

August 2010

The appliance of science - how fibre technology is playing an increasing role in industrial hand protection

The last decade has seen the greatest developments and advances in the history of hand and arm protection, thanks to the evolution of a range of fibres and materials that have brought new benefits to workers in the UK.

Fibre technologies that were originally developed and utilized by scientists at NASA, by the military and police forces across the globe and by the marine industry are now creating the latest breed of hand and arm protection for workers across the UK.

In fact, such has been the development of knitted industrial gloves – whether coated or uncoated - that it is now the fastest growing sector of hand protection in the UK.

The birth of this new era of hand protection can be traced back to developments made within the space agency and the requirements of the armed forces which saw the evolution of bullet-and stab resistant vests, shrapnel resistant helmets, armour plating on vehicles, planes and helicopters, anti-mine boots and tethers used to strap astronauts to the shuttle during space walks.

"Glove knitting plants today are more science lab than a manufacturing plant, with row upon row of hi-tech knitting machines, watched over by highly trained technicians, all synchronized to computer programmed glove designs, that operate at a blistering pace 24 hours a day, seven days per week to create the latest high level hand protection," said John Thorne of Marigold Industrial Ltd.

Within minutes, fully automated machines within the Marigold[®] Industrial knitting plant in Portugal can knit a glove or sleeve capable of safeguarding the hands and arms of people in multi-hazardous engineering environments – where there may be mechanical, thermal and chemical hazards or a combination all.



"For industrial workers the advances in this material technology has meant improvements not only in the protection afforded against common hazards such as cuts, burns and abrasions in addition to chemical hazards but has also seen increased comfort, choice, flexibility and dexterity provided by gloves and sleeves," said John.

Until the development of fibres such as Dyneema® - claimed to be the world's toughest fibre - the highly cut resistant Techcor® Knitting Technology and the more established fibres such as Kevlar® and Spectra®, protecting hands from cuts, heat and cold meant wearing large, often cumbersome and uncomfortable gloves, which lacked both comfort and dexterity.



"Such is the technology today that we can produce extremely lightweight yet highly protective gloves, with a range of dipped and palm dotted finishes to enhance grip even further, that are lightweight and enable the wearer to carry out quite detailed tasks.

"The use of these fibres has transformed the hand protection industry, enabling leading manufacturers to provide increasingly specialist solutions, that are continuing to develop today in terms of offering enhanced wearer well being.

"There is certainly no doubt that fibre technology will continue to play an increasingly significant role in industrial hand protection, providing solutions where none currently exist," said John.

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