



# External Thermal Insulation Solution

We care

[www.middleeast.weber](http://www.middleeast.weber)

# What is ETICS

Insulation is the most important feature that contributes to our comfort and our home's overall energy efficiency. Weber provides thermal insulation solution for different segments residential & non-residential buildings. The objective is to provide comfort and well-being in each of our living places, save energy and reduce electricity bills.

Weber's External Thermal Insulation Composite System (ETICS) ensures thermal protection for your building without losing internal spaces by providing double solution of decoration and insulation with no thermal bridges.



## **ETICS contribution to green buildings:**

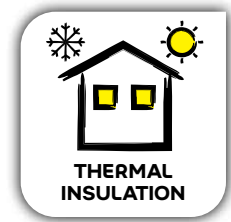
By testing the system according to international standards, Weber ETICS meets Middle East regulations and specifications complying with European (ETAG) and American standards. Accordingly, Weber ETICS complies with Al Safat Dubai Green Building Regulations, Estidama and other local governmental green codes and therefore meets the specifiers' requirements in terms of mechanical and thermal performances as well as fire safety, and meet the specifiers' requirements.



# Main benefits of Weber ETICS

## 1- Improve thermal comfort

- Excellent thermal performance: Excellent thermal performance providing a good and uniform temperature repartition in the room.
- Eliminates thermal bridges between all facade elements, connections and joints.



## 2- Economical & Energy saving

- can achieve more than 40% of energy saving by reducing considerably the HVAC consumption and therefore the electricity bill.
- The external insulation system provides a gain of internal living spaces in the case of renovation.
- Reducing greenhouse gas (CO2) emissions from heating and cooling.



## 3- Condensation inhibiting

Weber ETICS offers the best solution for humid countries and regions by providing a water condensation inhibitor technology feature to the system avoiding the moisture to penetrate and condensate inside the protected wall.



## 4- Fire resistance

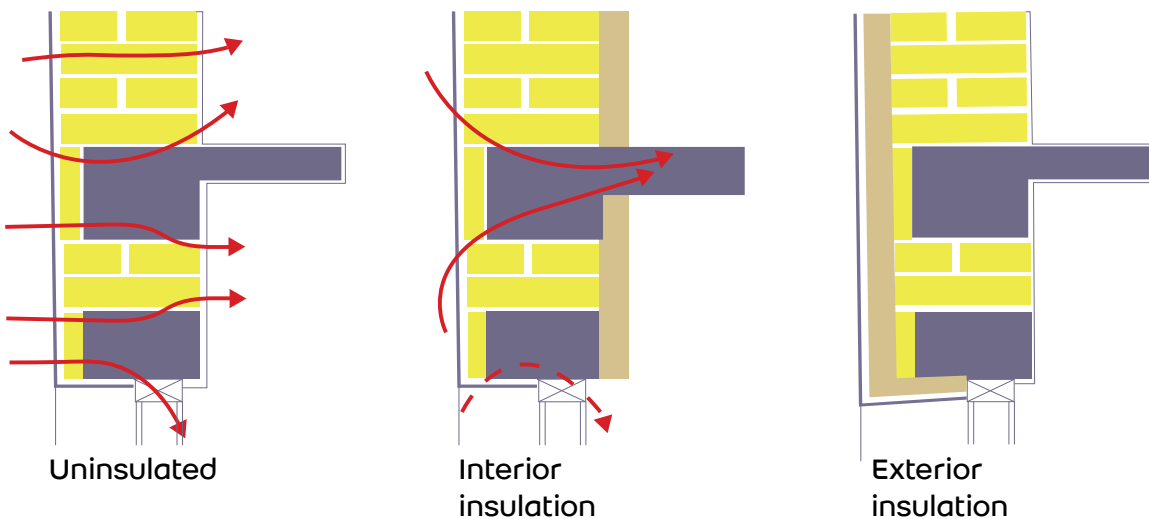
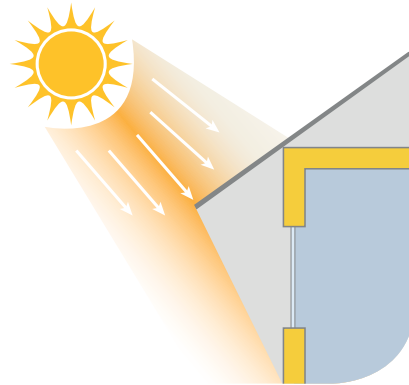
The aim of fire protection for buildings is to save life of occupants and limit as much as possible any fire-related damages to their health and to the building. Weber insulation mineral wool is tested according to European standards and classified as A1 fire rated.



