

Building and Construction Press kit (October 2008)

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1. Safety and Construction

Recent research indicates that 64% of Construction tradesmen do not wear work gloves while performing their jobs? They use their bare hands. Those who are provided gloves by their employers often complain that they cannot work in them. Although the situation described concerns France, the statistics are comparable in many industrialized countries.

The building and construction sector has the highest level of exposure to overall occupational risk factors. (Source: 4th European Working Conditions Survey (2005)). As the 'upper extremities' are the parts of the body most injured, the need for hand protection in the sector is vast. A great number of accidents can be thus avoided.

Workplace injuries cost employers more and more: 75 billion€ in the entire European Union. In the UK the cost of occupational accidents accounts for an astonishing 8.5% of construction project costs. Today more and more employers understand that protecting their workers against falls, cuts, musculoskeletal strain, harmful chemicals and harsh environmental conditions is essential to productivity and well-being. Major players in the Construction industry have understood this and have introduced intensive training and quality products.

As the 'upper extremities' are the parts of the body most injured, the need for hand protection in the construction and building industry is vast.

Providing personal protective equipment (PPE) to workers is now a requirement in most countries. Effective hand protection in the form of safety gloves constitutes a key component of PPE for the construction industry. Along with safety helmets, eye protection, protective footwear, safety harnesses and protective clothing, gloves complete the panoply of PPE.

2. Ansell and the Construction Industry

Ansell gloves offer new options in high-performance work gloves engineered to fit the specific needs of construction professionals. Based on many years' experience in the sector and extensive interviews with industry experts, Ansell has put together a dedicated range of solutions that protect hands from hazards specific to this sector. Ansell has developed an approach by verticals. Each vertical benefits from tools dedicated to this sector's jobs and applications.

Construction has a wide range of jobs and applications. To respond to this complexity, Ansell has determined a concentrated range of products that are adapted to the majority and therefore make things simple. Nine gloves have been selected for their ability to protect from the major risks linked to this market. It is expected that more glove recommendations will be added over time, addressing developments in the construction industry, and taking into account technology advances enhancing or extending glove performance. The current range of recommendations has been integrated in a leaflet and poster that can be used alone or on a merchandising display to help workers easily choose the most adapted glove.

Build on the best hand protection ever!

			Mason	Roofer	Tiler	Plasterer/Carpenter	Painter/Decorator	Public works
General duty	HyFlex® Ultra-Lite 11-618	dexterity & finishing						
General duty	HyFlex® Foam 11-801	dexterity & intensive use						
General Duty	PowerFlex® 80-100	abrasion & grip performance						
General Duty	Hycron® 27-600	durability						
General Duty	HyFlex® 11-627	cut protection & dexterity						
General Duty	Vortex™ 79-700	dexterity & chemical protection						
General Duty	Hy-Care™ 62-200	liquidproof & insulation						
General Duty	Vibra Guard® 07-112	vibration protection						
General Duty	PowerFlex® 1 Hi Viz Yellow® 80-400	cold insulation & visibility						

OK
 Recommended
 Optimal

Ansell

Ansell glove selection poster

Selections are made easy because there are gloves proposed for each profession: masons, roofers, tilers, plasterers & carpenters, painters & decorators, and public works employees.

This approach is linked to Ansell's constant implication in educating its end-users. Small and medium-sized companies and independent workers are less able to access educational materials, and less likely to benefit from training. This is why Ansell feels that particular attention needs to be paid to reach them through various means.

Besides holding end-user seminars at fairs and expos, Ansell makes available free tools which help to match gloves with specific application requirements. These tools are made conveniently available online and through posters and leaflets in key retail outlets. Safety messages are further multiplied through training of distributors' sales forces, and direct participation by Ansell staff in distributors' "open door" events.

3. Trends in hand protection in Construction

Despite the fact that leather gloves do not offer very high cut protection, and age very poorly, construction workers still choose leather gloves more than any other type of glove. However, synthetic gloves are slowly gaining ground, both for reasons of price and because they are often considered more comfortable. A marked preference for fashionable gloves is also a key trend.

Synthetic gloves are gaining ground in the construction industry, both for reasons of price and because they are often considered more comfortable.

Quality and comfort are the primary purchasing criteria for Personal Protective Equipment (PPE) in this market. Workers are not used to wearing gloves and therefore they need products that do not constrain them in their daily work.

Construction workers need to be made more aware of safety and understand the risks on construction and building jobsites.

4. Issues

- **Cuts**

According to Eurostat- European Statistics on Accidents at Work (ESAW), the "upper extremities" are the parts of the body most injured, accounting for 43.2% of all non-fatal accidents at work. In Europe 38% of Construction injuries are on hands (51% on fingers). In France some 26% of the injuries are hand injuries and cuts are the first amongst them..

