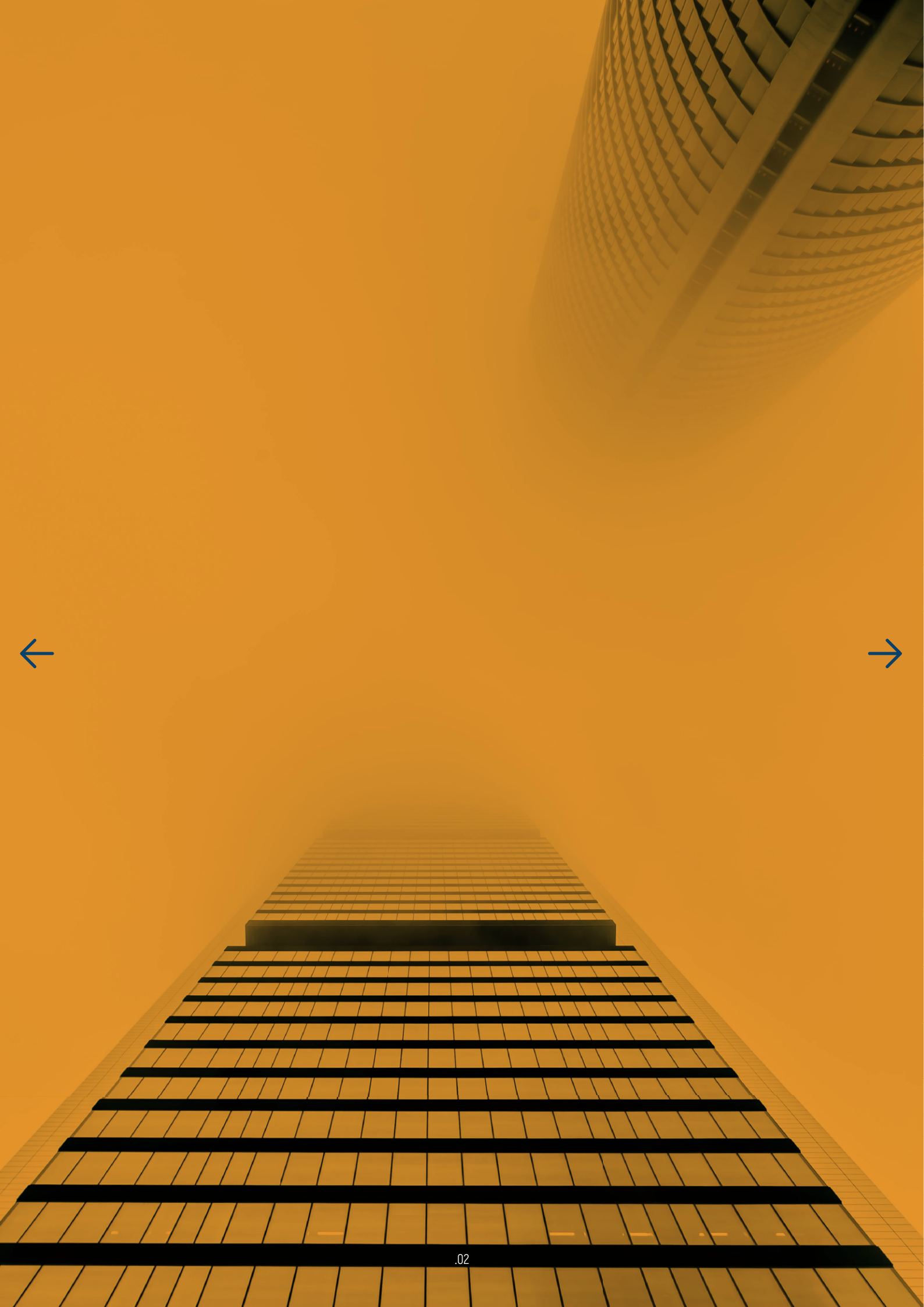
# GUIDANCE FOR CONSULTANTS/ARCHITECTS

FACADE WEATHERPROOFING - FIRE



## GUIDANCE FOR FACADE

# CONSULTANTS/ARCHITECTS

## FACADE WEATHERPROOFING - FIRE

BREATHER / AVCL SYSTEMS

### BREATHER MEMBRANE SYSTEM

**System Function**

Waterproofing vapour permeable system.