# Main benefits of Weber ETICS

## Protect

- Best thermal insulation performance against outside hot and cold temperatures.
- Acoustic property and resistance to external climate conditions impacts.
- The higher performance of Weber ETICS is reached by avoiding thermal bridges in the building which leads to the best thermal insulation and U-value.



## Decorate

in addition to the thermal performance, Weber provides decorative solutions, aesthetical value depending on the final finishing required.



# Webertherm MW system components

## Easy and practical to use

- Insulation without reducing the interior area of the building
- Preventing mould growth
- 2 operations in one solution: Insulation + renovation /or façade decoration
- High compressive strength
- External work during renovation, consequently keeping the interior building clean and free.

Substrate/masonry (concrete, bricks, timber frame etc)

### 1 webertherm glue

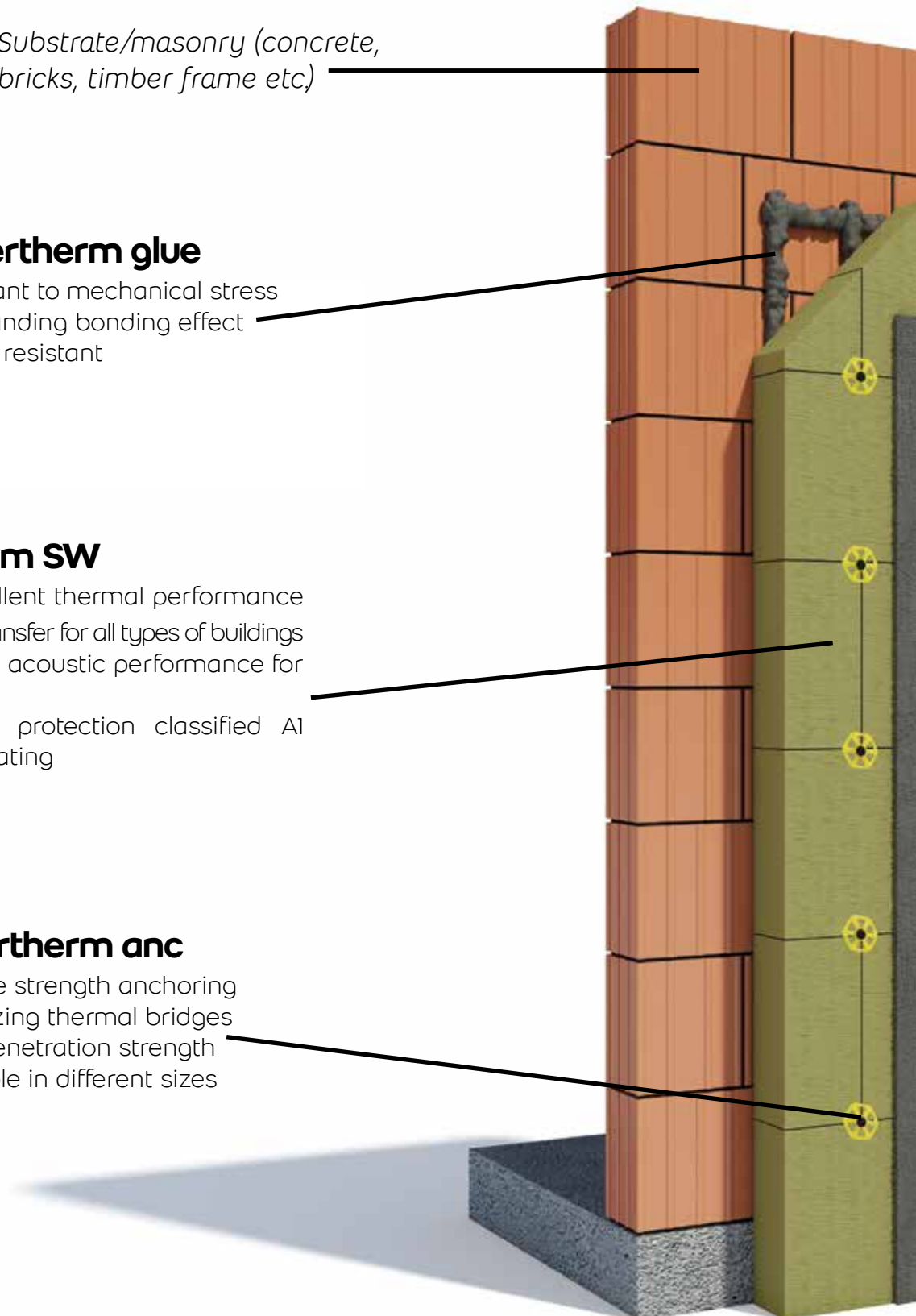
- + Resistant to mechanical stress
- + Outstanding bonding effect
- + Water resistant

