

Pressure-Sensitive Adhesives for Insulation Integration in Buildings

Building Envelope and Insulation





In the realm of sustainable architecture and construction, the integration of insulation in buildings plays a pivotal role in enhancing both energy efficiency and occupant comfort. Insulation serves as a multifaceted shield against various environmental factors, including air infiltration, noise pollution, fire hazards, and moisture damage. With its tapes and adhesives, Avery Dennison can help protect structures from these detrimental effects.

The Effectiveness of Insulation

Insulation materials are often subjected to various environmental factors, and protecting them is crucial to maintaining their effectiveness over time. Several methods are employed to safeguard insulation materials, ensuring they continue to provide optimal performance in terms of thermal resistance, acoustic control, fire resistance, and moisture management. Here are some common methods used to protect insulation materials:

1. Vapor Barriers

- Vapor barriers are installed to control the movement of water vapor through the building envelope. They are typically placed on the warm side of insulation materials to prevent moisture from entering the building structure.
- In cold climates, vapor barriers help prevent condensation within the insulation, reducing the risk of mold growth and preserving the thermal performance of the material.

2. Encapsulation

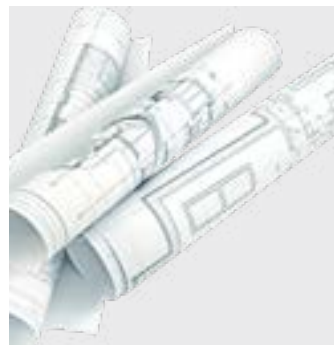
- Encapsulation involves enclosing insulation materials within a protective layer to shield them from physical damage, UV radiation, and other environmental factors.
- For example; block foams or batts of insulating wool may be encapsulated in a facing material to provide added protection against moisture and enhance the structural integrity of the insulation.

3. Sealing and Weatherproofing

- Proper sealing of joints, seams, and penetrations in the building envelope is essential to prevent air leakage and moisture infiltration.
- This is often achieved through the use of various sealing foams, membranes and facing materials which are ideally bonded using a suitable adhesive, embedded in the overlap or on the edge of the material.
- Buildings are not built overnight. It is key for building materials to resist outdoor elements like rain, UV light, and extremes in temperatures, to last until the final top layer is applied and functional.

4. Fire Retardants

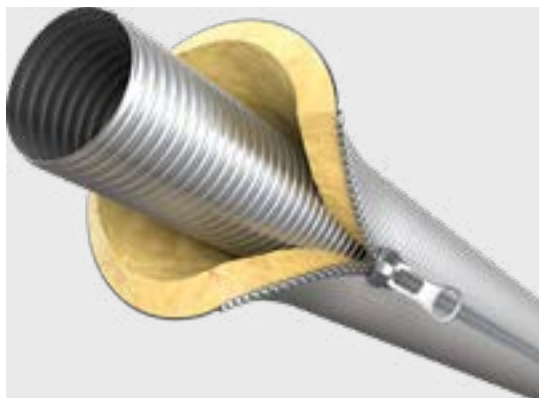
- Insulating layers designed for fire resistance are often making use of fire retardants. These chemicals slow down the combustion process, reducing the flammability of the material and providing additional protection against fire hazards.



Making Insulation Effective, and its Installation Efficient

The way insulation materials are installed plays a crucial role in their long-term performance. Proper installation techniques ensure a continuous layer without gaps, and addressing thermal bridging contributes to the durability and effectiveness of insulation.

To ensure a proper installation is executed in a safe way, great care must be taken with the installation methods. Application methods can be integrated and standardized to facilitate a fast and easy installation - a welcome advantage working high up a building exposed to wind and rain!



When it comes to design bonding methods, the adhesive tapes from Avery Dennison shine, combining material science and practical installation methods:

- Working with tapes requires no curing, or long installation time, reducing the time spent on a job. Especially when tapes are pre-laminated on the materials that are so vital to protect insulation like protective facing, and membrane material.
- Our tapes are tested for low installation temperatures, superior performance in high humidity and wet conditions; and on substrates that tend to accumulate condensation. Tapes and adhesives are engineered for long-term durability even with regular exposure to sunlight.
- Adhesive tapes are easy to specify: they provide equal layer thickness and perfect adhesive spread. Tapes allow the application by unskilled workers.
- We offer specific adhesives for those hard-to-bond substrates with low surface energy such as plastics.
- Adhesives with low odour and volatile organic compounds (VOC) support a healthy installation climate.
- Tapes leave little waste behind. The protective liner that is removed upon application, is recyclable when properly collected.

