# SELECTION CHART FOR SELF-EXPANDING FOAMS

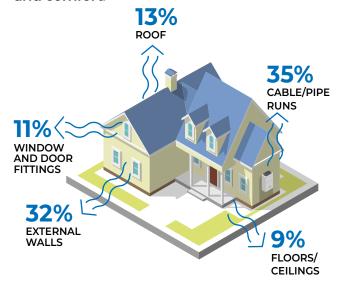






# THERMAL AND ACOUSTIC INSULATION WITH MAPEI QUALITY

Buildings are made up of different building materials and it is inevitable that gaps and breaks are left when these materials are placed alongside one another. Draughts and noise can filter through these gaps, thereby reducing the comfort of those who use or inhabit the building and the overall energy efficiency of the building. To improve the thermal and acoustic insulating capacity of a building, it is important that these gaps are reduced or eliminated by filling them with a suitable insulating product, otherwise they could become the source of thermal bridges. Self-expanding polyurethane foams are ideal for insulating buildings against heat, cold and **noise**, in that they are practical and easy to use to get rid of gaps and breaks created during construction work. Thanks to the chemical reaction that takes place when polyurethane foams come into contact with water vapour, they are free to expand and fill gaps and breaks. even in areas that would otherwise be difficult to reach. When polyurethane foam hardens, it forms a light but consistent **insulating**, adhesive mass that is easy to trim and cut to shape and which provides protection against heat, cold and noise, thus increasing our sense of wellbeing and comfort.



THERMAL DISPERSION IN A NON-INSULATED BUILDING Infrared thermography



WARM AREAS

COLD AREAS

A **25 MM** THICK HARDENED LAYER OF **MAPEPUR FOAM** HAS THE SAME INSULATING PROPERTIES AS:

40 mm of polystyrene



45 mm of mineral wool



50 mm of cork



65 mm of masonite



140 mm of wood



400 mm of limestone



850 mm of brickwork

## MAPEPUR FOAMS TO SUIT EVERY NEED

The **MapePUR** range is made up of various products formulated to meet specific requirements: adhesive foams, insulating foams, watertight foams, multi-purpose foams.

The MapePUR foam range is also conceived to suit different types of users: foams for gun application, characterised by high yield and maximum extrusion accuracy (MapePUR G series), and foams for manual application, not requiring specific extrusion tools (MapePUR M series).



MapePUR M series for manual application



MapePUR G seires for gun application



#### EI CLASS FROM 30 TO 240 (EN 13501-2)

Resistant to fire

B1 CLASS (EN DIN 4102)

Difficult to ignite, fast self-extinguishing reaction

B2 CLASS (EN DIN 4102) Normal combustibility, self-extinguishing properties

B3 CLASS (EN DIN 4102)

Easily ignited

## **FIRE** SAFETY

Polyurethane foams are often applied indoor.

This is why, in case of fire, it is important to know their resistance and reaction, in order to properly evaluate the total fire load of the environment they were applied in.

MapePUR foams are characterised by different degrees of reaction to fire (class B1, B2, B3 according to EN DIN 4102) and by different degrees of fire resistance (El class

according to EN 13501-2).

# A SPECIFIC SOLUTION **FOR EACH INSULATION** REQUIREMENT

## **MapePUR Roof Foam G Roof Foam M**

Adhesive foam for roofs and coverings







application

#### **CHARACTERISTICS**

- · bonds roof tiles
- · Low expansion, high adhesion
- Fills and insulates gaps
- · B2 class reaction to fire
- CFC free
- Maximum yield and no waste (G version)

| Thermal insulation<br>MapePUR Roof G | 0.036 W/(m K)           |
|--------------------------------------|-------------------------|
| Thermal insulation<br>MapePUR Roof M | 0.039 W/(m K)           |
| Adhesion to brickwork                | 12.5 Kg/cm <sup>2</sup> |

## **MapePUR Rooftop G**

Adhesive foam for flat roofs





#### **CHARACTERISTICS**

- Bonds insulating panels on flat roofs
- Certified resistance to wind load according to EN 16002
- Low expansion, high adhesion
- B2 class reaction to fire
- CFC free
- high yield

| Thermal insulation  | 0.036 W/(m K) |
|---------------------|---------------|
| Acoustic insulation | 58 dB         |