**System Location**

It should be installed on top of the external insulation (cold side) protecting the entire facade composition. However and depending on the cladding brackets complexity (size/shape) it is acceptable that breather membrane systems be fixed on the top of the sheathing board. The weatherproofing design of the breather membrane systems should be done in detail and in project by project basis.

**System Method of Installation**

**Fixing**

Double-sided adhesive/sealant tape spaced minimum @500mm (placed vertically or horizontally). Membrane mechanical fixed shortly (1 metal plate per/m2).

**Vertical Overlap 150mm**

**Horizontal Overlap 100mm**

**Perimeter sealing**

Double-sided adhesive/sealant tape (thickness > 1,50mm) applied continuously on top of the weatherproofing EPDM membranes or any other substrate always allowing the interface movement (windows frame/sheathing board; parapet wall/roofing membrane; concrete/sheathing board, etc.).

**Details**

All the nails/screw perforations < 25mm dia. should be sealed with a patch 50x50mm of double-sided adhesive tape. The facade perforations with irregular shape and over 25mm should be studied in detail case by case. All the tapes, adhesives and sealants should be applied when it is not raining and the temperature is above 5◦C. Primer is required for temperatures below < 5◦C; Care should be taken on porous surfaces such as concrete.

## AVCL (AIRTIGHT VAPOUR CONTROL LAYER) SYSTEM

### System Function

Airtight vapour barrier membrane.

### System Location

AVCL should be located on the internal face (warm side) of the back wall and fixed on top of the vertical Galvanized Steel SFS Studs. The weatherproofing design of the AVCL membrane systems should be done in detail and project by project basis.

### System Method of Installation

#### Fixing

Double-sided adhesive/sealant tape spaced minimum @500mm (placed vertically and horizontally).
Membrane mechanical fix not required.

### BREATHER & AVCL SYSTEM - FIRE PERFORMANCE

Breather and AVCL membrane systems are generally applied as facade liners (opaque areas) with severe impact on facade fire propagation – externally and internally. It should be specified noncombustibility or limited combustibility with minimum Class A2-s1, d0 on BS EN13501-1. Tapes, adhesives and sealants should be tested and certified as part of membrane system always replicating the end use.

### Vertical Overlap 150mm

### Horizontal Overlap 100mm

### Perimeter sealing

Double side adhesive/sealant tape (thickness > 1,50mm) applied continuosly on the connections of ACVL membrane edges/end laps to concrete, aluminium or any other substrate allowing always the interface movement (AVCL/Windows frame; ACVL/Concrete Slab, etc.).

### Details

All the nails/screw perforations < 25mm dia. should be sealed with a patch 50x50mm of double-sided adhesive tape. The facade perforations with irregular shape and above 25mm should be studied in detail case by case. All tapes, adhesives and sealants should be applied when it is not raining and the temperature is above 5°. Primer is required for temperatures below < 5°; Care should be taken on porous surfaces such as concrete.

## BREATHER AND AVCL SYSTEMS COMMON FAULTS

- Membrane perforations not sealed;
- Lack of compatibility tests;
- Tapes, adhesives and sealants not allowing differential movements;
- Tapes, adhesives and sealant are not tested as a complete system;
- Lack of detailing;

## BREATHER/ AVCL SYSTEM ACCESSORIES DESIGN

| Application | | BREATHER MEMBRANE SYSTEM | AVCL MEMBRANE SYSTEM |
|---|---|---|---|
| Overlaps | | ● | ● |
| Fixing | Gypsum Sheathing Board, Calcium Silicate Boards, Cement Basis or similar | ● | |
| | Concrete or similar porous surfaces | ● | ● |
| | Galvanized Studs or similar metallic smooth surface | | ● |
| | Aluminium Foil (insulation) | ● | ● |
| Perimeter Sealing | Concrete or similar porous surfaces | ● | ● |
| | Aluminium | ● | ● |
| | EPDM | ● | ● |
| | Roofing Membrane | ● | |
| | Gas Membrane | ● | |
| Nail/Screw Perforations Sealing | | ● | ● |
| Breather Membrane System | | | ● |
| AVCL Membrane System | | ● | |
| EPDM Membrane System | | ● | ● |

✓ Fully Envelope System Tested & All Compatibilities Checked

● It is necessary an accessory tested and developed for that application.
● It is necessary an accessory with elongation and with thickness above 1.0 mm.

