



A SMARTER ADHESIVE SOLUTION FOR THE BUILDING INDUSTRY

The application benefits of double sided acrylic core tapes

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In today's building industry, manufacturers who supply the various components of a building's envelope face a range of competitive and engineering pressures. Due to the increased reliance of mechanical systems on performance, failures can result in reduced occupant comfort, unrealized energy savings, and deterioration of some building components. At the same time, new construction standards increasingly call for high-performance features that increase energy efficiency and sustainability.

During the manufacturing process, companies that make components for a building's envelope are subject to cyclical market pressures, including changes

in supply and demand, national and international economic conditions, labor costs, and government regulations, as well as periodic delays in the delivery of lumber and other materials.

To remain competitive in an increasingly challenging environment, companies that can find new production and supply chain efficiencies will be in the strongest position to retain and grow their market share. To maximize production without sacrificing product quality, every aspect of the assembly line should be evaluated and optimized for greater application efficiency.



Double Sided Acrylic Core Foam Tapes vs. Liquid Glues

From windows to architectural cladding, bonding and mounting applications frequently rely on conventional joining methods like liquid glues. Although both glue and tape provide an adhesive rating that meets or exceeds the specifications for building supply applications, the manufacturers who have made the switch to constructive bonding tape and structural silicone as a modular system have seen significant improvements in production time, as well as a boost to overall efficiency. Here are five proven benefits of incorporating double sided acrylic core foam tapes into the production process.

1. Greater Application Efficiency

Low mess, low maintenance, low cost

Whether it comes out of a drum, a pail, or a cartridge, the use of liquid glue on an assembly line is a lengthy, complex, and costly process. Unlike tape's consistently stable bond and long shelf life, a lot can go wrong with liquid glue. It has a much shorter shelf life, and if the ratio of its mixture becomes uncalibrated, manufacturers incur time and material costs to redo the affected work – or face expensive warranty issues. From the regular maintenance and cleaning of dispensing units to the cost of the disposable mixing tips and environmental precautions, liquid glue requires

a significant ongoing investment compared to double-sided viscoelastic acrylic core tapes. Tape, which is available in rolls or customized die cuts, can be easily integrated into a production process with a variety of manual, semi-automatic, and fully automatic dispensers.

2. Shorter Cure Time

Hours vs. days

With double-sided viscoelastic acrylic core tapes, the adhesive forms a strong bond in only seconds. When manufacturing windows, for example, a unit module constructed with tape and structural silicone can be moved right away, which lowers processing time and increases production output. In contrast, liquid glue requires a period of uninterrupted cure time to set up and achieve maximum bond strength. During that time, any movement on the assembly line can result in misaligned parts and, ultimately, a compromised bond.

3. Excellent Stress Dissipation

Constructive Bonds that expand and contract

When it comes to building exteriors, the fastening solution must be able to withstand a wide variety of temperature environments. The coefficient of thermal expansion (CTE), which causes materials to expand and contract at different rates, will vary greatly across different substrates, but components made of metal and glass, for example, will push and pull on each other

after they have been bonded. These forces cause stress to build up, which can lead to defects such as warping. Because they can resist temperatures up to 400F and down to -40F directly at the bond, double-sided viscoelastic acrylic core tapes provide excellent stress dissipation that can handle even the most extreme environments.

4. Bond Line Uniformity

Greater precision for better coverage

An even bond line is one of the important factors to be considered in designing a bond joint. When a liquid glue is placed in a bond line, there are number of process variables that can negatively impact the adhesive performance, especially an uneven application that results in incomplete coverage or uneven thickness. In contrast, double-sided acrylic core tapes ensure a uniform bond line thickness and adhesive coverage every time, thanks to their application precision. Because the adhesive coverage of tape is predetermined and precisely engineered, it delivers optimal adhesive performance without any stress concentration or air bubbles.

5. Sleeker Aesthetics

Seamlessly appealing – especially to architects

Double-sided viscoelastic acrylic core tapes provide many advantages over traditional fastening methods during production, but one key competitive advantage happens after the building envelope is finished. Because high-performance adhesive tapes can seamlessly bond multiple substrates together with no unsightly read through or glue residue, the resulting product gives buildings a more aesthetically pleasing look. In addition, architects and building owners increasingly prefer a sleeker, state-of-the-art exterior design, which requires a clean, precise bond line.

Conclusion

Whether you manufacture muntin bars or metal cladding, adhesive tapes offer a true competitive advantage over less-efficient bonding methods like liquid glues. High-performance adhesive tapes can bond multiple substrates together – even low surface energy (LSE) materials like polypropylene and polyethylene – resulting in clean, uniform bond lines. No special tools or expensive training are needed to apply adhesive tapes, whose easy-to-use dispensing solutions lower production times and boost efficiency. Designed to last as long as a building itself, a next-generation technical adhesive solution like double sided acrylic core foam tape will provide a durable bond, flexibility in design, and significant process improvement.

About tesa tape, inc.:

tesa is a leading manufacturer of pressure sensitive adhesives serving the appliance, automotive, building supply, electronics, industrial, paper and print, and transportation industries. With our reliable solutions and excellent service, we support industry partners in optimizing their processes and improving their products.

About ACX^{plus} :

tesa[®] ACX^{plus} is a high performing acrylic core tape for permanent interior and exterior applications. It provides a fast, powerful, aesthetically pleasing bond on materials with different surface characteristics thanks to an acrylic adhesive system that enables optimal wetting and chemically adapts to the bonded surfaces. In addition, the tape thicknesses can be adjusted to compensate for rough and uneven surfaces. The result is a high strength bond that will last for decades.

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