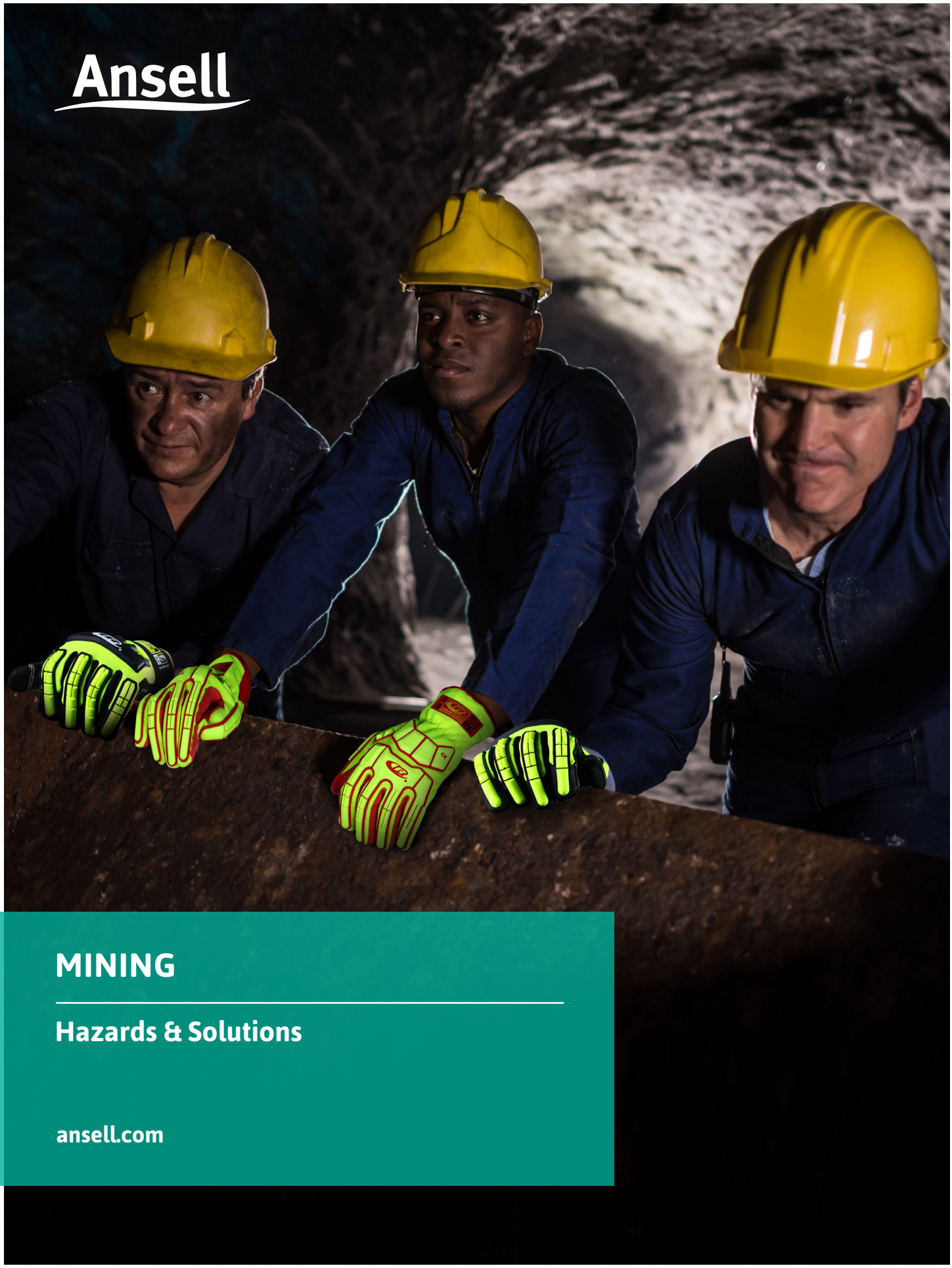
Ansell



MINING

Hazards & Solutions

ansell.com

MINING

Mining exploration is a complex process requiring a comprehensive focus on safety, through proper risk assessment to reduce, mitigate or remove risks. Whether working in extraction and exploration, crushing ore, or preparing and transporting product, workers are exposed to different hazards each day.

