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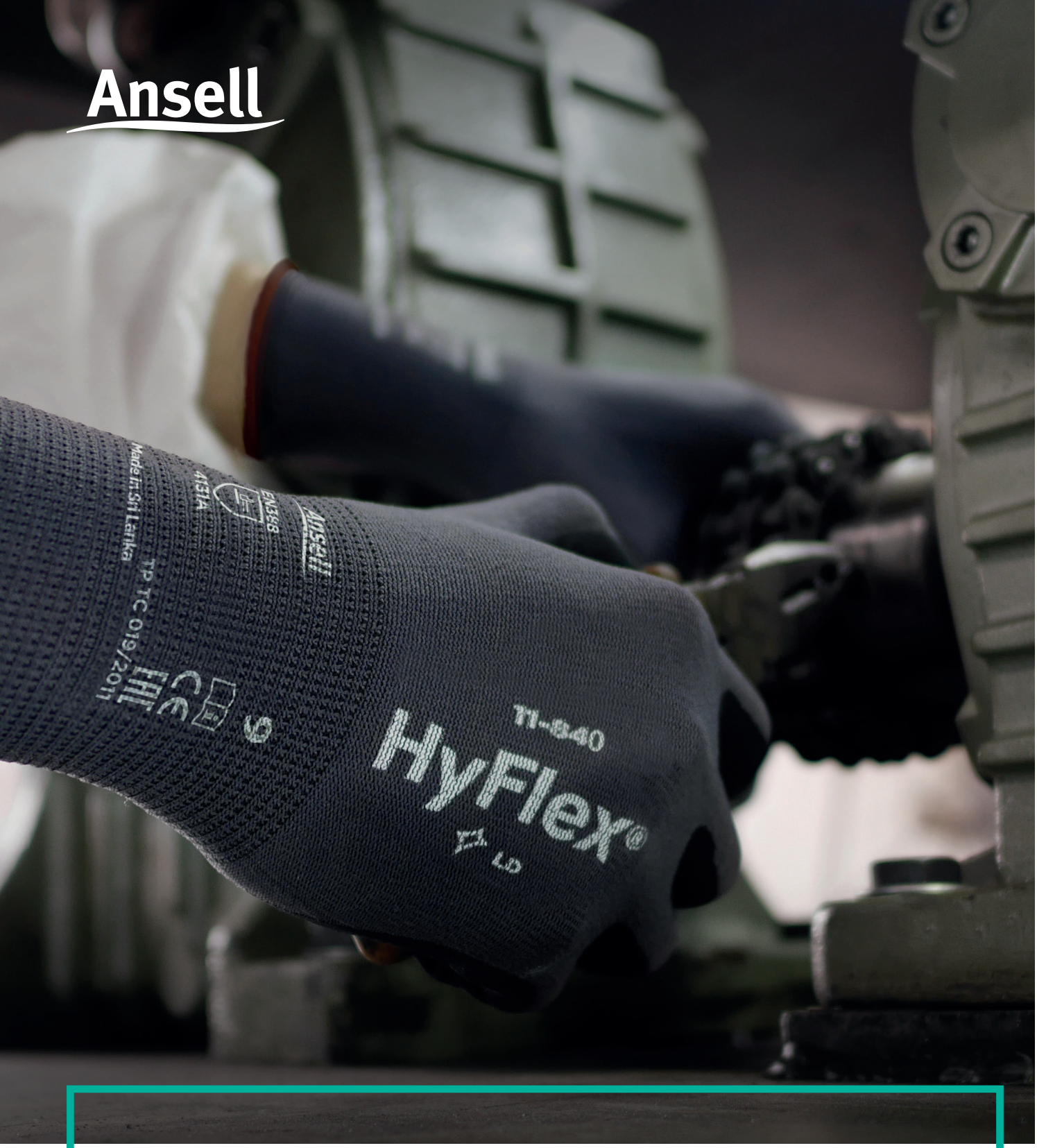


