

Prevention Update



Fire Retardant Clothing Requirements for Welders and Cutters

Welding and cutting can produce hazards such as sparks, spatter, radiation, slag, heat, hot metal, fumes and gases, and even electric shock. Since these hazards may cause burns, injury or death, it is important for welders and cutters to wear protective equipment that is adequate for the hazards at all times.

Employer Duties

Section 37.9 of the Occupational Health and Safety (OHS) General Regulations for PEI requires that the employer must make sure workers who are engaged in welding or cutting operations wear:

- Adequate fire retardant work clothing
- Fire retardant gauntlet type gloves and arm protection
- An apron of fire retardant or other adequate material
- Adequate eye and face protection against harmful radiation, or particles of molten metal, or while chipping and grinding welds
- Safety boots which meet the requirements of section 45.15 of the OHS General Regulations



Employers must complete a hazard assessment to determine the most adequate fire retardant clothing for workers. The hazard assessment should consider the nature of the hazard and duration of exposure to the hazard.

The employer should also make sure that the fire retardant clothing is being properly used, stored, cleaned, repaired and/or replaced according to manufacturer's instructions.

A discussion with a supplier of fire retardant clothing may help employers in determining the most appropriate clothing for the type of work being performed.

Worker Duties

Under **Section 37.9 of the General Regulations**, a worker who is engaged in welding or cutting operations must:

- Wear adequate fire retardant work clothing and necessary personal protective equipment (PPE) while performing welding or cutting work as outlined above
- Understand and follow the manufacturer's instructions to make sure the clothing maintains its fire-retardant properties

Manufacturer's instructions for care include:



- Following proper laundering procedures
- Keeping the garment clean and free of oil, grease, and other flammable residues
- Storing the garment properly when not in use
- Keeping the garment in good repair — replacing or fixing it if there is fraying, rips, tears, or missing buttons/closures
- Avoiding cuffed sleeves or pant legs, as sparks or hot materials can get trapped in the cuffs
- Keeping all pockets buttoned or removing them to prevent sparks or hot materials from entering

Fire Retardant and Flame Resistant Clothing

Fire Retardant Clothing

Fire retardant clothing is made from fabric that has been treated with chemicals to help prevent the fabric from catching fire when exposed to flames, sparks, or other hot materials. The chemical treatment is applied to textile fibers before they are woven into the fabric or to the finished fabric.

Chemical treatments can diminish or be removed by wear and washing, reducing the garment's protective qualities over time.

Flame Resistant Clothing

Flame resistant clothing is made from fibers that are naturally resistant to fire, without the need for chemical treatment. Flame resistant fibers are not altered by cleaning and they are generally strong and durable. Many of these fabrics have low moisture absorption, so they can be less comfortable in hot environments. Fabrics used in flame resistant clothing also have a greater tendency to build up static electricity

Neither Type of Garment is "Fireproof."

However, both types of garment are designed to provide the wearer with more time to remove themselves from the burning hazard. Additionally, the welder/cutter should consider appropriate clothing to wear underneath the fire retardant protective clothing. Certain heavier natural fabrics, such as cotton and wool, although they will not resist burning, will not melt onto the skin in the presence of flame. On the contrary, synthetic fabrics such as polyester will melt in the presence of flames, possibly sticking to the skin causing burns. For this reason, a worker should not wear synthetic fabrics underneath fire retardant protective clothing during welding and cutting processes.

For more information or additional resources, visit wcb.pe.ca

Section 37.9 of the OHS General Regulations requires welders and cutters to wear fire retardant clothing and not flame resistant clothing