Additionally, mining infrastructure requires constant construction activity, and the heavy equipment used throughout daily processes require service and maintenance. Therefore, mining workers need the appropriate combination of oil, mechanical, chemical and impact protection.

PRIMARY HAZARDS IN THE MINING INDUSTRY

Impact Risk

Lack of Grip

Exposure to Hazardous Chemicals

Extreme Temperatures

Cut Risk

Abrasion & Scrapes

MINING HAZARDS & SOLUTIONS

Open-cast and underground mining have different type of hazards as the instruments and materials used on the manual work have their own unique risks and consequences. Ansell is the ideal safety partner when identifying hazards and injury risk associated with each task and equipping mining workers with the right solution from our extensive portfolio of hand and body protection. Whether facing risk of cut, impact, abrasion, chemical or other hazards, Ansell can help reduce on-the-job injury and deliver the comfort, performance and protection needed to keep mining workers safe and productive throughout the day. AnsellGUARDIAN® helps companies around the world to assess potential risks and take steps to avoid them by making appropriate PPE selection based on various parameters including the types of hazards, job requirements, duration of use, etc.

IMPACT PROTECTION

Throughout upstream, midstream, or downstream where high risk activities are performed daily during exploration, construction, extraction, crushing and preparation or transportation and refining, work is often done in extreme environments and hands may easily be exposed to hazards of crush and pinch impacts. High performance personal protective equipment (PPE) for hand is required for medium to heavy duty tasks including the use of hand tools, pipe handling, valve operation or positioning of heavy equipment. Ansell's Ringers® Impact Protection System provides effective protection of knuckles, fingers and thumbs while maintaining maximum durability, dexterity and comfort.

RINGERS® R-065

Breathable knit shell offers 360° cut resistance, while the half-dipped nitrile coating on palm with a sandy finish provides enhanced grip. High visibility TPR impact protection on top of hand and full length of fingers to protect against crush and pinch injuries in any environment.

RINGERS® R-665

Premium leather impact glove and excellent cut protection for ultimate comfort, durability, and performance. Single piece palm and point finger-tip construction enhances flexibility and dexterity when handling tools and objects.

RINGERS® R-840

Advanced impact gloves that provide excellent abrasion resistance for longer-lasting wear. Designed with ERGOFORM™ Technology to reduce stress on hands and made for optimal comfort.

RINGERS® R-075

Long cuff chemical impact glove with a PVC coating, combining waterproof and rated chemical resistance with protection against impact hazards and cuts, providing chemical protection in heavy duty environments.

RINGERS® R-169

TPR impact protection on top of the hand and full length of fingers with synthetic leather palm for enhanced grip and additional palm layer for enhanced cut resistance. Added security and durability with secure cuff and wrap around index finger protecting wear and tear zone.

RINGERS® R-259B

Heavy duty impact glove with high visibility TPR impact protection on top of hand and full length of fingers. Durable synthetic leather palm for enhanced grip with additional palm layer for enhanced cut resistance. Waterproof barrier to keep hands dry with a liquid resistant coating on top of hand.

RINGERS® R-080

Internal liquid-proof barrier added to the breathable knit shell offers 360° cut and liquid resistance, while the half-dipped nitrile coating on palm with a sandy finish offers enhanced grip. High visibility TPR impact protection on top of hand and full length of fingers.

RINGERS® R-259

Heavy-duty impact gloves with TPR (thermoplastic rubber) designed to protect knuckles, thumb and full length of fingers. Comes with synthetic leather palm for enhanced durability and grip.

RINGERS® R-179

Medium-duty impact gloves with cut-resistant dual-layer synthetic leather palm to give stronger grip and better cut resistance. Put on and remove easily with slip-on elastic cuff design.

Note: Product availability may vary. These styles serve as examples only. For tailored recommendations for your unique needs and applications, please request an AnsellGUARDIAN® assessment.

