

BONDING FAÇADE PANELS IN-SITU OR PREFAB?

The Importance of Control, Expertise and Reliable Bonding Technology

In modern façade construction, bonded cladding systems have become the preferred solution for creating sleek, durable and aesthetically clean façades. Whether façade panels are bonded directly on-site or prefabricated under controlled workshop conditions, one principle remains essential:

The entire adhesive process must be fully under control.

With decades of international experience in bonded façade technology, TWEHA® supports façade professionals worldwide with complete bonding solutions — from product selection and engineering calculations to testing, training and on-site support.

Bonding Requires Expertise

Constructive bonding is not simply a matter of applying adhesive. A reliable bonded façade system depends on:

- Correct product selection
- Accurate engineering calculations
- Proper surface preparation
- Controlled processing conditions
- Skilled and trained applicators

That is why TWEHA® believes bonding should never start without the right knowledge and experience.

To ensure maximum reliability and long-term façade performance, TWEHA® provides:

- Technical advice
- Project-specific calculations
- Adhesion testing
- Processing support
- Applicator training
- On-site project guidance when required

This integrated approach allows potential issues to be identified and solved before actual construction begins — significantly reducing risks during execution.

Decades of Proven In-Situ Bonding Experience

For an attractive, strong and virtually invisible connection, façade panels are bonded directly onto the substructure. Traditionally, this bonding process takes place on the construction site itself — known as in-situ bonding.

This technology was originally developed in the 1980s and has since been successfully used for millions of square meters of bonded façade panels worldwide.

The advantages of in-situ bonding include:

- Flexibility during installation
- Efficient transportation logistics
- Adaptability on-site
- Proven long-term durability

For decades, this method has delivered reliable results to the satisfaction of architects, contractors and building owners around the globe.

The Shift Toward Prefabrication

In recent years, increasing complexity on construction sites has accelerated the move from traditional in-situ bonding toward prefabricated façade systems.

With prefab bonding, façade elements are assembled in workshop environments under controlled and conditioned circumstances before being transported to the project location.

Prefab bonding offers several important advantages:

- Faster installation on-site
- Better logistical planning
- Reduced dependency on weather conditions
- Improved production efficiency
- Controlled workshop quality

This evolution perfectly aligns with modern industrialized construction methods and growing demand for faster project delivery.

Surface Preparation Remains Essential

Whether bonding takes place in-situ or under prefab conditions, the fundamentals of successful adhesion remain the same.

All bonding surfaces must always be:

- Clean
- Dry
- Free from grease and contamination

Proper surface preparation is critical for achieving optimal adhesion performance and long-term façade durability. For this reason, TWEHA® processing instructions strictly define the required preparation procedures.

Climate Control and Warranty Assurance

The main difference between in-situ and prefab bonding lies in environmental conditions.

While prefab bonding typically takes place under stable workshop conditions, in-situ bonding must deal with changing outdoor temperatures and relative humidity levels.

To maintain full control over the bonding process, continuous climate monitoring is strongly recommended.

Monitoring systems that measure:

- Temperature
- Relative humidity
- Dew point

help ensure that adhesive application takes place within the approved processing parameters.

These systems also:

- Support warranty administration
- Provide complete project documentation
- Warning against critical dew point conditions
- Enable 24/7 climate registration and storage

Using external sensors and data loggers, all measurements can be digitally stored and exported as documentation files for quality assurance purposes.

If required, TWEHA® can also supply and support these monitoring systems.

In-Situ or Prefab: Both Require Professional Control

Both bonding methods can achieve outstanding results when executed correctly.

The key to success is not necessarily where the bonding takes place — but how well the entire process is engineered, monitored and controlled.

With decades of expertise in bonded façade technology, TWEHA® provides complete support for:

- In-situ bonding projects
- Prefabricated façade systems
- Technical calculations
- Adhesion testing
- Training and certification
- Climate monitoring
- Warranty support

Build with Confidence

Whether your project requires on-site flexibility or prefabricated efficiency, TWEHA® helps ensure every bonded façade system performs safely, durably and professionally for decades to come.

Because successful bonding is not only about the adhesive — it is about total process control.

TWEHA®, 2026