

Thermoelectric Personal Protective Equipment (PPE)

ID: 2012-038

Executive Statement:

An innovative approach to enhance safety and comfort in PPE through thermoelectric technology.

Technology Overview:

This technology integrates thermoelectric devices into personal protective equipment to manage heat exposure during splash hazards effectively. By embedding these devices into fabric, the invention generates electrical power from temperature gradients, which is used to cool the wearers, enhancing their safety and comfort.

Key Advantages:

- Enhanced safety from reduced heat exposure
- Increased comfort leading to higher compliance rates
- Lighter and more flexible materials
- Self-powering through the use of thermoelectric devices

Problems Addressed:

- Non-compliance with PPE due to discomfort
- Risk of injury from heat during splash hazards

Market Applications:

- Flame-retardant clothing manufacturing
- Protective clothing for chemical and industrial sectors