



Removable Insulation Blankets

Overview

Insulation Blanket Overview

Removable Insulation Blankets are used to insulate engine parts, exhaust piping and components, and industrial process piping and machinery. In particular, applications which use diesel engines, such as power generation, off highway & on-highway vehicles, and marine often require insulation blankets to manage the heat that these engines generate.



How Are They Constructed?

Removable insulation blankets are typically constructed in 3 layers.¹ The table and photos below illustrate the construction and materials used in a standard removable insulation blanket. Note that for more demanding and unique applications, Firwin offers a wide range of alternative materials and construction. Please contact us for details.

| Layers | Material | Temperature Limit | Function |
|--------|-----------------------------------|--|--|
| Outer | Silicone Impregnated Fiberglass | Grey: 500° F (260° C) Red: 600° F (316° C) | Protective Cover |
| | Aluminized Fiberglass | 500° F (260° C) Coating 1000° F (538° C) Fabric ² | |
| Middle | Fiberglass | Firwin 1200: 1200° F (649° C) | Insulation Media (1 Inch) ³ |
| | CMS Wool | Firwin 1800: 1800° F (982° C) | |
| Inner | Stainless Steel Mesh ⁴ | Firwin 304SS: 1200° F (649° C) Firwin 309SS: 1800° F (982° C) | Contains Insulation Media |

¹ Certain applications may require alternative construction methods - i.e. an extra layer may be added, as in the case of sound or fluid barriers.

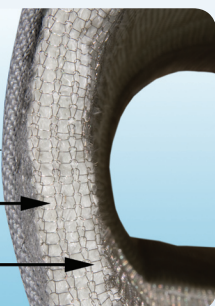
² Aluminum coating may separate from fiberglass fabric at 500°F+, but fabric maintains good strength until 1000°F.

³ 1 inch insulation suffices for most applications; however, thickness can be varied based on particular application requirements.

⁴ The stainless steel inner liner may be replaced by a fiber-containing material in cases where fiber containment is a requirement.

Grey Silicone

Outer Protective Cover →
Insulation Media (White) →
Stainless Steel Mesh →



Red Silicone



Aluminized Fiberglass





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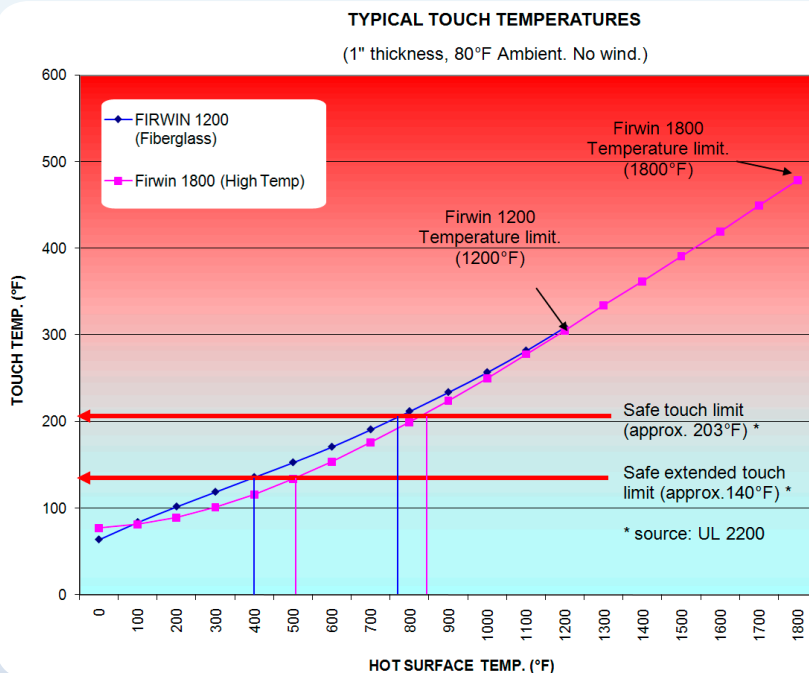
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How Are They Installed?

Removable insulation blankets are wrapped around the part to be insulated (an exhaust pipe in this illustration). The blankets are then fastened in place using lacing wire. Other fastening options, while less versatile, do exist, including snaps, straps, springs, and Velcro.



Heat Performance of Insulation Media



The amount of heat reduction achieved by insulation blankets varies with the type of insulation media and its thickness. In the graph opposite, touch temperatures (i.e. the temperature of the outer protective cover) are given for 1" thick insulation blankets using Firwin 1200 and Firwin 1800 insulation media.