OIL PROTECTION

When working at the mine, transporting fluids, or at the shop, mining workers are exposed to oil, diesel and other hydraulic fluids. Workers require certified barrier protection to prevent oils and other lubricants from making contact with the skin as well as enhanced grip to mitigate muscle fatigue and proper handling of medium to heavy duty tools and equipment. Ansell offers ANSELL GRIP™ Technology, a coating treatment that minimizes the force required to grip dry, oily and wet tools or materials, reducing hand and arm fatigue while improving dexterity, safety and productivity.

HyFlex® 11-937

The lightest weight cut-resistant and oil-resistant work gloves with reinforced thumb crotch that provides up to 12x the durability for extended wear. ¾ coating creates ideal protection for exposure to industrial fluids in harsh environments, with ANSELL GRIP™ Technology for safe handling in dry-to-oily environments.

HyFlex® 11-927

The first HyFlex® style to combine advanced cut resistance, oil-repellence and oil grip in a single glove, it features a durable double coating with industry leading and patented ANSELL GRIP™ Technology on the palm, for a secure grip in oily environments.

HyFlex® 11-939

Lightest-weight durable solution with multi-risk cut, oil and liquid protection for front and back of hand. 18-gauge design for enhanced dexterity and high level comfort.

RINGERS® R-068

Impact glove with a breathable knit shell that offers 360° cut resistance, while the half-dipped nitrile coating on palm with a sandy finish offers enhanced grip. TPR impact protection on top of hand and full length of fingers. Patented double dipped technology for a full nitrile in smooth finish for liquid resistance.

EDGE® 48-929

Excellent for medium weight applications requiring strong oil-repellence. Reliable combination of cut, grip and oil resistance.

EDGE® 48-919

Made of a seamless liner, fully dipped into NBR coating to provide protection against fluid exposure. Excellent for handling small and medium-sized components coated with oil or lubricant.

HyFlex® 11-931

The lightest weight cut-resistant + oil-resistant work glove with reinforced thumb crotch that provides up to 12x the durability for extended wear. Ideal protection for exposure to industrial fluids in harsh environments, with ANSELL GRIP™ Technology for safe handling in dry-to-oily environments.

HyFlex® 11-925

Ultimate performance and comfort for oily environments. Our first ultra-light-weight HyFlex® style to combine a ¾ dip geometry, RIPEL™ Liquid Repellence Technology for oil repel-lence and ANSELL GRIP™ for oil grip. The result is a highly dexterous, high comfort glove.

Note: Product availability may vary. These styles serve as examples only. For tailored recommendations for your unique needs and applications, please request an AnsellGUARDIAN® assessment.

HIGH CHEMICAL PROTECTION

Workers who use hazardous chemicals during work processes such as during hydraulic fracturing could be exposed to hazardous byproducts of mining extraction. Possible hazards include chemical burns from caustic substances and toxic vapors.

It is also important to know the potential means for contamination, such as vapors, spray, splash and immersion and the route of exposure to the worker, such as inhalation or skin absorption. Many studies from Occupational Safety and Health Administration (OSHA) have shown that absorption of chemicals through the skin can occur without being noticed by the worker.

AlphaTec® 58-530B

AlphaTec® 58-535B

AlphaTec® 58-530B/535B

Reliable liquid-proof chemical protection. ANSELL GRIP™ Technology is a coating treatment that minimizes the force required to grip dry, oily and wet tools or materials, relieving hand and arm strength caused by poor grip.

RINGERS® R-075

Long cuff chemical impact glove with a PVC coating, combining waterproof and rated chemical resistance with protection against impact hazards and cuts, providing chemical protection in heavy duty environments.

AlphaTec® 53-001

Multi-layer polymer design of nitrile/neoprene/nitrile layers provides chemical protection against a wide range of chemicals from acids and bases to hydrocarbons and organic solvents. MICROCHEM™ Chemical Barrier Technology provides superior protection for use in hazardous environments.

AlphaTec® 4000 - Model 111

Engineered to provide an exceptional barrier against a wide range of organic and inorganic chemicals and biological agents.

AlphaTec® Glove Connector

Innovative design utilizing the latest polymer technology. Creates a liquid tight seal between glove and cuff. A consistent and reliable alternative to taping.

AlphaTec® 38-001

Butyl gloves that offer superior protection against highly aggressive chemicals. Designed for comfort, enhanced flexibility & strengthened grip. Excellent for dry and wet grip while reducing hand fatigue.

