Design Engineering 010437

Design Engineering Cool-Tube Extreme Heat Reflective Sleeve

Model: 010437

Introduction

The DEI Cool-Tube Extreme is an advanced heat reflective sleeve designed to protect wires, cables, and hoses from extreme under-hood temperatures, weather conditions, and abrasions. Made from a special composite material with a spiral wire reinforcement, this ultra-lightweight sleeve offers superior thermal protection and a professional appearance. It is capable of reflecting continuous heat up to 750 degrees Fahrenheit.
This manual provides essential information for the proper installation, operation, and maintenance of your Cool-Tube Extreme sleeve to ensure optimal performance and longevity.

Product Features

- Ultra-lightweight heat reflective solution for wires, cables, hoses, fuel lines, etc.
- Withstands direct, continuous heat up to 750 degrees F.
- Can be slit lengthwise for easy installation - no need to remove wires, cables, or hoses.
- Easily trim to desired length.
- Available in various diameter sizes and colors (this model is 1.5" x 3' Silver).

Setup and Installation

The Cool-Tube Extreme is designed for straightforward installation. Follow these steps for best results:

1. **Preparation:** Ensure the surface of the wires, cables, or hoses to be covered is clean and free of debris. Measure the length required for your application.
2. **Cutting:** Using sharp scissors or a utility knife, carefully cut the Cool-Tube Extreme to the measured length. The spiral wire reinforcement allows for clean cuts.
3. **Slitting (Optional):** For applications where it is not feasible to disconnect wires or hoses, the Cool-Tube Extreme can be slit lengthwise. Carefully make a cut along the length of the tube using a utility knife.

4. **Application:** Slide the Cool-Tube Extreme over the wires, cables, or hoses. If slit, gently open the sleeve and wrap it around the components, ensuring a snug fit.
5. **Securing:** For added security and a finished look, consider using high-temperature ties, clamps, or heat-resistant tape at the ends of the sleeve or at intervals along its length, especially in high-vibration environments.
6. **Flexibility:** The flexible design allows the sleeve to conform to tight bends, providing comprehensive protection even in complex routing paths.

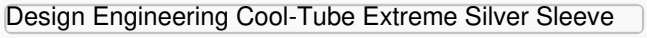

Image: A single length of Design Engineering Cool-Tube Extreme Silver sleeve, demonstrating its flexible and corrugated structure.

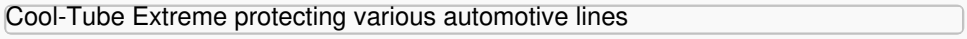

Image: Multiple lengths of Cool-Tube Extreme sleeves installed on various automotive wires and hoses, showcasing its application in protecting critical components from heat and abrasion.

Operating Principles

The Cool-Tube Extreme operates passively by reflecting radiant heat away from the protected components. Its aluminized glass fiber construction, combined with the corrugated design, creates an insulating air gap and a highly reflective surface. This dual action significantly reduces heat transfer to sensitive wires, cables, and hoses, preventing degradation and ensuring their proper function in high-temperature environments.
The spiral wire reinforcement maintains the tube's shape and integrity, even when bent, and provides additional abrasion resistance.

Maintenance

The Design Engineering Cool-Tube Extreme is designed for durability and requires minimal maintenance. However, periodic inspection is recommended to ensure continued performance:

- **Visual Inspection:** Regularly check the sleeve for any signs of physical damage, such as tears, fraying, or excessive wear, especially in areas exposed to high abrasion or extreme heat.
- **Cleanliness:** If the sleeve becomes dirty, gently wipe it with a damp cloth. Avoid using harsh chemicals or abrasive cleaners, as these may damage the reflective surface.
- **Securement:** Verify that any ties, clamps, or tape used to secure the sleeve are still firmly in place. Re-secure or replace as necessary.
- **Replacement:** If significant damage is observed that compromises the sleeve's protective capabilities, replace the affected section or the entire sleeve.

Troubleshooting

While the Cool-Tube Extreme is a passive component, here are some common observations and considerations:

- **Sleeve appears discolored or dull:** Over time, exposure to extreme conditions may cause slight discoloration. As long as the material integrity is maintained, its reflective properties should remain effective. Significant dullness or flaking may indicate degradation, and replacement should be considered.
- **Sleeve is not staying in place:** Ensure proper securing methods (ties, clamps, tape) are used. In high-vibration areas, additional securing points may be necessary.
- **Components still getting hot:** Verify that the sleeve fully covers the exposed components. Ensure there are no gaps or areas where heat can directly impinge. Consider if the heat source exceeds the product's continuous temperature rating (750°F).

Specifications

Attribute	Detail
Brand	Design Engineering
Model Number	010437
Material	Aluminized Glass Fiber over Corrugated Tube
Color	Silver
Product Dimensions (L x W)	36 inches x 1.5 inches (3' x 1.5")
Item Weight	0.23 Pounds (approx. 3.68 ounces)
Continuous Heat Resistance	Up to 750°F (400°C)
UPC	607078104373

Warranty and Support

For specific warranty information regarding your Design Engineering Cool-Tube Extreme, please refer to the packaging or visit the official Design Engineering website. General product support and technical assistance can also be found on their website or by contacting their customer service department.
Official Website: www.designengineering.com

Documents - Design Engineering – 010437

no relevant documents