# PRODUCT AVAILABILITY

EFFISUS

Excellence in Weatherproofing

EFFISUS
Excellence in Weatherproofing

# PRODUCT AVAILABILITY

BREATHER / AVCL SYSTEMS (FIRE & WEATHERPROOFING DESIGN)

View on the website

View on the website

### A2 FIRE ENVELOPE SYSTEM

- Effisus Breather FR membrane system
- Effisus Vapour FR membrane system
- Full range of accessories

### CERTIFICATIONS ON GOING

BBA LABC

### EFFISUS BREATHER FR SYSTEM

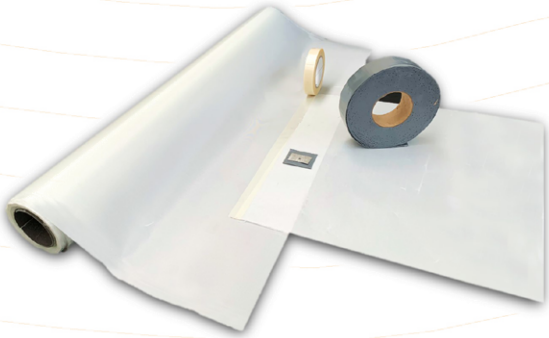
| | | |
|---|---|---|
| Reaction to fire | System | Class A (or Class 1) (ASTM E84)<br>A2-s1,d0 (EN13501-1) |
| | Membrane | Class A1 (EN 13501-1) |
| Water vapour transmission properties (sd-value) (m) | | 0.013 (EN ISO 12572) |
| Tensile Strength MD/CD (N/50mm) | | 2015 / 1725 (EN 12311-1) |
| Nail tear resistance MD/CD (N) | | 328/255 (EN 12317-2) |

CLASS A2-s1, d0

- ✓ Membrane
- ✓ Fastening Accessories
- ✓ Overlaps Accessories
- ✓ Penetrations Sealing

Tested & Approved

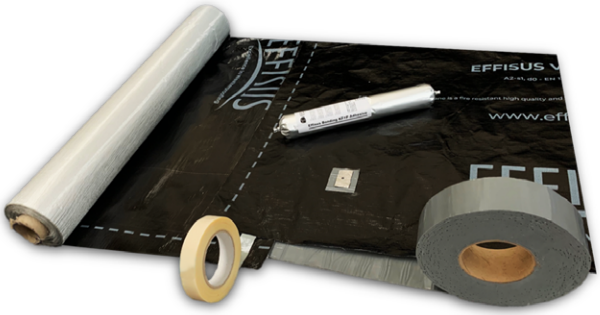
PROVEN TECHNOLOGY SINCE 2011 TESTED | APPROVED | USED



a) The fire classification was obtained with Effisus accessories (double-sided adhesive tapes) tested as a system.

## EFFISUS VAPOUR FR SYSTEM

| | | |
|---|---|---|
| Reaction to fire | System | Class A2-s1,d0 (EN 13501-1) |
| | Membrane | Class A1 (EN 13501-1) |
| Vapour resistance (MNs/g) [b] | | > 7500 (EN 1931) |
| Resistance to air penetration (m3/(h x m2 x 50 Pa) | | 0,002 (EN 12114) |
| Water penetration | | W1, passed (EN 1928) |
| Tensile Strength MD/CD (N/50mm) | | max: 890; max: 861 (EN 12311-1) |



[a] The fire classification was obtained with Effisus accessories (double-sided adhesive tapes and paste adhesive) tested as a system.

[b] Vapour resistance test result considering the vapour permeability of still air, in UK, 0.2 gm/MNS.

### CERTIFICATIONS ON GOING

BBA LABC

## EFFISUS ACCESSORIES SYSTEM

X3 SYSTEM POSSIBILITIES

### Effisus 2Bond DS Tape

**Function**
Perimeter sealing;
Sealing nail/screw perforations

**Substrates compatibility**
Concrete or similar porous surfaces; Aluminum Roofing membrane; Gas membrane

**Special notes**
Accessory with elongation and movements

### Effisus 2Adjoin DF Tape

**Function**
Fixing and overlaps membrane

**Substrates compatibility**
Galvanized Studs or similar metallic smooth surface and Gypsum Sheathing Board, Calcium Silicate Boards, Cement Basis or similar

### Effisus Bonding KF+P paste adhesive

**Function**
Perimeter sealing; Fixing and sealing nail/ screw perforations

**Substrates compatibility**
Concrete or similar porous surfaces; Aluminum

## TECHNICAL SUPPORT

- Project by project approach
- Product specifications
- Weatherproofing design
- Technical Submission
- Dedicated CPD's
- Compatibility assessment
- Site support
- Project method statement

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