

TERMS FROM THE ADHESIVE PROCESS

Understanding the Key Stages of Professional Façade Bonding

In modern bonded façade systems, reliable performance starts with a proper understanding of the adhesive process itself. Knowing how adhesives behave during application, curing, and long-term performance is essential for achieving safe, durable, and high-quality bonding results.

At TWEHA®, we believe that technical knowledge is just as important as the bonding product itself.

Single-Component (1K) Adhesive Technology

TWEHA® bonding systems are primarily based on advanced single-component (1K) adhesive technology.

A 1K adhesive consists of only one ready-to-use component, making application easier, safer, and more efficient on-site.

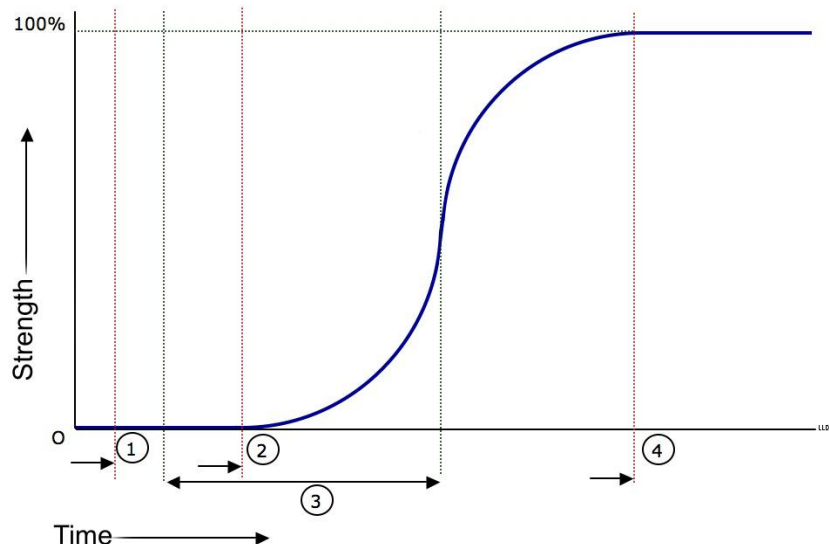
Unlike two-component systems, these adhesives do not require manual mixing. The curing reaction starts automatically through exposure to environmental humidity, which acts as the second component or activator.

This provides several important advantages:

- Easier and faster application
- Reduced risk of mixing errors
- Consistent product quality
- Cleaner and more efficient processing
- Reliable long-term bonding performance

Understanding the Most Important Adhesive Terms

Professional façade bonding involves several critical timing phases. Understanding these terms helps installers work more accurately and prevents application errors that could affect long-term adhesion performance.



1. Application Time

The application time refers to the time required to apply the adhesive onto the substrate surface.

Efficient application within this period ensures the adhesive is positioned correctly before the curing process advances too far.

2. Open Time

Open time is one of the most important factors in bonding technology.

It refers to the maximum period during which the adhesive remains chemically active and capable of forming a strong bond.

During this time window, the substrates must be assembled.

If bonding takes place after the open time has expired, proper wetting and chemical interaction can no longer occur, resulting in reduced adhesion strength and compromised durability.

Correct timing is therefore essential for achieving reliable façade bonding performance.

3. Working Time

Working time describes the maximum period during which the bonded substrates must remain free from mechanical stress or loading.

During this phase, the adhesive is still developing strength and flexibility. Premature loading can negatively affect bond integrity and long-term performance.

4. Curing Time

The curing time is the total time required for the adhesive system to achieve its full mechanical strength and final bonding performance.

Adhesive strength does not develop instantly. Instead, the curing process follows a gradual strength build-up curve — often referred to as the characteristic “S-curve.”

During curing:

- Initial strength develops first
- Mechanical resistance increases progressively
- Full structural performance is achieved over time

Understanding curing behavior is essential for safe façade installation and project planning.

5. Shelf Life

Shelf life refers to the maximum period during which an unopened product can be safely stored while maintaining its specified technical performance.

Shelf life is calculated from the date of manufacture and is defined according to the technical data sheet provided for the product.

Correct storage conditions are essential to preserve product quality, reliability, and performance.

Why Understanding the Adhesive Process Matters

In bonded façade systems, successful adhesion depends not only on the quality of the adhesive itself, but also on:

- Correct application procedures
- Environmental conditions
- Timing during installation
- Proper substrate preparation
- Respecting curing and working times

A clear understanding of these processes helps installers:

- Improve installation quality
- Reduce project risks
- Increase efficiency on-site
- Achieve maximum long-term durability

TWEHA®: Technical Expertise Beyond the Product

At TWEHA®, we do more than supply advanced bonding systems. We actively support façade professionals with technical knowledge, application guidance, and practical expertise developed through years of international façade consultancy experience.

Our goal is to help clients achieve:

- Safe and reliable façade bonding
- Maximum long-term performance
- Efficient installation processes
- Sustainable and durable façade solutions

Building Stronger Façades Through Knowledge

Modern façade bonding technology requires more than high-performance products alone. It requires understanding, precision, and technical expertise throughout every stage of the bonding process.

With advanced TWEHA® bonding systems and professional technical support, façade professionals can work with confidence — from first application to long-term structural performance.

Would you like to know more about adhesive processing, curing behavior, or professional façade bonding solutions?

Our specialists are ready to support your next project with reliable advice and high-performance bonding technologies.