To conclude: By incorporating these practices, construction professionals can optimize the efficiency of insulation installation while prioritizing the safety and well-being of workers. Adhering to material science and installation effectiveness contributes to a successful and secure insulation installation process.

Configure and discuss the right product solutions for your application needs with our team of application engineers.

Product Range Details

Adhesive Technology	Product Name	Type	Thickness (µ) (excl. liner)	Carrier	Liner	Moisture Resist.	Solvent, Chemical and Plasticizer Resist.	Cont. Operating Temp. (°C)	Subsegment/ Application
Rubber	FT 08545	Single coated	105	Alu 50µm	Glassine	High	Mid	-40° - 70°	Ventilation/ HVAC
UV Acrylic	FT 08546	Single coated	109	Alu 50µm	Glassine	High	High	-40° - 140°	Ventilation/ HVAC
FR Acrylic	FT 21120FR	Transfer tape	34	N/A	Glassine	High	High	-40° - 80°	Multiple
Rubber	FT 2147	Transfer tape	60	N/A	Polypropylene	High	Mid	-40° - 105°	Multiple
UV Acrylic	FT 2151	Transfer tape	80	N/A	Glassine	High	High	-40° - 140°	Multiple
Rubber	FT 168	Transfer tape	130	N/A	Glassine	High	Low	-40° - 70°	Multiple
Rubber	FT 107	Transfer tape	60	N/A	Glassine	High	Mid	-40° - 105°	Multiple
Tackified Acrylic	FT 2018	Transfer tape	80	N/A	Glassine	Mid	Mid	-40° - 130°	Multiple
UV Acrylic	FT 7961	Double coated scrim	88	Polyester scrim	Glassine	High	High	-40° - 140°	Multiple
Tackified Acrylic	FT 7951	Double coated scrim	90	Polyester scrim	Glassine	Mid	Mid	-40° - 130°	Multiple
Tackified Acrylic	FT 7995	Double coated scrim	135	Polyester scrim	Glassine	Mid	Mid	-40° - 130°	Multiple
Rubber	FT 7970	Double coated scrim	180	Glass fibre scrim with polyester film	Glassine	High	Mid	-40° - 70°	EPDM seals
Rubber	FT 7984	Double coated scrim	180	Glass fibre scrim	Glassine	High	Mid	-40 - 90°	EPDM seals
Rubber	FT 666	Double coated scrim	180	Polyester scrim	Glassine	High	Mid	-40° - 70°	EPDM seals
Rubber	FT 660	Double coated scrim	185	Glass fibre scrim with polyester film	Glassine	High	Mid	-40° - 70°	EPDM seals
Rubber	FT Y 6663	Double coated scrim	220	Polyester scrim	Glassine	High	Mid	-40° - 70°	Multiple
UV Acrylic / Rubber	FT 7392	Double coated PET	62	Polyester film	Glassine	High	High	-40° - 90°	Pipe insulation
Rubber	FT 73320	Double coated PET	80	Polyester film 50µm	Glassine	High	Mid	-40° - 60°	Pipe insulation
Rubber	FT 273	Double coated nonwoven	115	Polyester film 12µm	Glassine	Mid	Low	-40° - 70°	Multiple
Rubber	FT 349	Double coated PP	145	Propylene film	Glassine	High	Low	-40° - 70°	Multiple
UV Acrylic	FT 7250	Double coated nonwoven	151	Nonwoven	Glassine	Mid	High	-40° - 135°	Multiple
UV Acrylic	FT 7352	Double coated PET	212	Polyester film 12µm	Glassine	High	High	-40° - 150°	Multiple

Our technical experts are here to show you how to work with your materials successfully during every phase of your application. You can count on us to approach any challenge with genuine curiosity and care.

Contact your Avery Dennison sales representative or visit tapes.averydennison.com

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