Manufacturer of High-Performance Fluoropolymer Films, Laminates, and Composites

CROSS-SEAL™ INSULATION JACKETING

A DIFFERENT ENGINEERING APPROACH

An emerging alternative replaces sewn fiberglass-based systems with fully heat-sealed, all-PTFE insulation architectures. TCI's Cross-Seal™ insulation system is designed to combine heat-sealed CrossFilm™ PTFE jacketing with a range of insulation materials, including high-purity Therma-Pure™ PTFE insulation.

Unlike sewn insulation systems, heat-sealed PTFE jackets eliminate needle perforations entirely. The result is a continuous PTFE barrier designed to minimize:

- Fluid ingress
- Particle-release pathways
- Wicking-related contamination migration
- Exposure of internal insulation materials



Stitched seams



Heat-sealed seams



Cross-Seal™ Benefits:

Maximum Moisture Protection: The heat-sealed seams keep the insulation material dry and minimize the possibility for corrosion under insulation (CUI).

Advanced Manufacturing Speed: The sealing process simulates the speed of a sewing machine and is fully capable of creating complex shapes with intricate curvature.

Ultra-Pure Compatibility: Perfectly compatible with any harsh or sterile environment, including ultra-pure settings such as food processing plants, pharmaceutical plants, and semiconductor clean rooms.

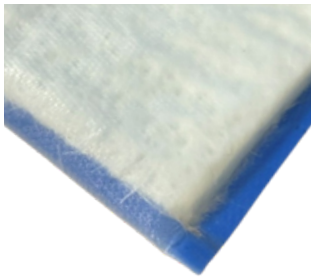
Can be used to encapsulate Therma-Pure™ for a 100% fiberglass free insulation system.

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Heat-Sealing Process for Removable Insulation Service



Cross-Seal Slate Gray



Cross-Seal Clear

With a revolutionary material and heat-sealing combination, heat-sealed PTFE insulation jacketing is now a reality, opening new possibilities for insulation applications.

Cross-Seal™ Insulation Jacketing Product keeps insulation materials dry and functional for the long-term. A proprietary and leak-tight all-PTFE CrossFilm™ material is seamed together using a fast and effective process that allows for complex shapes and three dimensional designs. The insulation material stays dry and fully encapsulated by the CrossFilm™ material. There is also no concern for escaping of fiberglass or powders into the environment, which is critical for ultra-pure applications such as clean rooms, food plants, and pharmaceutical plants.

The **CrossFilm™ material is ultra-light and ultra-flexible** with sufficient heat-sealed strength at the straps to anchor heavy insulation pads. CrossFilm™ material is unaffected by chemicals, has no shelf life, and will not corrode.





Cross-Seal™ & Aerogel Solution:



An all-PTFE insulation jacketing solution that uses heat-sealed seams (instead of stitched ones) to fully encapsulate Aerogel insulation material inside — making Aerogel viable for high-purity environments where stitched seams would allow fiber/powder contamination.

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Examples of Cross-Seal Insulation Jacketing








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6 George Ave Londonderry, NH 03053 USA
+1 (603) 296-2221
inquiry@textilescoated.com
textilescoated.com
Textiles Coated International (TCI)