

THE FACTS ABOUT MOISTURE-CURING ADHESIVES

Choosing the right adhesive is critical for achieving durable, safe, and long-lasting bonding results. Yet many professionals still underestimate the advantages of modern moisture-curing adhesive technology.

At TWEHA®, we work with high-performance moisture-curing adhesives specifically developed for demanding construction and industrial applications. But what exactly makes these adhesives different — and why are they increasingly preferred over traditional systems?

Understanding the Different Types of Adhesives

In general, adhesives can be divided into four main categories:

- **Latex adhesives**
Cure when the water content evaporates.
- **Solvent-based adhesives**
Cure through evaporation of solvents.
- **Two-component adhesives**
Cure after mixing two chemical components.
- **Moisture-curing adhesives**
Cure by reacting with moisture present in the air or on the substrate.

Unlike conventional systems, moisture-curing adhesives do not rely on evaporation alone. This results in stronger, more stable, and more reliable bonding performance — even under demanding environmental conditions.

Why Professionals Choose Moisture-Curing Adhesives

Modern façade construction, roofing systems, insulation assemblies, and industrial applications require adhesives that can handle extreme conditions without compromising performance.

Moisture-curing adhesives offer several important advantages:

- **Excellent Bonding on Difficult Substrates**

These adhesives perform exceptionally well on challenging materials such as:

- Metals;
- Aluminium;
- Coated surfaces;
- Most plastics.

This makes them highly suitable for ventilated façade systems, composite panels, and industrial assemblies where traditional adhesives may fail.

Exception: polyethylene (PE) and polypropylene (PP) are generally not suitable for bonding with moisture-curing adhesives.

- **High Temperature Resistance**

One of the major advantages of TWEHA® moisture-curing adhesives is their excellent thermal resistance.

They can withstand temperatures up to 200°C / 392°F

This makes them ideal for applications such as:

- Insulation panels;
- Roofing systems;
- Exterior cladding;
- Industrial construction exposed to heat or sunlight.

- **No Shrinking or Surface Deformation**

Certain thin or sensitive materials can deform when exposed to aggressive solvent-based adhesives or cure stress.

Moisture-curing adhesives minimize these risks because they:

- Do not shrink during curing;
- Reduce internal stress;
- Help preserve surface flatness and appearance.

This is particularly important for:

- Sheet metal applications;
- Retail and shopfitting panels;
- Thin composite materials;
- Sensitive synthetic panels.

When Should You NOT Use Moisture-Curing Adhesives?

Although moisture-curing adhesives are highly versatile, they are not recommended for materials containing:

- Polyethylene (PE);
- Polypropylene (PP);
- Or combinations of both materials.

These plastics have extremely low surface energy, making reliable adhesion difficult without special surface treatments.

How to Identify PE or PP Materials

To check whether a plastic contains polyethylene or polypropylene, simply inspect the recycling symbol on the product.

Look for:

- **PE** = Polyethylene
- **PP** = Polypropylene

If these markings are present, alternative bonding solutions or surface preparation methods may be required.

Reliable Bonding Starts with the Right Technology

In modern construction and industrial manufacturing, adhesive performance directly impacts durability, safety, and long-term reliability.

Moisture-curing adhesives combine:

- Strong adhesion;
- High flexibility;
- Excellent weather resistance;
- Thermal stability;
- Long service life.

That is why they are increasingly becoming the preferred solution for professional bonding applications worldwide.

With the right adhesive technology, stronger and more durable construction becomes possible.