# THE IMPORTANCE OF VENTILATION IN MODERN FAÇADE CONSTRUCTION

Moisture is one of the greatest threats to the long-term performance of buildings.
That is why ventilation within façade constructions is not a luxury — it is an essential part of durable, healthy, and safe building design.
Modern ventilated façades, also known as rainscreen cladding systems, are specifically designed to control moisture, improve indoor comfort, and protect the building structure for decades.
At TWEHA®, we strongly believe that proper ventilation is one of the key elements of successful façade engineering.

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**Why Moisture Management Matters**

Every building façade is constantly exposed to environmental influences such as:

- Rain;
- Wind;
- Humidity;
- Condensation;
- Temperature fluctuations;
- Solar radiation.

The long-term durability of a building envelope depends on maintaining the correct balance between:

- Wetting;
- Drying;
- Safe moisture storage.

When moisture cannot be completely prevented from entering a façade construction, the ability to dry becomes critically important.

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**The Risk of Moisture Accumulation**

Many construction materials have very limited moisture tolerance. They cannot safely store high moisture levels for extended periods.
Particularly vulnerable components include:

- Sheathing boards;
- Insulation systems;
- Timber elements;
- Membranes;
- Substructures.

These materials are often positioned directly behind the façade cladding, separated only by:

- A membrane;
- A ventilated cavity;
- The façade panels themselves.

Over time, moisture can enter the cavity through:

- Driving rain;
- Open façade joints;

- Air leakage;
- Vapor diffusion;
- Accidental leaks.

Without sufficient ventilation and drying capacity, this moisture can lead to:

- Mold formation;
- Rot and decay;
- Reduced insulation performance;
- Structural deterioration;
- Corrosion;
- Indoor climate problems.

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**Drying Capacity Is the Key to Durability**

Experience within the construction industry has shown that even the best-designed façades may occasionally experience minor water penetration.
That is why modern façade engineering no longer focuses solely on keeping water out.
Today, the focus is equally on Controlled Drying
A façade system must be able to safely remove moisture before damage occurs.
This is exactly where ventilated façade systems outperform traditional closed façade constructions.

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**What Is a Ventilated Façade?**

A ventilated façade — also called rainscreen cladding — is a façade system with:

- An air cavity between insulation and cladding;
- Openings at the top and bottom;
- Ventilation through open façade joints.

This creates continuous natural airflow behind the façade panels.
The façade effectively acts like a Protective Raincoat for the Building
It protects the structure against weather conditions while simultaneously allowing the building to breathe.

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**Why Choose Rainscreen Cladding?**

Scientific research and decades of practical experience demonstrate that ventilated façades offer major advantages over traditional façade systems.
Traditional brick or concrete walls tend to absorb rainwater because of their porous structure.
Ventilated façades behave differently:

- Water entering the cavity can drain away;
- Remaining moisture evaporates naturally;
- Ventilation continuously removes humidity.

Even if moisture enters through open joints, the airflow within the cavity quickly dries the façade construction.
This significantly reduces the risk of long-term moisture damage.

**A Healthier Indoor Climate**

Ventilated façades not only protect the building structure — they also improve indoor comfort.

A properly designed rainscreen system helps to:

- Reduce direct solar heat impact;
- Limit thermal stress on the structure;
- Prevent internal condensation;
- Improve energy performance;
- Reduce moisture-related indoor problems.

Because the façade continuously ventilates itself, algae growth and persistent moisture problems are significantly reduced.

This is why ventilated façades are often described as: “Self-Breathing” Façades

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**What About Fire Safety?**

Some people question whether the ventilated cavity may create a so-called “chimney effect.”

Fire safety depends primarily on the materials used within the façade system.

When non-combustible materials are selected for:

- Insulation;
- sub construction;
- Façade cladding;

The ventilated cavity itself does not contribute to fire spread.

This means modern ventilated façades can combine:

- Excellent moisture management;
- High energy performance;
- Long-term durability;
- Optimum fire safety.

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**The Future of Sustainable Façades**

Modern buildings demand more than appearance alone.

Today’s façade systems must deliver:

- Durability;
- Safety;
- Energy efficiency;
- Moisture control;
- Indoor comfort;
- Long service life.

Ventilated façades successfully combine all these requirements in one intelligent building solution.

With the right design, proper ventilation, and professional installation, rainscreen cladding systems offer one of the most reliable and sustainable façade solutions available today.