AlphaTec® FLASH Type CV/VP1

Flame retardant, multi-layer, re-usable chemical barrier technology, Type 1/Level A protection suit. Meets NFPA 1991:2016 including the optional chemical flash fire and liquefied gas protection requirements.

AlphaTec® Evo Type T

Advanced chemical resistance suit with durable patented multi-layer fabric. Made to be flame-retardant and excellent at abrasion resistance & outstanding chemical resistance.

AlphaTec® 6500 Stitched & Taped - Model 819

Lightweight twin-layer barrier for superb chemical resistance. Enhanced comfort thanks to its better ergonomics. Full-body protection with integrated boot, passthrough & CEJN connector.

AlphaTec® 58-735

INTERCEPT™ Cut Resistance Technology provides protection against lacerations. Optimized fit that integrates the high visibility cut liner into the nitrile shell, acting as an indicator when glove is cut and highlighting when chemical protection is compromised.

AlphaTec® 6500 Stitched & Taped - Model 813

Multi-layer chemical barrier technology with excellent chemical resistance. Yellow in colour for enhanced visibility. Comes with large SCBA hump, integral sock, passthrough & CEJN connector.

AlphaTec® 04-005

Long-cuffed PVC gloves that gives high-level protection from various chemical hazards. Offers excellent balance between comfort & protection. Perfect for wet & oily conditions. Comes with strengthened grip for dexterity.

Note: Product availability may vary. These styles serve as examples only. For tailored recommendations for your unique needs and applications, please request an AnsellGUARDIAN® assessment. Or use our self-service AnsellGUARDIAN® Partner tool to search our extensive chemical permeation and degradation data to identify the appropriate hand and body protection for the chemicals you use.

LOW CHEMICAL PROTECTION

Workers can be exposed to concentrated chemicals and binding agents in the preparation of product. Without proper PPE, workers may experience chemical burns or any other type of skin irritation. Repetitive and prolonged exposure to these chemicals can prove toxic to the worker and severely affect their skin or respiratory system. Thick, nonporous PPE is needed that will prevent liquids from leaking inside and touching the skin, with the durability to withstand scrubbing and sharp corners. Ansell's industry-leading chemical protection portfolio includes solutions with varying levels of resistance against acids, organic and inorganic chemicals, and biological agents.

MICROFLEX® 93-260

Three-layer design for superior protection against harsh chemicals. Nitrile and neoprene offer broad resistance to acids, bases and solvents. Disposable glove with 12" length.

TouchNTuff® 92-600

The world's leading disposable glove for chemical splash protection. Strong and stretchy nitrile provides added durability.

AlphaTec® Glove Connector

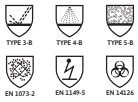
Innovative design utilizing the latest polymer technology. Creates a liquid tight seal between glove and cuff. A consistent and reliable alternative to taping.

AlphaTec® 2000 STANDARD - Model 111

Made from superior breathable microporous laminate technology to provide superior protection from low hazard liquid spray and fine particulates. Tunneled elasticated 3-piece hood, wrists and ankles help minimize the risk of linting and cross contamination.

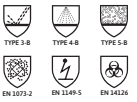
AlphaTec® 3000 - Model 111

Durable material providing an effective barrier against a range of inorganic chemicals and biological agents. Coverall with 2-piece hood, double zip closure, double cuffs, elasticated hood, waist, double cuffs and ankles.



AlphaTec® 2300 PLUS - Model 132

Lightweight and durable chemical protection against a range of inorganic liquid chemicals including acids and bases. Includes respirator fit hood and a zip flap with self-adhesive tape closure. Coverall, 3-piece hood, elasticated hood, waist, wrists and ankles. 2-way front zipper with resealable storm flap and finger loops.



Note: Product availability may vary. These styles serve as examples only. For tailored recommendations for your unique needs and applications, please request an AnsellGUARDIAN® assessment. Or use our self-service AnsellGUARDIAN® Partner tool to search our extensive chemical permeation and degradation data to identify the appropriate hand and body protection for the chemicals you use.