### 2 webertherm SW

- + Provides excellent thermal performance reducing heat transfer for all types of buildings
- + Provides good acoustic performance for better comfort
- + Effective fire protection classified A1 Euroclass fire rating

### 3 webertherm anc

- + Durable strength anchoring
- + Minimizing thermal bridges
- + High penetration strength
- + Available in different sizes



تقنية الحد من التكاثف



NO-CONDENSATION  
TECHNOLOGY

Due to its condensation inhibiting feature, Weber ETICS is suitable for humid and hot countries

#### 4 webertherm base

- + Elastic
- + Crack-proof
- + Resistant to mechanical stress
- + Outstanding bonding effect
- + Water resistant

#### 5 webertherm mesh

- + High mechanical strength
- + Excellent dimensional stability
- + Compatible with all major facade systems

#### 6 weberpas 300 PR

- + Acrylic primer providing excellent adhesion

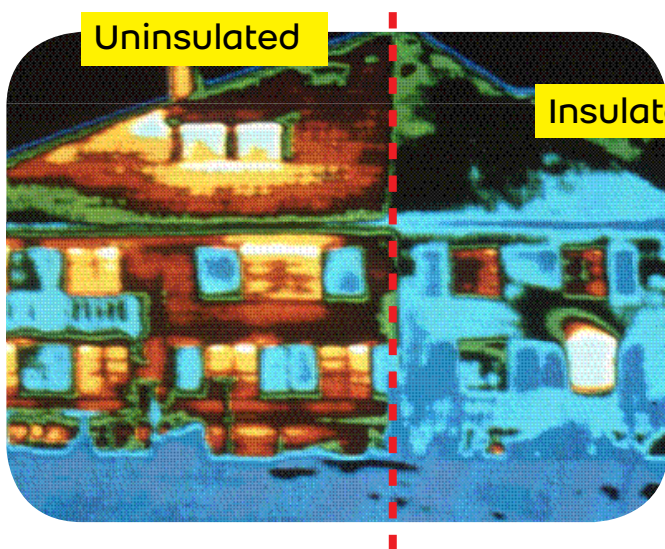
#### 7 weberpas deco

- + Available in different textures and colors (refer to page 5 of the brochure)



# Thermal Conductivity & U-value

The building's external wall components have different thermal properties that interact together to define the heat transfer with the external environment. One of these properties is the thermal conductivity, also called lambda (W/m.K), which defines the heat transmitted in a unit time through a unit thickness of the material. A low thermal conductivity indicates a good thermal insulating material. A thermal insulating system is characterized by its thermal transmittance or U-value. A U-value is the overall heat transfer coefficient that describes how well a building element conducts heat through one square meter of a structure divided by the temperature difference across the structure (W/m<sup>2</sup>.K).



$$R = d/\lambda$$

$$R_{si} + R_{se} + R_1 + R_2 + R_3... = R_n$$

$$U_n = 1 / R_{si} + R_{se} + R_1 + R_2 + R_3...$$

$R_n$  – thermal resistance (m<sup>2</sup>.K/W) of a component

$R_{si}$  Internal air surface resistance

$R_{se}$  External air surface resistance

Material	$\lambda$ : Thermal Cond. (W/m K)	Thickness (m)	R: Thermal Resistance (m <sup>2</sup> K/W)
Internal Plaster	0.5	0.015	0.0300
Solid Block	0.34	0.15	0.441
<b>webertherm glue</b>	1.2	0.005	0.0042
<b>webertherm SW</b>	0.035 - 0.038	0.1	2.85
<b>webertherm base</b>	1.2	0.005	0.0042
<b>weberpas deco</b>	0.6	0.002	0.0033
<b>Internal air surface resistance</b>	-	-	0.127
<b>External air surface resistance</b>	-	-	0.05
	<b>Total</b>	<b>0.277</b>	<b>3.509</b>
	<b>U value</b>	<b>0.285</b>	<b>W/m<sup>2</sup>K</b>

# webertherm anc

It is a Thermal Anchor with high penetration strength for all types of thermal insulation boards, suitable for solid and aerated blocks, brick and concrete walls. **webertherm anc** has a high pull-out strength for a higher security of the system and low thermal conduction value to avoid thermal bridge.