Overall, cuts are the number one injury in Construction they concerns almost all construction trades: carpenters, masons, painters, tilers, roofers, plasterers and labourers.

Today, manufacturers are developing solutions made of new technology fibres more and more resistant to cut (Kevlar®, Dyneema®, glass fibre, etc.). But these new developments need to be associated to the understanding of needs and of the applications themselves. The adjunct of such fibers often results in compromised wearer comfort.

Ansell's special knitting techniques isolate potentially irritating steel or glass fibers in the yarn core; cotton is carefully added to maximize softness and comfort against the skin. Better-designed cut-resistant gloves translate to increased worker acceptance. Education remains critical as workers tend to use inadequate hand protection in a high proportion of cases.

Ansell has been a long-time pioneer of improving cut resistance in gloves, and has also published extensively on the subject (see White Paper on cut resistance).

*Ansell brings the following cut-resistant solutions to construction workers' needs: the HyFlex® range : **HyFlex® 11-624; 11-627, 11-628, 11-630, 11-435**, each aimed at a specific level of manipulation risk, type of materials handled, and need to grasp wet or oily elements.*



HyFlex 11-627

- **Chemicals and Dermatitis/Allergies**



Work-related dermatitis is a skin condition caused by things that people touch at work. The hands are the most commonly affected. Two types of dermatitis affect construction workers: irritant contact dermatitis (caused by things that dry out and damage the skin, including solvents and thinners, dust and dirt and strong hand soaps), and allergic contact dermatitis (It occurs when someone

becomes allergic to something they touch at work). Allergic contact dermatitis shows up hours or days after contact. Common causes are cement, epoxy resins and glues. (Source: Occupational Dermatology Research and Education Centre 2006).

Construction workers find themselves facing chemical risks in many applications. Frequent contact with substances such as oils, resins and cement-based products containing Chromium VI exacerbate the likelihood of skin problems. Cement eczema covers two types of dermatitis: irritant and allergic (linked to the presence of Chromium VI). During the construction of the Channel Tunnel; over a quarter of the 1134 workers were diagnosed with occupational dermatitis.

Ansell offers a solution for workers wishing to avoid allergic reactions: **the Virtex™ 79-700 lightweight glove** designed to be both comfortable to wear for extended periods and to provide an efficient protective barrier against hydrocarbon-based chemicals, oils and greases.

A chemical-resistant, liquid-proof, reusable nitrile glove, Virtex™ is Ansell's first glove to incorporate Aquadri™, Ansell Moisture Management Technology™, which keeps users hands drier for a longer period of time. Composed of a thinner and softer nitrile, the Virtex™ 79-700's specific lozenge pattern improves grip.

- **Vibration and MSDs**

Musculoskeletal Disorders (MSD) the most frequent reasons for absence from work. Born of repetitive hand/wrist exertions, and exacerbated by the use of force as a risk factor, Carpal Tunnel Syndrome (CTS) is the second-most prevalent musculoskeletal disorder after sprains and strains. Construction workers tend to develop MSD because of intense use of vibrating tools. Some 19% of construction employees in the EU are exposed permanently to vibrations and 54% for some of the time. (source: EU OSHA)

Gripping tools and other materials can be physically demanding, repetitive work. It may injure the muscles, tendons, and cartilage of the hand, wrist, and elbow. Damage to the nerves and blood vessels can also occur.

Construction workers usually spend a lot of time gripping tools or materials with one or both hands. This work can put stress on the hand, wrist, and/or elbow, causing discomfort and pain. Eventually workers may develop a serious muscle or joint injury. The ability to use hands and wrists may be reduced, and may even cause permanent disabilities.

Below are some of the injuries which may develop with hand-intensive work:

Tendinitis. Tendons in the wrist can be strained if frequently exerting strong force with hands, bending the wrist while working, or repeating the same wrist movements over and over. If this strain continues over time, tendinitis may develop. Tendinitis makes it painful to use one's hands, especially to grasp things.

Carpal tunnel syndrome. The carpal tunnel is an area in the wrist that is surrounded by bone and tissue. A nerve and several tendons pass through this tunnel. With tendinitis, tendons swell, and there is less room in the tunnel for the nerve. When the nerve is squeezed this way, the condition is called carpal tunnel syndrome. It often leads to pain, tingling, or numbness in hand, wrist, or arm. These symptoms are often felt at night. If left untreated, carpal tunnel syndrome can weaken the hand and make it very difficult to grasp things or even use that hand at all.

