GUIDE

Cotton or polyester: where each mission trip shirt fails

Cotton is right for heat but wrong for cold rain. A polyester blend dries fast but can melt near flame. Here is how to match the team shirt to the work it will actually see.

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Most mission teams order one shirt and wear it everywhere: the airport, the worksite, the kitchen, the Sunday service. That works until the work changes. Every fabric has a job it handles well and a job where it lets the wearer down, and the place to catch that is before the order goes in, not on day three of the trip.

What fabric is a mission trip shirt usually made of?

A mission trip shirt is usually cotton or a cotton and polyester blend. The Ministry Gear gear guide recommends the Gildan 2000 cotton t-shirt for service trips and the Gildan 2400 cotton long sleeve for service events and mission trips. Its softer pick, the Next Level 6071 triblend long sleeve, is listed by the manufacturer's distributors as 50% polyester, 25% cotton and 25% rayon. That means half of that shirt behaves like polyester when it matters most.

Where does a cotton shirt work best?

A cotton shirt works best in heat. The National Institute for Occupational Safety and Health (NIOSH), in its fact sheet on protecting yourself from heat stress, tells workers to wear light colored, loose fitting, breathable clothing such as cotton and to avoid non breathable synthetic clothing. For a summer build in Mexico, the Dominican Republic or Haiti, a light colored cotton tee in a relaxed fit is the shirt the guidance points to.

Where does a cotton shirt fail?

A cotton shirt fails when the team gets wet and cold. Cotton holds water, and wet cotton stops keeping the body warm. The National Park Service tells visitors to avoid cotton in cold weather for exactly this reason, and an older Isle Royale National Park hypothermia handout states that wet clothing loses about 90% of its insulating power. Teams that serve in mountain villages, work through a rainy season or deploy to winter disaster relief should not count on a cotton tee as the layer against their skin. Wear it on top of a wool or synthetic base layer, and pack a dry change.

Cotton also fails on concrete day, and so does every other t-shirt fabric. Many mission builds mix mortar or pour floors. The Washington State Department of Labor and Industries documented a concrete finisher who was hospitalized for a week with second degree burns to his feet, ankles and wrists after wet concrete stayed in contact with his skin. Its bulletin explains that wet concrete is strongly alkaline, that concrete dust mixed with sweat or wet clothing can form a caustic solution, and that clothing soaked with concrete should come off right away, with the skin washed in cool, clean water. A team shirt that soaks through with slurry is holding that solution against the body. On pour days, the useful shirt is the one you can strip off and replace, so pack two.

Where does a polyester blend shirt fail?

A polyester blend shirt fails near open flame and hot metal. The American Welding Society's safety fact sheet says not to wear synthetic fabrics because they may burn easily, melt, stick to the skin and cause serious burns, and it recommends heavy cotton or wool instead. The Canadian Centre for Occupational Health and Safety goes further and warns against synthetic blends as well. In federal rules for power line workers, OSHA standard 1910.269 bars clothing that could melt onto the skin for anyone exposed to flames or electric arcs, and OSHA's guidance names polyester, nylon, acetate and polypropylene as examples. It also notes that a melting fabric worn as an inner layer can still burn the skin.

Mission work puts people near fire more often than the packing list admits: cooking over open flame in a host kitchen, burning brush or debris after a storm, welding a gate, grinding steel for a roof frame. A triblend shirt is the wrong shirt for any of those jobs. Plain cotton is the better choice, but it is not fire protection either: untreated cotton burns, it simply does not melt. Anyone welding needs real welding gear over the team shirt, not instead of it.

How do you match the shirt to the work?

- **Hot, dry worksite:** a light colored cotton tee, loose fit.
- **Cold, wet or high altitude trip:** the team shirt goes over a warm base layer, never as the only layer.
- **Concrete, mortar or stucco:** two shirts per person for that day, plus a plan for a quick change and a rinse.
- **Cooking fires, brush burning, welding or grinding:** cotton or wool only, no polyester blends, and proper protective gear on top.
- **Travel days, church services and evenings:** any fabric works, so this is where a softer triblend earns its place.

Some teams settle this by ordering two shirts with the same design: a cotton work shirt for the jobsite and a softer blend for travel and worship. Others choose one cotton shirt and leave the blend off the order entirely. Either way, the decision comes from the work schedule, not the catalog photo.

How does Ministry Gear help pick the shirt?

When you request a design, list the work the team will do and the climate it will do it in. A designer adds your church name, trip details, verse and colors to the shirt that fits that work, then sends the design for you to review. The design help is free, and nothing prints until you approve it. To begin, get your free design or call 888-812-4044, Monday to Friday, 9am to 5pm Pacific. For the rest of the planning, see how to plan mission trip t-shirts before the team leaves.

Ministry Gear 888-812-4044 ministrygear.com

Ministry Gear designs custom church t-shirts for youth groups, camps, mission trips, worship teams and church events.