Depending on the anchors resistance and the required load capacity, weber offers two types of anchors:



## **webertherm anc P**

The anchor is made of PVC sleeve. It can be applied on the wall such as clay brick, hollow blocs, normal concrete, concrete blocks.

### **Characteristics:**

#### **Type A**

Normal weight concrete C 12/15 acc. to EN 206-1 0.6 kN

#### **Type A**

Normal weight concrete C 16/20 - C 50/60 0.6 kN acc. to EN 206-1

#### **Type B**

Solid lime sandstone (KS) acc. to DIN EN 106 0.6 kN

#### **Type C**

Vertically perforated clay bricks (Hlz) acc. to DIN, 0.5 kN



## **webertherm anc S**

The anchor is made of PVC sleeve with steel screw. It can be applied on the wall such as clay brick, hollow blocs, normal concrete, concrete blocks, light-concrete or aerated concrete.

### **Characteristics:**

#### **Type A**

Normal weight concrete C 12/15 acc. to EN 206-1 0.9 kN

#### **Type A**

Normal weight concrete C 16/20 - C 50/60 0.9 kN acc. to EN 206-1

#### **Type B**

Solid lime sandstone (KS) acc. to DIN EN 106 0.9 kN

#### **Type C**

Vertically perforated clay bricks (Hlz) acc. to DIN, 0.6 kN

### **Fixing anchors:**

Drilling the anchor holes

- Only start drilling after the adhesive has hardened sufficiently.
- Use drill with the diameter stated on the anchor.
- Drilling depth = anchor length + 10 to 15 mm.
- The minimum distance of the anchors from building edges and joints should be considered (generally 100 mm)



The following tables show the number of anchors to be fixed per each 1 m<sup>2</sup> taking into consideration the load capacity of the anchor to be used, the height of the building and the wind speed:

**webertherm anc P**

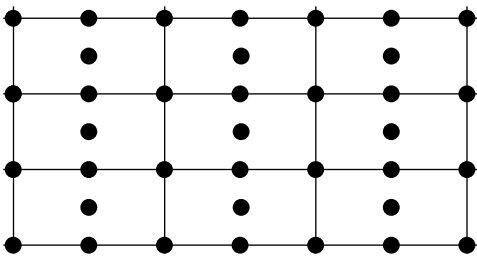
wind speed (km/h) \ Height (m)	150 - 155	156 - 170	171 - 190
0 - 10	5	5 - 6	7
11 - 14	5	6	8
15 - 18	5 - 6	7	9
19 - 21	6	7	9
22 - 25	6	7	9

**webertherm anc S**

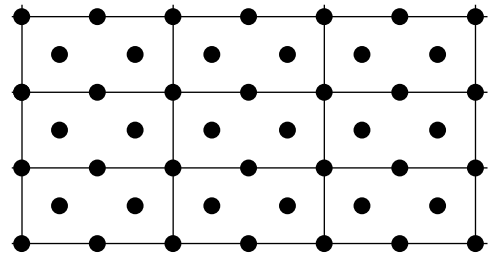
wind speed (km/h) \ Height (m)	150 - 155	156 - 170	171 - 190
0 - 10	3	4	4 - 5
11 - 14	3 - 4	4	5
15 - 18	4	4	6
19 - 21	4	5	6
22 - 25	4	5	6

Note: for buildings higher than 25m, it is recommended to consult Weber technical department.

