

WHAT IS THE USE OF THE V-CUT IN THE NOZZLE?

Why the Shape of the Adhesive Bead Is Critical for Reliable Bonding

In professional façade bonding systems, achieving durable and reliable adhesion depends not only on the quality of the adhesive itself, but also on the way the adhesive is applied. One small detail with a major impact on bonding performance is: The V-cut in the nozzle.

Although it may appear simple, the V-shaped adhesive bead plays a critical role in creating a strong, durable, and air-free adhesive connection between façade components.

Why the Shape of the Adhesive Bead Matters

The shape of the adhesive bead directly influences:

- Adhesive surface contact
- Stress distribution
- Air entrapment prevention
- Long-term bonding strength
- Overall durability of the façade system

A properly applied adhesive bead ensures optimal wetting and maximum contact between the adhesive and both bonded surfaces.

The V-Shape: The Most Effective Adhesive Geometry

The V-shaped adhesive bead is considered the most effective method for creating a high-performance adhesive bond between two surfaces.

To achieve the prescribed adhesive dimensions of at least the recommended adhesive geometry of 12 x 3 mm a standard nozzle should be cut into a V-shape of approximately 8 x 8 mm

This specific geometry helps ensure optimal filling and consistent adhesive thickness throughout the bonded connection.

Preventing Air Bubbles Inside the Bond

One of the main reasons for using a V-shaped nozzle is to prevent air entrapment inside the adhesive joint. When air bubbles become trapped within the adhesive layer, they create weak points that may lead to:

- Reduced adhesion strength
- Uneven stress distribution
- Lower long-term durability
- Increased risk of bond failure

The V-shape minimizes this risk by allowing the adhesive to spread evenly and continuously between the bonded surfaces.

How the V-Shape Transforms During Bonding

At first glance, the V-shaped adhesive bead may appear unusual or asymmetrical.

However, during installation, something important happens.

When the nozzle tip touches the backside of the façade panel and the panel is pressed into position:

- The triangular V-shape transforms into a rectangular adhesive layer
- The adhesive spreads evenly across the bonding surface
- Air is pushed outward rather than trapped inside
- Full surface contact is achieved

This creates a far more efficient and reliable bond compared to a traditional round adhesive bead.

Why a Round Bead Is Less Effective

A conventional round adhesive bead may seem easier to apply, but it has important disadvantages. A round bead is more likely to:

- Trap air pockets
- Create uneven adhesive thickness
- Produce incomplete surface contact
- Reduce effective bonding area

The V-shape, by contrast, optimizes both adhesive distribution and filling behavior between the bonded surfaces.

Optimized Bonding Performance with TWEHA®

At TWEHA®, every detail of the bonding process is engineered to maximize long-term façade performance.

Using the correct V-cut nozzle geometry helps façade professionals achieve:

- Stronger adhesive connections
- Improved stress distribution
- Reduced risk of air entrapment
- More consistent application quality
- Greater long-term durability

Combined with advanced TWEHA® bonding technologies, this application method contributes significantly to the safety and reliability of bonded façade systems.

Proper Application Is Essential

To achieve the best bonding results:

- Use a professional caulking gun
- Apply a smooth and continuous adhesive bead
- Maintain the correct adhesive dimensions
- Ensure consistent contact between nozzle and panel surface
- Avoid interruptions during application

Small application details often make the difference between average performance and long-term façade reliability.

TWEHA®: Expertise Beyond the Adhesive

At TWEHA®, we understand that successful façade bonding depends on more than supplying high-quality adhesive products alone.

That is why we actively support façade professionals with:

- Practical application guidance
- Technical expertise
- Installation recommendations
- Proven façade bonding systems
- Long-term performance solutions

Our goal is to help clients achieve safe, efficient, and durable bonded façade constructions under real-world site conditions.

Building Better Bonds Through Better Application

Modern façade bonding technology requires precision at every stage of the installation process.

The correct V-cut nozzle may seem like a small detail — but in professional façade bonding, small details create major differences in long-term performance.

Would you like to know more about adhesive application techniques or professional TWEHA® bonding systems?

Our specialists are ready to support your next project with reliable technical expertise and advanced bonding solutions.

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