HEAT AND COLD PROTECTION

Mining workers are exposed to extreme temperatures and should take precautions to stay safe. Dressing properly is extremely important to preventing cold or heat stress. The type of fabric worn also makes a difference. Cotton loses its insulation value when it becomes wet. Wool, silk and most synthetics, on the other hand, retain their insulation even when wet. Just as important as having the proper body apparel, using the right-hand protection for any given environment, such as knit, cotton, insulated or water-resistant gloves is just as crucial to mitigate the effects of cold or heat related hazards.

HyFlex® 11-550

High comfort cut protection with up to 75 percent more durability. Well-suited for a broad range of assembly applications. Nitrile coated and designed for dry or slightly oily applications where workers need cut protection, and in some cases, protection from intermittent contact heat up to 212°F.

ActivArmr® 43-216

Excellent heat-resistant gloves offer high levels of durability, control and protection from heat, flame, sparks and puncture.

ActivArmr® 43-217

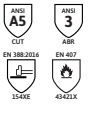
Our best welding glove provides users with high tactility and dexterity while keeping their hands protected and safe. Suitable for TIG welding, as well as grinding, brazing, metal fabrication and maintenance.

ActivArmr® 70-765

Advanced cut protection combined with premium leather for superior grip. Durable leather pad double-stitched with DuPont™ Kevlar® fiber to provide protection against sharp snags and punctures. Protects hands from intermittent heat contact up to 212°F.

ActivArmr® 43-113

Superior heat and flame resistance glove with complete protection for hand and wrist. Designed for intermittent handling of dry hot objects up to 660°F. Resistant to contact, convective, and radiant heat. Flame resistant - self extinguishes when exposed to flame and has outstanding resistance to cuts.



RINGERS® R-176

Medium-duty impact gloves with cut-resistant dual-layer synthetic leather palm to give stronger grip and better cut resistance. Put on and remove easily with slip-on elastic cuff design.

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CUT PROTECTION

Mining workers are exposed to puncture and cuts through sharp objects including razor blades, sharp steel edges, and dangerous tools and machinery. These hazards are prominent during the machining, assembly, installation, operation, and field repair of oil field assets. To reduce the risk of cuts and infectious diseases, PPE plays an important role and full protection of the hand and arm can be achieved when combining the right gloves.

Ansell's cut resistant gloves are made with innovative technologies to provide outstanding cut protection with enhanced dexterity, grip and comfort. Our proprietary INTERCEPT™ Technology provides a lighter weight and more comfortable solution.

HyFlex® 11-561

The thinnest, lightest ISO cut C with more than 2x the durability of the next closest competitor based on internal lab tests. The best choice when high cut and dexterity in dry to light oil conditions are needed.

HyFlex® 11-738

Ultra-strong fibers provide extreme resistance against cuts and burrs and the reinforced thumb crotch increases protection and extended use life. Made with water-based polyurethane for enhanced comfort and dexterity.

HyFlex® 11-644

A dynamic mix of performance, durability and comfort, providing cut performance and lightweight ergonomic fit to strike the perfect balance of protection and precision when working with small, sharp parts. This glove is an effective way to decrease injury expenses without reducing productivity or quality.

HyFlex® 11-571

Ultra-lightweight glove design. Offers 3 times greater cut resistance and up to 20% greater durability. Made to be touchscreen compatible so gloves can be kept on while handling devices.

HyFlex® 11-727

PU coating for increased comfort. High levels of cut performance with excellent flexibility and fit, as well as a secure grip on dry to slightly oily pieces for sure handling in a wide range of environments.

Note: Product availability may vary. These styles serve as examples only. For tailored recommendations for your unique needs and applications, please request an AnsellGUARDIAN® assessment.

ABRASION PROTECTION

When working with heavy equipment, ore and finished product, grip and abrasion resistance are essential to hand safety for miners. A compromised grip increases hand fatigue as the muscle becomes overexerted. If a glove isn't providing the necessary grip, workers may remove their gloves and expose their hands to significant hazards. According to OSHA, 70 percent of hand injuries in the United States occur when people are not wearing gloves.

HyFlex® 11-840

Outstanding durability and unmatched comfort. Longer lasting handling in abrasive conditions. Proprietary ANSELL GRIP™ Technology enhances flexibility and grip. Nylon and spandex liner improve breathability and range of movement.

