

MEASURING AND MONITORING THE OUTDOOR CLIMATE

The Key to Reliable and Durable Bonding

Successful façade bonding starts long before the adhesive is applied.

Even the highest-quality adhesive system can only perform optimally when environmental conditions are properly controlled. That is why measuring and monitoring the outdoor climate is an essential part of every professional bonded façade installation.

At TWEHA®, we understand that long-term reliability depends not only on the adhesive itself, but also on the conditions under which it is applied.

Smart Climate Monitoring for Maximum Reliability



To support quality control and warranty administration, TWEHA® introduced a professional climate monitoring system specifically developed for bonded façade applications.

The system continuously measures and records:

- Outdoor temperature
- Relative humidity (RH)
- Dew point conditions

An external temperature sensor communicates 24/7 with the data logger, ensuring continuous registration, storage, and display of all critical climate data.

Using the supplied software, measurement data can easily be transferred to a PC or laptop and added directly to project and warranty documentation as an Excel file.

This creates complete traceability and provides professional proof that the adhesive application was carried out under the correct environmental conditions.

Why Climate Conditions Matter

Even when there is:

- No rain
- No frost
- No strong wind

...it remains essential to verify the temperature and relative humidity before starting any bonding application.

Why?

Because these factors determine the dew point.

And controlling the dew point is critical for achieving a durable adhesive bond.

Dew Point — The Invisible Risk

Besides ensuring that surfaces are:

- Clean
- Dry
- Dust-free
- Grease-free

...the dew point is one of the most important factors affecting adhesion quality.

The moment condensation or dew forms on the substrate surface, reliable adhesion becomes impossible.

Even an invisible moisture film can seriously compromise bonding performance.

How Dew Point Occurs

Cold air can hold less moisture than warm air.

When warm, humid air cools down — especially during the night or early morning — moisture condenses onto colder surfaces such as:

- Façade panels
- Aluminium substructures
- Support battens

This creates a thin water film on the surface.

As temperatures rise during the day, the dew point changes again and the condensation disappears.

However, bonding should never take place while condensation is present.

Moisture and Adhesion Do Not Mix

When dew forms on the façade panel or supporting structure, the adhesive cannot properly bond to the substrate.

The result can be:

- Reduced adhesion strength
- Premature bond failure
- Long-term durability issues
- Increased project risks

A completely dry surface is essential for a reliable bonded connection.

What To Do When Dew Point Is Reached

If condensation is present:

- Wait until the outside temperature rises
- Allow the dew point to move upward
- Dry all bonding surfaces thoroughly
- If necessary, gently heat the surfaces using warm air equipment such as a hot-air blower or “hair dryer”

Only when the surfaces are fully dry should the bonding process continue.

Professional Bonding Requires Professional Control

Modern bonded façade systems demand precision, expertise, and process control.

By continuously monitoring outdoor climate conditions, contractors and façade specialists can:

- Improve installation quality
- Reduce application risks
- Support warranty documentation
- Ensure long-term durability
- Demonstrate professional workmanship

At TWEHA®, we believe that successful bonding is never based on assumptions — it is based on measurable control.

Because reliable façade bonding starts with understanding the environment in which you work.

TWEHA®, 2026