

Needle Injuries Prevented

Strategic Materials, Inc. (SMI) is the largest glass recycler in North America, converting recyclables into the raw materials used to create a wide range of consumer and industrial products. Pickers and sorters at SMI are exposed to needles in waste streams every day, as a result of improperly disposed needles.

Exposure to contaminated needles is an unacceptable health risk for employees and companies. The Corporate Safety Leadership Team at SMI set out to create a program to address this issue. With over a decade of experience developing and implementing safety programs, they've been working with new company leadership to bring safety to the forefront at Strategic Materials. They partnered with HexArmor® to find hand protection that would protect against needlesticks.

The High Cost of Needle Injuries

For a company like SMI, needlestick injuries can be a big problem. Glass recyclers have reported yearly needlestick injury rates in the double digits since at least 2010. And although some companies have seen a slight decline in needle-related incidents in recent years, the overall cost remains the same.

For example, in 2014 one company reported less than 10 needlestick injuries. While this may seem like a significant improvement over almost 30 incidents reported by the same company in 2011, the cost incurred in 2014 was actually \$10,000 more than the years with a higher number of needle injuries. And these numbers only account for the direct costs such as worker's compensation and medical bills.

To properly evaluate the business impact of a recordable incident, it's important to factor in the indirect costs of an injury. The indirect costs of an incident – which include lost productivity, time spent



Worker picking ceramic, rock, trash from the line wearing the 9014.

by management, insurance and legal, to name a few – can be up to 20 times the direct cost of an incident.

So if the average cost of one needlestick is approximately \$2,000, a company could be looking at over \$40,000 in total costs for a single incident. What's more, if the injured worker contracts a disease via bloodborne pathogens from a contaminated needle, that cost could shoot up to 2-3 times – to over \$100K for a single incident. Clearly, needlestick injuries come at a huge cost, not just to the injured employee but also to the business itself.

Finding a Solution: First Steps

At SMI, improving their safety program is not just about saving money, it's about protecting their people. Knowing that PPE is the last line of defense against injury, the company took the proper steps before implementing new gloves, including putting administrative controls in place.

- Each year, recycling workers are exposed to approximately 2-3 billion improperly disposed needles. Risks of a needle injury include tetanus and bloodborne diseases such as hepatitis or HIV/AIDS.
- From 2009 to present, one recycling company reported a total of 88 needlestick injuries at their facilities, costing the organization nearly \$200,000 in direct costs alone. Indirect costs of these injuries may be as high as \$3.8 million.
- Suitable gloves (selected for a high degree of puncture resistance) should always be used when using tools to move needles. They should not be relied upon to give adequate protection on their own, but as secondary protection in case of accidental contact. (Source: Health and Safety Executive)

These controls include working to reduce and identify the sources of medical waste, as well as placing all plant personnel on high alert. They intend to approach their contracted suppliers to educate them on the dangers of improperly disposed medical waste. Unfortunately, it is impossible to keep medical waste completely out of the single stream. But SMI is taking steps to clean up.

Finding a Solution: Glove Trials

The next phase in creating a puncture protection program was to re-evaluate the hand protection provided to employees at risk of encountering needles. Historically, line workers had worn simple blue latex gloves to pick and sort materials, which offer very little cut or puncture protection. So SMI reached out to HexArmor® to conduct a glove trial.

The glove trial took place at 12 of SMI's plants. At each plant, employees were given a pair of HexArmor® needlestick-resistant gloves to use on the job for 15 days, and asked to provide feedback on various aspects of the glove, such as protection, grip, overall fit, dexterity and comfort.

Some workers found that the 9014 limited dexterity somewhat, but they became more comfortable over time as the glove was broken in. One employee wore the gloves while picking trash and glass, and reported that "the glove prevented any sharps from injuring the skin." Another worker said he "actually had several needles stick the glove, and they did not penetrate the glove."

The high level of protection provided by the gloves was clear. Once the new hand protection is in place at all of SMI's plants, every employee can work confidently, knowing they're safe from needle punctures and cuts.



SharpsMaster II® 9014 with SuperFabric® (interior layer)

HexArmor® SharpsMaster II® 9014

The 9014 is a manufacturing breakthrough that uses three layers of high-performance SuperFabric®* brand material. SuperFabric® brand material is a HexArmor® exclusively licensed solution for the Industrial PPE Market that is engineered to provide the highest levels of needlestick and cut protection available on the market. The 9014 is tested using actual 25 gauge needles, and has been extensively field tested at recycling plants to validate protection and performance. It's a single-glove needle solution designed to provide dexterity and comfort, and the orange wrinkle-rubber palm coating is treated with anti-microbial Actifresh® to protect against bacteria and microbes that can cause health problems.

HexArmor® is an industry leading manufacturer of high performance personal protective equipment (PPE) made with technologies that push the limits of cut, puncture, needle, and abrasion resistance. Our mission is simple: give you better products with better technology designed with end user needs and collaboration. HexArmor® works with industries from oil and gas, to mining, food processing and waste recycling to design the best working and most protective glove available today.

Needle Puncture Protection

HexArmor® gloves and arm protection use SuperFabric®* brand materials, and are extensively tested according to ASTM F2878 testing for needle resistance. HexArmor® needle products rate 2-3 times higher than competitors on this test, and have been a trusted leader in needle protection for over 10 years. SuperFabric® brand material is a HexArmor® exclusively licensed solution for the Industrial PPE Market.

Cut Resistance

Needles aren't the only hazards that sorters need to watch out for. Metals, glass, and plastics can come down the line with razor-sharp edges, which call for PPE with high cut-resistance. All puncture-resistant HexArmor® gloves are put to the test in the lab and in the field.

*SuperFabric® is a registered Trademark of HDM, Inc.