Trigger finger. Repeated pressure on a finger (such as when using the trigger on a power tool) may strain the tendon running to that finger, as well as inflaming the sheaths covering the tendons themselves. This may cause discomfort or pain.

Epicondylitis. Forceful twisting motions may cause strain on elbow tendons, causing discomfort or pain. This condition is called epicondylitis, also known as tennis elbow.

Hand-arm vibration syndrome (HAVS): Operating vibrating tools like needle guns, chipping hammers, and rotary hammer drills may lead to finger discoloration, tingling, and numbness. Gangrene is possible in the most severe cases.

(source: NIOSH Publication No. 2007-122, CDC, US)

Vibration absorbing gloves are strongly recommended for workers who use hand grinders, pedestal grinders, chipping hammer, road drills, heavy-duty hammers, impact wrench and rammers and impact drills.

*Ansell has developed a hand solution that combines comfort and protection against vibrations: **Vibraguard® 07-112**. Made of nitrile impregnated coating and of a Gelfôm pad, this glove enhances vibration absorption. Its TRM is 0.90 and its TRH is 0.52. The VibraGuard® anti-vibration pad is designed with grooves which match the natural contours of the hand. This provides enhanced flexibility and reduces hand fatigue, thus improving worker comfort and efficiency.*



Research shows that only 1% of vibration is transmitted to the wrist at high frequencies of 500Hz or over (source: R. Gurran et al., 1994). VibraGuard® was therefore designed in a driver-style pattern to alleviate the restriction associated with wrist supports whilst still ensuring a close, secure fit. VibraGuard® offers premium protection at high frequencies combined with protection across a broad spectrum of frequencies. This is reflected in the ENISO10819 test result, which VibraGuard® passed convincingly, demonstrating protection from 20Hz upwards. Because vibration is localised to the palm area for frequencies above 300Hz (source: Abrams et al., 1969 & also Reynold et al., 1977) and is acutely focused in the finger area as the frequency increases, VibraGuard® 07-112 provides full-finger protection.

• Chemicals and Toxicity

According to EU OSHA, 16% of European workers handle hazardous products. (Source: European Agency for Safety and Health at Work, Fact No. 33, "An introduction to dangerous substances in the Workplace", 2003). It has been estimated that some 32 million European workers are exposed to unsafe levels of chemical exposure.(source: Kaupinnen, T. et al., "Occupational exposure to carcinogens in the European Union", Finnish Institute of Occupational Health, Helsinki, Finland, Occup Environ Med. 2000 Jan;57(1):10-8.)

Exposure to hazardous chemicals can result in cancer, brain damage, harm to the nervous system, asthma and skin problems such as dermatitis or allergies. The toxicity of certain chemicals can also affect the ability to reproduce or cause birth defects. The harm done by dangerous substances can occur from a single short exposure or by the long-term accumulation of substances in the body.

Adequate skin protection against liquid chemicals can help to avoid the local effects engendered by an accidental chemical splash, as well as the ensuing systemic or acute effects. (Source: European Agency for Safety and Health at Work, Fact No. 33, "An introduction to dangerous substances in the Workplace", 2003)

In Europe, chemical resistance of gloves is described in the EN374 standard, the most recent version being EN374:2003. These standards describe the test method to be used to determine the time it takes for chemicals to permeate the glove.

Ansell Europe has carried out intensive laboratory testing based on the EN374:1994 and more recently the EN374:2003 standards. The EN Chemical Recommendation tables list all test results, for compatible and non-compatible gloves alike. The lower the breakthrough time, the quicker the chemical will permeate the glove. The results of the ASTM tests (Chemical Recommendations based on US ASTM standards) can be used as information supplementing the EN374 test results.

The Ansell website provides extensive information surrounding its Chemical resistance guidelines; including the EN Chemical Recommendation Guide and the ASTM Chemical Recommendation Guide (ASTM stands for 'American Society for Testing and Materials')

Ansell has issued recommendations concerning specific risks:

- *Hydrocarbon-based chemicals, oils and greases: **Virtex™ 79-700** (see above)*
- *Sealants, mastics, cements, liquid concrete and epoxy resins, paints, varnishes, and solvents: **Sol-Vex® 37-695** (reusable and abrasion resistant, its exceptionally tough nitrile film coating offers comfort combined with exceptional chemical resistance. The reversed lozenge finish further enhances levels of grip in wet or dry environments. The Sol-Vex® (37-695) glove is longer (38 cm) than standard, extending protection further to the wrist and lower forearm area).*



- **Cold and reduced dexterity**

Very cold temperatures pose specific health and safety risks, among which hypothermia and frostbite, reduced muscle flexibility and stiffened joints. Productivity is also affected as reduced blood flow to the extremities reduces the dexterity and the sensitivity of the fingers and hand. This causes workers to apply more grip force to handle tools and objects. The result is that fatigue sets in faster and accident rates are often higher.