GLOVE DURABILITY

SAFETY BRIEFING

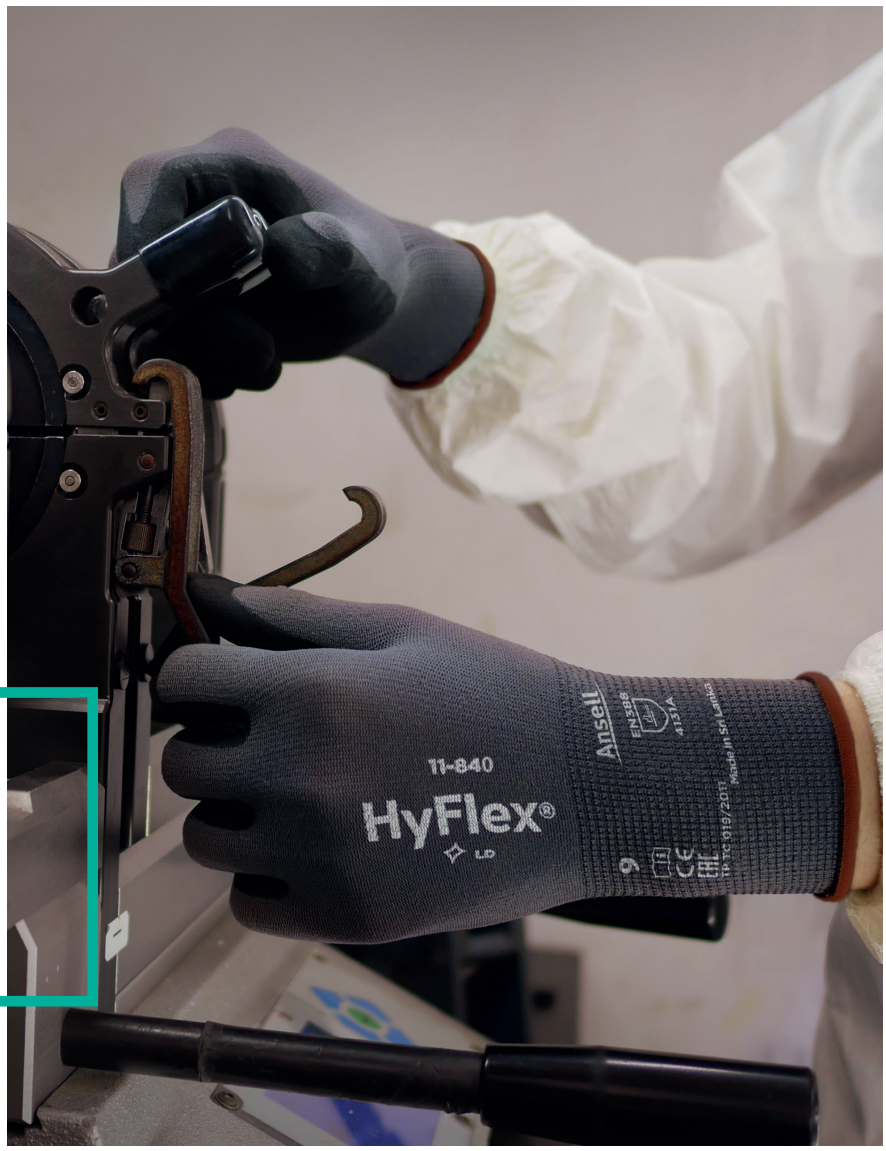
THE RELATIONSHIP BETWEEN SUITABILITY AND LIFESPAN

The defence that hand protection provides is only as good as the lifespan it offers. The useful wear life of a glove is limited by the point at which the wearer deems it no longer suitable for the task at hand — or when it is 'worn out'. Glove longevity relates directly to its durability, which is difficult to objectively ascertain because are no standards that dictate measurement and no regulated required methods of testing.

The true wear life of a glove is heavily influenced by the specific application in which it is used. The unquantifiable nature of durability measurement means that safety and operations managers most often rely on other determinants — cut, puncture, abrasion or chemical resistance for example — as the sole guide for hand protection selection.

Durability should always be factored in to the equation, as there is an intrinsic relationship between optimal glove construction and the prevention of injury, improved productivity and cost minimisation. There are comfort and dexterity implications, as hand protection is worn out will most likely be removed, furthering the likelihood of harm.

The more durable a glove solution, the lower the cost per wear, so it makes sense to consider components that determine longevity, specifically as they apply to any given environment or application. Purpose-designed personal protective equipment (PPE) is constructed to be long-lasting and improvements in coating technologies and production techniques have led to the development of a better, more enduring product.



> **"Glove longevity relates directly to its durability..."**

Key considerations

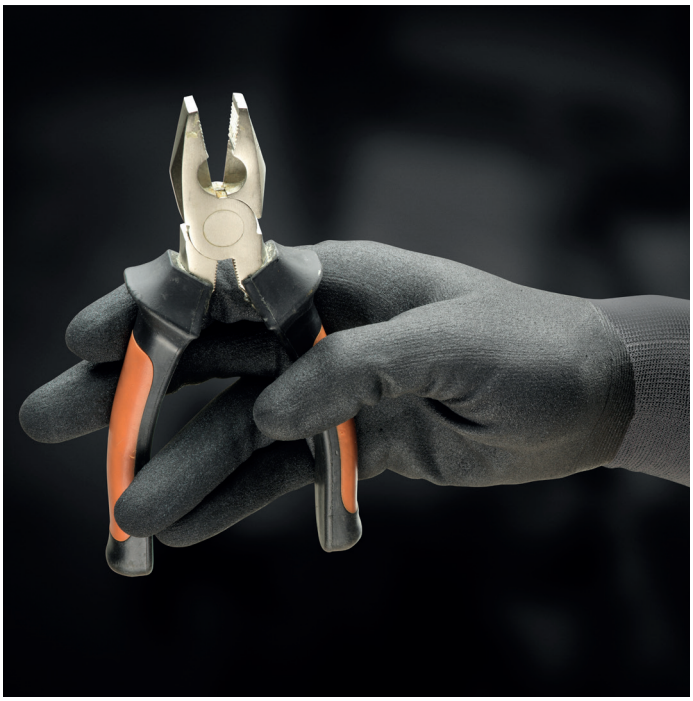
The durability of a knitted and coated glove – the most common type of glove, is determined by two things;

a) the coating material used in construction — the primary element and;
b) the liner construction material — the secondary element.

