engineered to provide >8 cal/cm² ATPV protection combined with enhanced durability against abrasion. Nomex[®] is resistant to many chemicals and oil stains are washed out easier than with standard cotton garments.









NOTE: Certifications listed here are for Nomex[®] Essential Arc fabric; consult with garment manufacturer for garment certifications.

Nomex[®]: High Arc Rated Suit

These multi-layer garments built with Nomex[®] are used for protection against high incident energy hazard levels and meet U.S. OSHA 1910.269 and NFPA 70E[®] standards.

NOTE: For additional high-arc rated solutions, consult *Use of layered solutions to address COVID-*19 contamination concerns with high-arc suits to see currently available Nomex[®] layering systems.

Tychem[®] 2000 SFR

Tychem[®] 2000 SFR provides chemical and secondary flame protection in a lightweight garment. Worn over primary FR garments such as Nomex[®] Comfort, they won't ignite if a flash fire occurs and won't contribute to additional burn injury.

Tychem[®] 6000 FR

NFPA NFPA 1992 2112





Tasks

Maintenance—electrical work

Performing electrical work

Hazards

Arc flash

Hazards requiring gloves made with Kevlar[®] that are arc rated 2 up to 4

Chemical exposures

For a full list of PPE solutions, visit SafeSPEC[™].



Cut-resistant gloves



Coated Gloves made with DuPont Kevlar $^\circ$ Fibre

Coated gloves made with Kevlar[®] fiber offer cut protection and are resistant to oil and hydrocarbons. The rough finish provides tactile feel and a better grip. Impermeable for working in damp or greasy environments.



Midstream/ Downstream

Tasks

Emergency response—fire, spill or release

Stop fuel source and extinguish fire

Stop liquid or gas release and clean up or neutralize

Hazards

Thermal burns

Chemical exposures

Flash fire











For a full list of PPE solutions, visit SafeSPEC[™].



Available PPE options

Flame-resistant (FR) garments

Nomex[®] Comfort

Nomex[®] Comfort is a lightweight, quick-drying innovative fabric that delivers extreme heat and flame protection, maximum comfort and excellent durability. Garments are available in men's and women's styles and sizes.

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NFPA 2112



NOTE: Certifications listed here are for Nomex[®] Comfort fabric; consult with garment manufacturer for garment certifications.

Nomex[®] Soft

A highly durable protective solution that helps minimize break-open and provides excellent heat and flame protection.

ASTM	NFPA	ISO
F1506	2112	11612

NOTE: Certifications listed here are for Nomex[®] Soft fabric; consult with garment manufacturer for garment certifications.

Hoods made with Nomex® Nano Flex

Thin, lightweight and durable, hoods made with Nomex[®] Nano Flex prevent potentially harmful particulates from being absorbed through the skin on the neckline and upper jaw, which are areas that historically are known to be the most vulnerable and least protected. When added to a firefighter hood composite structure, hoods made with Nomex[®] Nano Flex result in up to a 4X increase in particle barrier efficiency.

This game-changing barrier protection is achieved without compromising thermal resistance, breathability, comfort or situational awareness.

DuPont is proud to partner with these manufacturers of hoods made with Nomex° Nano Flex:

Fire-Dex	Veridian
PGI	Viking

Turnout gear made with Nomex[®], Nomex[®] Nano and Kevlar[®]

Nomex[®], Nomex[®] Nano and Kevlar[®] fibers can be found in each layer of most firefighter turnout gear. Together, these innovative fibers help provide proven protection, durability and comfort from the inside out.

Nomex[®], Nomex[®] Nano and Kevlar[®] fibers help manufacturers create fire-resistant liners, outer shells and accessories that not only stand up to the thermal hazards that firefighters may face, but also help them to get the job done without getting in the way of mobility.

DuPont is proud to partner with these manufacturers of turnout gear made with Nomex[°], Nomex[°] Nano and Kevlar[°]:

Fire-Dex	Innotex	Quaker Safety
Globe	Lakeland	Veridian
Honeywell	Lion	Viking



Tasks

Emergency response—fire, spill or release

Stop fuel source and extinguish fire

Stop liquid or gas release and clean up or neutralize

Hazards

Thermal burns

Chemical exposures

Flash fire

Chemical-resistant/flame-resistant (CR/FR) garments

Tychem[®] 6000 FR

Tychem[®] 6000 FR styles TP198T and TP199T are single-layer garments that provide triple hazard protection against liquid chemical splash, flash fire and electric arc flash. Tychem[®] 6000 FR offers at least 30 minutes of protection against more than 180 toxic industrial chemicals and may be used as a primary FR garment.

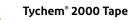




Tychem[®] 2000 SFR



Tychem® 2000 SFR provides chemical and secondary flame protection in a lightweight garment. Worn over primary FR garments such as Nomex® Comfort, they won't ignite if a flash fire occurs and won't contribute to additional burn injury.



Tychem[®] 2000 Tape helps hold a sleeve over a glove, a pant leg over a boot or a closure flap closed, while providing protection against a variety of inorganic acids and bases, as well as common industrial cleaning agents, such as bleach. The tape tears easily for quick and convenient application. Repositionable once applied, the tape's elasticity enables tight adhesion to help prevent leaks.

 $^{*}\mbox{Tychem}^{\circ}$ tape should not be used around heat, open flame, sparks or in potentially flammable environments. For professional use only.



For a full list of PPE solutions, visit SafeSPEC[™].



Global reach

With operations in 96 countries and technical centers staffed with experts across the globe, we are here to provide you with the support you need when choosing the right PPE.

Our Thermo-Man[®] (life-sized thermal burn injury evaluation) and Arc-Man[®] (arc flash injury evaluation) units provide compelling demonstrations that help educate industrial workers about the durability and heat, flame and electric arc resistance that DuPont Safety PPE delivers.

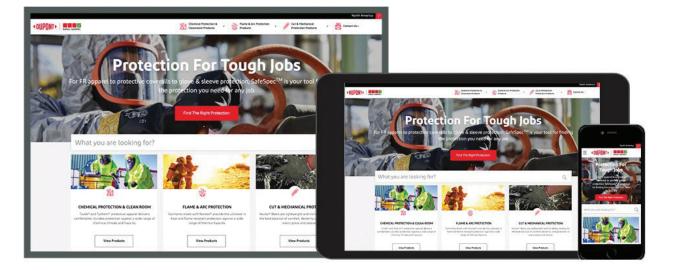


We're here to help

DuPont[™] SafeSPEC[™], our powerful web-based tool, can assist you with finding the appropriate DuPont garments for chemical, controlled environment, thermal, electric arc and mechanical hazards.

SafeSPEC[™] has a permeation test results database for Tychem[®] fabrics & gloves and allows you to search by either hazard or industry to help you find the right protection for the job at hand.

safespec.dupont.asia



< DUPONT >



Kevlar. | Nomex. | Tyvek. | Tychem.

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