Construction workers have to face exterior work conditions. Temperatures can easily be under 0°C and therefore they need gloves that can protect them from cold but still give them enough dexterity to work. Some jobs require thermal protection because of the freezing of materials such as steel.



*In response to these needs, Ansell has developed the **PowerFlex® T° Hi Viz Yellow™ 80-400** which is a general-purpose glove that is designed for handling and carrying in cold temperatures as low as -30°C.*

The glove's performance offers a real alternative to fur-lined leather gloves. It offers extra high visibility in low or poor light conditions. This glove is ideal for labourers, masons, metal framework builders, roofers and other construction workers who are active outdoors in the winter months.

5. Specially selected gloves

Ansell's targeted solutions package aimed at the construction includes a wide range of gloves, for the most diverse applications or exposure risks. Dexterity, adequate protection against cuts and abrasion and, not in the least, good grip are key requirements for many building and construction workers. But there are also gloves that keep hands warm for workers outdoors. Or gloves that protect against chemicals, because the hands of bricklayers, roofers, plasterers or tile-layers come into contact with alkaline concrete or solvent-based sprays. No matter how diverse the offering, there is one true constant: every Ansell product ensures optimal protection without compromising comfort.

Some examples related to general purpose gloves recommended for the building and construction industry:



The lightest lined and coated glove ever made by Ansell, **HyFlex® Ultra-Lite 11-618** is 20% lighter in weight than Ansell's previous nylon/polyurethane gloves. Extremely flexible, it is intended for precision work where tactility is essential.



General purpose knitted and dipped gloves, Ansell's best-selling **HyFlex® Foam 11-801** gloves provide a sure grip in dry or slightly oily applications that require light mechanical protection and high levels of handling finesse. The HyFlex Foam® 11-801 has an abrasion rating EN 388 level of 3, thus extending glove durability. The use of Spandex elastics prevents risk of latex allergy.

6. Ansell tools

1. Ansell on-line glove selection tool for the construction industry
http://www.anselleurope.com/industrial/index.cfm?pages=construction_table&lang=EN
2. In-store display
Can be ordered by contacting Ansell Europe via the website contact form
<http://www.ansell.eu/ansell/contact-us/>
3. Poster
http://www.anselleurope.com/industrial/downloads/batimat/B&C_Poster_EN.pdf
Can be ordered by contacting Ansell Europe via the website contact form
<http://www.ansell.eu/ansell/contact-us/>

7. Audiovisual material

Pictures : available on [press page](#)

Videos:

1. [Ansell Building and Construction video](#)
http://www.ansell.be/industrial/index.cfm?pages=building_construction&lang=EN
2. HyFlex 11-920 video, describing HyFlex range, Ansell Grip Technology
http://ehstoday.com/video/ansell_hyflex_11920/

8. References and links

1. Ansell Construction brochure :
http://www.anselleurope.com/industrial/downloads/batimat/B&C_Leaflet_EN.pdf
2. Ansell Healthcare dedicated **Construction website** section
http://www.anselleurope.com/industrial/index.cfm?lang=EN&pages=markets_Building_Construction
3. Ansell Healthcare online **Chemical Recommendation Guide**
http://www.anselleurope.com/industrial/index.cfm?pages=chemical_intro&lang=EN
4. White Paper: "Understanding **Cut Protection**"
<http://ansellpro.com/Attachments/396055255671296.pdf>
5. Dedicated good practice in **construction** section from the **European Agency for Safety and Health at Work** website –
http://osha.europa.eu/en/good_practice/sector/construction/
6. Prevention of **vibration risks** in the construction Sector, EU- OSHA
<http://osha.europa.eu/en/publications/e-facts/efact19>

9. Press releases

Ansell has published the following press releases pertaining to the construction industry:

Batimat visitors discover Ansell's targeted solutions for the building and construction sector, 19 November 2007

http://www.ansell.be/industrial/index.cfm?include=press_releases&C=1063&I=6750&lang=EN

Focus on hand protection for booming construction and oil & refining sectors, 9 January 2008

http://www.ansell.be/industrial/index.cfm?include=press_releases&lang=EN&C=1063&I=8705



10. Media Contact

Wouter Piepers,
Director Communications, Ansell Healthcare
Tel: + 32(0) 2 528 75 68
Cell. + 32(0) 478 33 56 32
e-mail: wpiepers@eu.ansell.com