HyFlex® 11-561

The thinnest, lightest ISO cut C with more than 2x the durability of the next closest competitor based on internal lab tests. The best choice when high cut and dexterity in dry to light oil conditions are needed.

HyFlex® 11-849

Fully-dipped nitrile coated gloves for 360° hand protection from light scratches & dirt. Offers 2 times more grip & up to 20% more durability. Made to shape to natural hand contours.

HyFlex® 11-819 ESD

Improved durability & 2 times more grip for better protection when handling hazardous materials. Made with elevated comfort to reduce hand strains. Touchscreen compatible & offers protection from electrostatic discharge.

HyFlex® 11-842

Sustainable design yet made to be 20% greater in abrasion resistance. Provides enhanced comfort for improved breathability & dexterity. Touchscreen compatible so gloves can be kept on when handling devices.

Note: Product availability may vary. These styles serve as examples only. For tailored recommendations for your unique needs and applications, please request an AnsellGUARDIAN® assessment.

AnsellGUARDIAN®

Performed by our safety experts, AnsellGUARDIAN® is a personalised service that enables our customers to create a safer, more productive, and less injury-prone work environment. Using our safety expertise and a data-driven methodology, we provide a unique assessment tailored to each customer's needs.

Safety & Compliance
We provide a personalised risk management solution that leads to improved worker safety, injury reduction, and increased regulatory compliance.

Cost Performance
We advise on business performance improvements that result in lower overall costs for your company.

Productivity
We deliver best practice recommendations to optimise your PPE dispensing, improve your company's output, and eliminate waste, leading to an increase in productivity.

Training
Where needed, we also work alongside you to implement PPE change management to effectively train and protect your workforce.

Assessments conducted in
35+ countries industries

Saving our partners
$211m+
averaging
~$20k per customer

SAFETY.
tailor-made

How we do it:

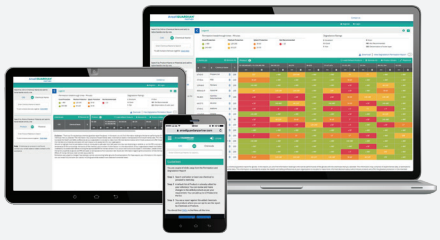
Data Collection > In-Plant Assessment* > Analysis and Recommendations > Validation Testing > Implementation > Training > Expansion

**Virtual assessment also possible*

Get started with a complimentary assessment today at: **www.ansell.com/ansellguardian/contact**

AnsellGUARDIAN® Chemical

Uncover chemical protection uniquely tailored to your specific needs. Leverage AnsellGUARDIAN® Chemical, Ansell's suite of digital tools, to simplify your personal protective equipment (PPE) selection process and protect your workers from chemical hazards.



- Our advanced chemical product selector tool features an extensive product database, providing you with product suggestions based on chemical hazards and application requirements to keep your workforce safer
- Our permeation and degradation database specialises in products with chemical resistance, supplying live access to data for thousands of product and chemical combinations
- Access permeation product test data from our rich database
- Work with Ansell reps to gain highly specific chemical mixture insights

For more information, please visit wwww.ansell.com/ansellguardian-chemical.

ABOUT ANSELL

Ansell (ASX: ANN) is a global leader in safety solutions and an integrated manufacturer of personal protection equipment for healthcare and industrial workplaces. Each day, over 10 million workers in more than 100 countries trust their safety to Ansell brands such as HyFlex®, Ringers®, MICROFLEX®, TouchNTuff®, GAMMEX®, and AlphaTec®. Driven by a vision to lead the world to a safer future, the company continuously pursues new product and service innovations that predict, prevent, and protect against workplace risk while promoting sustainable sourcing and manufacturing. Information on Ansell can be found at www.ansell.com. #AnsellProtects

EUROPE, MIDDLE EAST & AFRICA
Ansell Healthcare NV
Riverside Business Park, Block J
Boulevard International, 55
1070 Brussels, Belgium
Tel: +32 (0) 2 528 74 00
Fax: +32 (0) 2 528 74 01

ansell.com