



Fire Retardant Specialists

Fire Defender
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Fire Retardant Application Process – fabric type materials

Safety Precautions:

The MSDS advises the product is not toxic, non flammable, and not classified as hazardous according to criteria of Worksafe Australia however, there are recommend health safety measures.

The following is an extract from the MSDS for MPFR.

- **Exposure Standards:** No exposure standard allocated.
- **Engineering Controls:** Good ventilation required. Ensure a minimum capture velocity of 0.5 m/sec at point of application - use local exhaust ventilation in confined areas where applying by spray methods. **Refer to Australian Standards AS 1668.**
- **Personal Protection:** Respiratory Protection: When applying by spray an Australian Standard approved air purifying respirator (cartridge - ammonia/methylamine type) is recommended. Whenever workplace conditions warrant respiratory protection, protection must conform to the requirements of AS1715 and AS1716.
- **Eye Protection:** Eye protectors, goggles conforming to AS1337 recommended to prevent splashes entering eyes.
- **Hand Protection:** Avoid unnecessary skin contact. Wear PVC or Neoprene chemically resistant gloves to prevent prolonged exposure and when handling large spills.

For more information regarding suspected exposure or ingestion and handling procedures, please refer to the respective MSDS's supplied by the manufacture.

Spray Unit

Two methods can be used to apply the fire retardant. One is by using a manual 15ltr hand pump backpack pressure pump sprayer as supplied by Solo; the second is by using a Swift 12v 25ltr pressure pump sprayer as supplied by Hardi. Both methods are suitable however the backpack unit is more suitable for small jobs, and multiple small jobs in several locations at the one work site.

General garden sprayers are not suitable – the spray droplets are too large and don't provide full coverage. They also have a habit of apply a too heavy coating which causes powdery residue when dry.



Hardi 12V 25ltr powered Spray unit



Solo hand operated backpack spray unit

Tips/Nozzles

Regardless of which spray unit that is used, both spray wands require a tapered flat fan nozzle/tip (part No.F-01-110 as supplied by Hardi) that gives roughly a 10cm x 50cm fine spray pattern for even application of the fire retardant. These are easily recognised because of their orange colour.



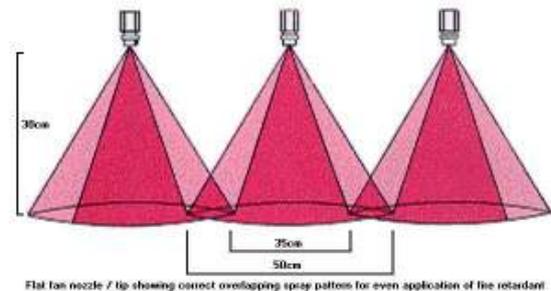
Application Method:

The Following application method is recommended.

Product should be shaken well or stirred before it is placed in the tank of the sprayer. A test spray should be performed to ensure the nozzle/tip is supplying an even spray. Nozzles tips can be cleaned in clean water with a tooth brush.

An up and down spray pattern is used, starting at the top of the material using a full stroke through to the bottom of the curtain, and then back up the curtain ensuring a 5-10cm overlap with the previous spay path.

Fabric does not look damp on the initial pass of the wand, but will begin to look damp around 3-5 passes later. Do not apply a second coat as this will saturation and cause the fabric to feel stiff when it dries, and may cause a white residue on the fabric.



Wand spray path



Application Rate:

Light weight fabrics

Light weight fabrics such as polyester, cotton and synthetics and synthetic blends that have a nominal mass of 200g's or less weight per m², the following application method should be used:

- Where possible, the fabric should be sprayed on the back surface.

- Nozzle to be approx. 30cm from fabric
- Wand should travel in an up and down motion. ↻ ↻ ↻ ↻
- The wand should travel approx. 100-150cm per second

The wand travel action is quite fast and it will appear as though only a mist coat is being applied, but closer inspection after 4-5 passes, will show that the fabric is damp. The application rate should not leave the fabric looking heavily wet in any spots on the fabric.

Medium weight fabrics

Medium weight fabrics such as polyester, cotton and synthetics and synthetic blends that have a nominal mass of 300g's or less weight per m2, the following application method should be used:

- Where possible, the fabric should be sprayed on the back surface. For best results with MPFR, if the face of the fabric is to be sprayed, an even light mist of water first helps reduce the chance of white residue appearing and stiffness.
- Nozzle to be approx. 30cm from fabric
- Wand should travel in an up and down motion. ↻ ↻ ↻ ↻
- The wand should travel approx. 75-90cm per second

The wand travel action is a medium pace and it will appear as though only a mist coat is being applied, but closer inspection after 4-5 passes, will show that the fabric is damp. The application rate should not leave the fabric looking heavily wet in any spots on the fabric.

Heavy weight fabrics

Heavy weight fabrics such as cotton, wool, velvet and synthetic blends that have a nominal mass of 300g's plus or more weight per m2, the following application method should be used:

- Where possible, the fabric should be sprayed on the back surface. For best results with MPFR, if the face of the fabric is to be sprayed, an even light mist of water first helps reduce the chance of white residue appearing, and stiffness.
- Nozzle to be approx. 30cm from fabric
- Wand should travel in an up and down motion. ↻ ↻ ↻ ↻
- The wand should travel approx. 50-80cm per second

The wand travel action is a steady pace and it will appear as though only a mist coat is being applied, but closer inspection after 4-5 passes, will show that the fabric is damp. The application rate should not leave the fabric looking heavily wet in any spots on the fabric.

Drying Times

Lighter weight fabrics tend to dry quicker – in a matter of hours, and heavier fabric can take a full day. Atmospheric variables will assist or hinder the drying time. Cloudy and rainy days will extend the drying time while sunny and windy days will accelerate the drying time.

Storage of Treated Items:

Regardless of which fire retardant has been used, **damp fabric should not be folded and stored.** Even when the fabric is dry, it should not be folded and stored any more than a few days. Any longer than this will risk marking

of the fabric with a white powdery coating. If this occurs, use a good quality dry vacuum cleaning to extract the residue.

Treated fabrics that need to be stored, should be hung in a suitable location where air is permitted to circulate around them.

Burning Characteristics of Treated Materials:

Fire retardants are just that; a fire retardant. For materials that are comprised of 100% natural materials such as cotton, wool, hemp etc, will char and burn while there is a flame source, but the treated material should not be able to support a flame or continue burning when the flame is removed. If the fabric continues to burn briefly and then self extinguish, this is satisfactory however if it continues to burn, another light application will be necessary.

Synthetics and other synthetic blends with natural or other synthetics materials, will display different characteristics depending on their composition. Synthetics *may continue to burn*, but will burn in a thin band up the fabric at a slow pace, and may even self extinguish. This burning characteristic is typical and acceptable.

As always, if using these products to fire retard to meet Australian Building Standards, a Certificate of Compliance from the applicator or a supporting Test Report from a recognised government approved testing laboratory are required.