Coating material

A glove's coating should be the primary consideration in selection, as each of the available base coating materials exhibits characteristics which determine suitability for an application or task, subsequently influencing wear life.

Coating Material	Description	Ideal application
Nitrile	Nitrile repels liquid and is less susceptible to strikethrough — the presence of coating material on the inner of the glove, which can cause discomfort and increase the likelihood of safety issues.	• General handling • Assembly and inspection tasks (including small components) • Shipping and handling • Refuse collection and use of tools or power tools.
Nitrile foam	Nitrile foam can be more breathable, abrasion resistant and offers a good dry grip.	• General tasks and light assembly • Warehouse work • Screwing and unscrewing • Delicate manipulation • Light-duty stamping.
Natural rubber latex	NRL is liquid resistant, which means it can offer better grip in both dry and wet conditions, but can also be less flexible and less durable than other materials.	• Construction handling — including concrete, brick and tile materials • Handling slippery plastics, tiles and other ceramics • Glass manufacturing • Waste handling • Sorting recyclable glass, cans and metal pieces
Neoprene	Neoprene can be an appropriate choice for activities that require dry, wet and oil grip, especially where chemicals or liquids are present.	• Applying sealers or touching up surfaces to body painting including surface inspection • Cleaning and janitorial tasks • Degreasing, using petrochemicals, oil and petrol refining or cleaning tools
Polyurethane (PU)	Polyurethane offers excellent abrasion resistance, good dry grip and in some applications can be superior in wet conditions.	• Handling and assembly of small or ultra-fine sharp parts • Packaging areas with risk of cut • Stamping – light and dry • Wire assembly and fastening • Raw material handling • Seat and frame build
Water-based PU	A more environmentally sound option than solvent-based PU, the water-based alternative provides the same dry grip, with the added benefit of no strikethrough.	• Handling and cutting of metal sheets, dry, painted or galvanized pieces • Handling of sharp-edged objects, pre- assembling, cutting of small dry or lightly oiled parts
PVC	Where applications where abrasion and dry, wet and oil grip are a consideration, particularly suited where chemicals are present.	• Chemical refining • Cold storage • Offshore drilling • Outdoor construction work, highway maintenance • Utilities yard and field work



Advances in fibre technology

Researchers continue to develop new polymers and technologies that increase glove durability. Equally, glove manufacturers continually re-examine existing materials and current manufacturing techniques with a view to increasing product serviceability. By modifying existing yarns, polymers and treatments, there has been significant improvement in the optimisation of product usefulness and longevity.

Fibres such as Kevlar®, Spectra® and Dyneema® have significantly extended the wear life of hand protection products in recent years.

Liner material

The secondary consideration in glove selection, the liner material influences wearer comfort as this has direct contact with the hand. Again, the glove's suitability to the task and present conditions will impact heavily on its useful life.

The following table outlines some common liner materials, along with the physical characteristics presented by each, which signal suitability for specific environments and applications.

LINER MATERIAL	CHARACTERISTICS
ACRYLIC	• Soft, warm and comfortable • Good wicking
COTTON	• Hypoallergenic, soft, absorbent and comfortable
DYNEEMA®/HPPE	• High cut and abrasion resistance • Low-linting • Cool feeling
DYNEEMA® DIAMOND TECHNOLOGY	• Excellent cut resistance achieved with extremely thin fibres
GLASS FIBRE	• Cut resistant and lightweight
INTERCEPT™	• High cut resistance • Soft and comfortable • High dexterity
KEVLAR®	• Versatile and strong to protect from cut and thermal hazards
LEATHER	• Very good abrasion resistance • Heat resistance
LYCRA®/SPANDEX	• Outstanding stretchability • Reduce risk for allergies
NYLON/POLYAMIDE	• Strong abrasion resistance • Low-linting
POLYESTER	• Good tenacity • Abrasion resistance
STAINLESS STEEL	• High degree of strength • High cut resistance
THERMOLITE®	• Superior thermal insulation in cold environments

PPE selection can seem complex, given the number of variables that influence the optimum choice. Ensuring that the chosen hand protection option both addresses presents risks and hazards — and is constructed to suit specific environmental conditions — will impact its durability and deliver the most economical solution overall.

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For more information, or to discuss your specific requirements contact Ansell Customer Service on 1800 513 276 or protectionau@ansell.com.

Caution: Gloves exposed to toxic or hazardous contaminants may require special handling or disposal. For food handling gloves, always follow the manufacturer's guidelines to ensure compliance with regulatory guidelines for food safety.

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