

## THE LOOSENING OR REVERSAL OF FAÇADE SCREWS OVER TIME

### Why More Façade Professionals Are Choosing Bonded Fixing Systems

In modern ventilated façade construction, long-term durability and reliability are becoming increasingly important. While traditional mechanical fastening systems using screws remain widely applied, façade specialists are becoming more aware of the long-term limitations and risks associated with visible mechanical fixings.

One phenomenon that has been well known among façade experts for many years is:

The loosening or reversal of façade screws over time.

Although often underestimated during the design phase, this issue can significantly affect both the durability and appearance of the façade system.

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### Why Façade Screws Can Loosen Over Time

Façade constructions are constantly exposed to external forces and environmental influences.

Several factors contribute to the gradual loosening or displacement of screws within façade systems, including:

- Thermal expansion and contraction
- Wind-induced vibrations
- Repetitive façade movement
- Moisture exposure
- Material deformation over time
- Incorrect fastening or overtightening during installation

Especially in ventilated façade systems, these movements continuously place stress on mechanical connections.

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### The Impact of Thermal Movement and Vibrations

Façade panels and supporting structures are constantly moving due to temperature fluctuations.

As materials expand and contract repeatedly:

- Mechanical stress develops around the screw connection
- Fixing holes may gradually enlarge
- Vibrations caused by wind loads increase movement
- Fasteners can slowly loosen or shift positions slowly

Over time, this can compromise the stability, appearance, and durability of the façade system.

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### Moisture and Wood Rot Around Fixings

In façade systems using wooden battens or timber substructures, moisture can create additional risks.

Condensation around the screw thread may lead to:

- Moisture accumulation
- Wood degradation
- Rotting around the fixing point
- Reduced structural integrity of the connection

As the substrate weakens, screws may lose their grip, increasing the risk of façade movement or dislodgement.

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### **More Than an Aesthetic Issue**

Visible screw fixings are often criticized for architectural reasons, especially in modern minimalist façade designs.

However, the disadvantages of mechanical fixings are not limited to aesthetics alone.

Mechanical fastening systems may also lead to:

- Increased maintenance requirements
- Long-term durability concerns
- Reduced façade lifespan
- Higher risk of moisture penetration
- Additional structural stress concentrations

This is why more architects, engineers, and façade specialists are moving toward advanced bonded façade systems.

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### **Bonded Façade Systems: A Smarter and More Durable Solution**

Unlike traditional screw fixings, bonded façade systems distribute stresses evenly across the bonded surface rather than concentrating forces at individual fixing points.

This provides several important advantages:

- No visible fixings
- Reduced point-loading stresses
- Improved façade aesthetics
- Greater flexibility during thermal movement
- Lower risk of loosening over time
- Better moisture management
- Increased long-term durability

Because bonded systems absorb façade movements more evenly, they are particularly suitable for modern ventilated façade constructions exposed to dynamic environmental conditions.

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### **Lightweight, Flexible, and Reliable**

Advanced TWEHA® bonding systems are specifically engineered to accommodate:

- Wind loads
- Thermal expansion
- Building movement
- Long-term environmental exposure

At the same time, bonded façade systems allow architects to create cleaner, sleeker, and more contemporary façade designs without visible mechanical fixings.

The result is a façade system that is:

- More durable
- More aesthetically refined
- More sustainable
- Easier to maintain
- Better suited for future-proof construction

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### **TWEHA®: Expertise in Modern Façade Bonding**

At TWEHA®, we combine advanced bonding technologies with years of international façade consultancy experience.

Our bonding systems are designed to provide:

- Reliable long-term adhesion
- High structural performance
- Excellent movement accommodation
- Sustainable façade solutions
- Modern architectural freedom

By replacing traditional mechanical fixings with advanced adhesive technologies, façade professionals can significantly improve both the technical and visual quality of their projects.

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### **Building Smarter for the Future**

Modern façades are exposed to constant movement, environmental stress, and increasing performance demands.

Choosing the right fixing method is therefore essential for achieving long-term durability and architectural excellence.

For many modern façade applications, bonded systems are no longer simply an aesthetic alternative — they are a technically smarter and more sustainable solution.

Would you like to know more about TWEHA® bonded façade systems or the advantages of adhesive fixing technologies?

Our specialists are ready to support your next project with reliable, durable, and high-performance bonding solutions.

TWEHA®, 2026