

# FREQUENTLY ASKED QUESTIONS

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## **Who is Carhartt Flame-Resistant (FR) Clothing designed for?**

Carhartt FR Clothing is designed for electricians and workers in the utility, oil, gas and petrochemical fields who are at risk of exposure to electric arc flashes and flash fires, which could cause severe or fatal burn injuries. Typical candidates for FR clothing include electric linemen, pipeline and refinery workers, as well as industrial electricians.

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## **How does Carhartt FR Clothing help protect against burn injury?**

Through the use of flame-resistant chemicals or fabric blends, Carhartt FR Clothing is designed to self-extinguish within seconds after the source of ignition is removed, limiting the degree of burn and body burn percentage. It is not designed to be flame proof; it is flame-resistant.

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## **Can the flame-resistant chemicals be washed out?**

No. Carhartt FR Clothing is guaranteed to be flame-resistant for the useful life of the garment regardless of the number of launderings, provided garment-care instructions are followed.

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## **How can Carhartt FR Clothing be distinguished from traditional Carhartt clothing?**

Carhartt FR Clothing is clearly identified with a "FR Carhartt" patch in place of the traditional Carhartt patch. Product hang tags and HRC labels also help distinguish Carhartt flame-resistant products.

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## **What is an HRC?**

An HRC or Hazard Risk Category is a rating for FR clothing that indicates the level of protection the garment provides. There are five HRCs ranging from 0 to 4, with an HRC of 0 representing the least protection, and an HRC of 4 representing the most protection. The NFPA 70E consensus standard assigns these categories based on the electrical maintenance task to be performed, and each HRC correlates to a specific range of ATPVs. For example, HRC 1 would include ATPVs greater than 5 cal/cm<sup>2</sup> but less than 8 cal/cm<sup>2</sup>.

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## **What is an ATPV?**

An Arc Thermal Performance Value (ATPV) is a rating assigned to flame-resistant clothing indicating the level of protection provided. Higher-weight (e.g., thicker, denser) fabrics typically have higher ATPVs and provide increased protection (as does the layering of FR clothing). All Carhartt FR Clothing has the ATPV marked on the inside label for easy reference.

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## **What is EBT?**

Like ATPV, Breakopen Threshold Energy (EBT) is a rating assigned to FRC indicating the level of protection provided. EBT is used when ATPV cannot be measured due to flame-resistant fabric breakopen. EBT is also measured in calories per centimeter squared (cal/cm<sup>2</sup>).

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## **Can Carhartt FR Clothing be repaired?**

Yes, Carhartt FR Clothing can be repaired, but repairs must be made with fabrics and sewing threads that have at least the same FR characteristics as the original garment. Jobs like replacing zippers should be done at the factory, and we recommend you contact Carhartt directly to make arrangements for your repair.

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## **Is flame-resistant thread required for embroidery applications?**

None of the current regulations governing the use of flame-resistant clothing specifically require the use of flame-resistant thread for embroidery applications. However, Carhartt recommends using flame-resistant thread for embroidery or emblem attachment.

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## **Can I use DEET on flame-resistant clothing?**

No. DEET is one of the most effective mosquito repellents on the market, but it should only be used on the skin, never on FR clothing. For the most effective mosquito and tick protection, use DEET-based repellents on the skin (especially on exposed skin) and use a permethrin (the active ingredient in most lice shampoos) product washed into or applied to flame-resistant clothing. These products do not add any appreciable flammability to FR clothing and therefore do not affect its flame-resistant properties. When using permethrin in a spray form, use the WATER-BASED formulas only. Propellants are almost always flammable in this application, so the powder form washed into the clothing or the WATER-BASED spray formula is recommended.