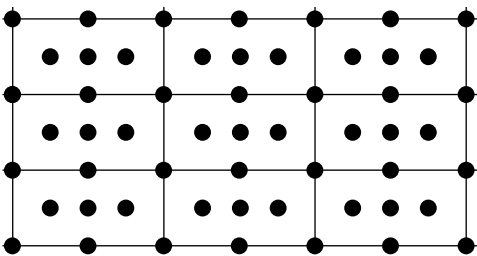
The following diagrams show the repartition of anchors once the number is confirmed for **webertherm SW** panel size of 120 x 60cm



Number of anchors per panel: **3**  
Number of anchors per m<sup>2</sup>: **4.2**

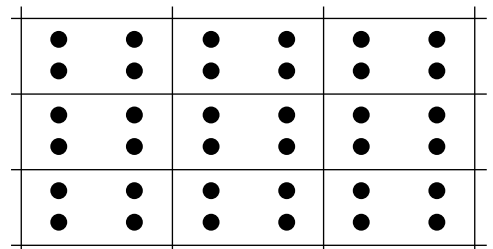


Number of anchors per panel: **4**  
Number of anchors per m<sup>2</sup>: **5.5**



Number of anchors per panel: **5**  
Number of anchors per m<sup>2</sup>: **6.9**

In case anchors are fixed inside the panels:



Number of anchors per panel: **4**  
Number of anchors per m<sup>2</sup>: **5.5**

# Type of finishing



Paste acrylic renders:  
**weberpas deco 350**



Mineral-organo dry renders:  
**weberpas deco 355**



## **weberpas deco 310\***

*Acrylic ribbed finish coating*

**weberpas deco 310** is a ready to use acrylic ribbed finish coating with a selection of graded quartz sand and fillers

### **Benefits**

- Water resistant
- Chemical resistant
- Easy to apply



## **weberpas deco 350\***

*Acrylic textured coating sanded finish*

It is an acrylic sanded finish coating. It includes a special selection of graded quarts, sand and fillers, and special additives.

### **Benefits**

- UV resistant
- Weather resistant



## **weberpas deco 355\***

*A ready to use high performance organo-mineral based wet render*

**weberpas deco 355** is a ready-to-use high performance organo-mineral-based wet render made of acrylic dispersion for stabilisation, marble sands, high performance pigments UV stable and additives.

### **Benefits**

- Weatherproof and good water repellency
- Mineral aspect with UV resistant

\* Primer to be used **weberpas PR 300**

\*\* Primer to be used **weberpas PR 339**

# Accessories

Weber offers a complete thermal insulation system including all accessories related to provide the best system performance.



## **webertherm anc spiral**

Fasten light to medium elements permanently to the façade



## **webertherm ISO Corner**

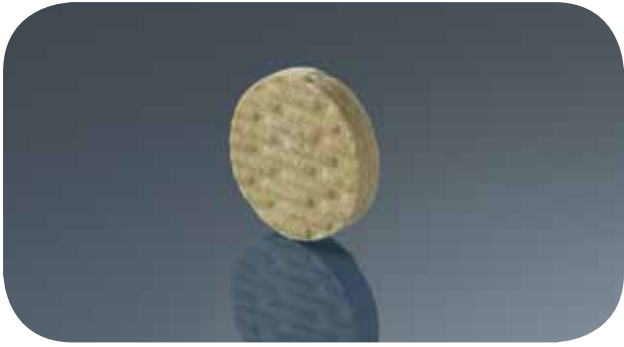
Can be integrated into the ETICS at early stage



## **webertherm washer anc**

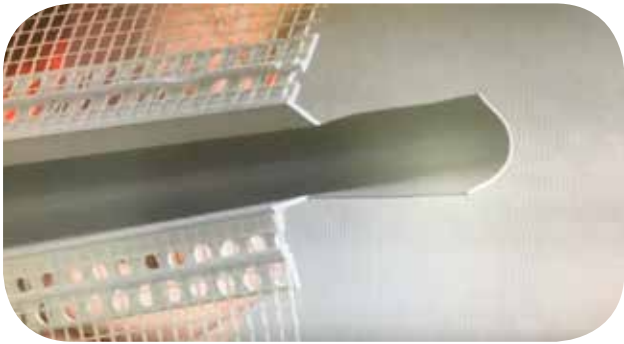
Increasing capacity to resist to high loads.





### **webertherm anc cap**

Sealing gaps while fixing anchors



### **Joint profile**



### **Mesh profile one wing**

Can be integrated into the ETICS at early stage



### **Corner mesh profile**

Around the openings

# Project References

**Four Seasons hotel - Abu Dhabi**



**Nueva carpeta - Spain**



**Bevaix - Switzerland**



**Binzmühlepark - Switzerland**

