



DURABLE AND EFFECTIVE TURBINE BLANKETS

Turbine Blanket Overview:

Power generation plants, chemical facilities, ships and refineries commonly cover equipment with removable insulation blankets to ensure worker safety and to conserve energy. These flexible, custom fabricated blankets are generally a three layer construction, made up of an insulation mat sewn between two coated textiles. A system of mechanical fasteners like D-rings, lacing hooks, or stainless steel wires secure the pads to piping or valve areas.

Refineries, power plants, and off-shore drilling platforms utilize a complex type of insulation pad called a turbine blanket to cover large industrial turbines. Turbine blankets must be able to withstand exposure to temperatures up to 750°F (400°C), high internal pressures up to 600 psi (4137 kPa), severe mechanical vibration, moisture, oil, chemicals and steam. In addition, the blanket must fit properly over a large and complexly shaped unit, and it must provide adequate acoustical insulation.

Because of their exposure to demanding environmental conditions, most turbine blankets have a fairly short product life. Plants must replace them frequently, leading to high maintenance costs and frequent disruption of operations. Turbine blankets last longer when they fit tightly to the equipment; however, most manufacturers construct their blankets from knitted wire mesh for abrasion and vibration resistance, making it difficult to manipulate the fabric snugly around a turbine.

The Newtex Solution:

Newtex has worked with turbine manufacturers, blanket fabricators and plant operators around the world to develop a more effective turbine blanket. For the inward facing, or hot-side of the blanket, we recommend **ZetexPlus® A-820**, a textile that Newtex developed specifically for the US Navy to use on turbine generators and turbine engines. Newtex wraps every strand of yarn, in both the warp (vertical) and weft (horizontal) directions, with two independent strands of fine stainless steel wire. Then, we treat the fabric with our proprietary ZetexPlus® vermiculite coating for exceptional heat resistance up to 2000°F (1095°C). Rather than including the 2" – 4" of ceramic insulation found in a standard turbine blanket, we interleaf a layer of **Z-Flex® 628 Aluminum Foil** between the layers of the mat. Testing shows that this process drastically improves the blanket's insulation value without the addition of unnecessary bulk. The compact design makes the blanket more tolerant to vibration.

On the cold-side, or outer jacket, we recommend **Z-Block™ F-407**, an eco-friendly coating that delivers excellent moisture, chemical, and weather resistance. The Z-Block™ coating can also be applied to the wire wrapped ZetexPlus® A-820 for an even stronger weave structure and additional resistance to pull-out. After years of testing, research, and innovation, this layup of Newtex Performance Materials has proven to withstand even the harshest environmental conditions for a significantly longer period of time than the traditional or standard turbine blanket.

To learn more about the products used in our turbine blankets, visit www.newtex.com/npm