## **MapePUR Multi Adhesive Foam G**

Multi-purpose adhesive foam





#### **CHARACTERISTICS**

- Bonds light construction elements
- Also suitable for insulating panels
  Low expansion rate, high adhesion
- Adhesive resistance according to ETAG 004
- Easy to use, quick to apply, affordable price
- CFC free
- B2 class reaction to fire

| Thermal insulation  | 0.036 W/(m K)          |  |  |
|---------------------|------------------------|--|--|
| Acoustic insulation | 58 dB                  |  |  |
| Tensile strength    | 0.8 kg/cm <sup>2</sup> |  |  |

Due to the printing process involved, the colours shown are merely indicative.

## **MapePUR Universal Foam G Universal Foam M**

#### Multi-purpose foam







Gun application



Manual application

#### CHARACTERISTICS

- · High expansion rate
- High thermal and acoustic insulation
- · CFC free
- Maximum yield and no waste (G version)
  B3 class reaction to fire

| Thermal insulation<br>MapePUR Universal Foam G | 0.036 W/(m K) |
|--|---------------|
| Thermal insulation<br>MapePUR Universal Foam M | 0.039 W/(m K) |
| Acoustic insulation                            | 58 dB         |

## **MapePUR** All in One Foam

#### Multi-purpose foam







Gun or manual application

#### CHARACTERISTICS

- Double application mode: manual and with gun
- Ideal packaging for small and bigger applications
- B2 class reaction to fire
- CFC free

| Thermal insulation | 0.039 W/(m K) |
|--------------------|---------------|
|                    |               |

## **MapePUR** Fire Foam M

#### Fire-resistant foam





#### CHARACTERISTICS

- · High expansion rate
- Certified fire resistance up to El 240'
- B1 class reaction to fire
- · CFC free

| Thermal insulation  | 0.039 W/(m K)     |  |  |
|---------------------|-------------------|--|--|
| Acoustic insulation | 58 dB             |  |  |
| Resistance to fire  | El 90' to El 240' |  |  |

## **MapePUR 2K Adhesive**

### Adhesive assembly foam





#### **CHARACTERISTICS**

- Bonds construction elements
- Two-component foam, reacts without humidity even in small spaces
- Ultra-rapid hardening
- Low expansion, high adhesion
- · High density, high insulation and mechanical strength

| Compressive strength | 12.5 kg/cm² |  |
|----------------------|-------------|--|
| Density              | 35 kg/m³    |  |
| Thermal insulation   | 0.029 W/mK  |  |

## **MapePUR Waterstop G** MapePUR Waterstop M

#### Watertight foam











application

#### CHARACTERISTICS

Waterproofing wells and pipes

application

- Quick and easy application Filling and sealing
- Resistance to the action of water, dirt and roots
- CFC free

| Resistance to hydraulic pressure | 0.5 bar |
|----------------------------------|---------|
|----------------------------------|---------|

## **MapePUR** Cleaner

### Solvent-based cleaning solution







Gun or manual

#### CHARACTERISTICS

- Cleans and removes foam while still fresh
- · Manual application for tools and surfaces
- Gun application to clean equipment



Due to the printing process involved, the colours shown are merely indicative.



# RELIABLE PERFORMANCES, GUARANTEED RESULTS

|               |                         |                                | MapePUR<br>Universal<br>Foam M | MapePUR<br>Universal<br>Foam G   | MapePUR<br>All in One | MapePUR<br>Fire<br>Foam M | MapePUR<br>Roof<br>Foam M |
|---------------|-------------------------|--------------------------------|--------------------------------|--|-----------------------|---------------------------|---------------------------|
|               |                         | Packaging                      | 750 ml                         | 750 ml   | 750 ml                | 750 ml                    | 750 ml                    |
|               |                         | Components                     | 1                              | 1  | 1                     | 1                         | 1                         |
|               |                         | Colour                         | yellow                         | yellow   | yellow                | pink                      | grey                      |
|               |                         | Filling                        | <b>&amp;</b>                   | <b>&amp;</b>   | <b>②</b>              | <b>(2)</b>                | <b>②</b>                  |
|               |                         | Bonding                        |                                |  |                       |                           | <b>②</b>                  |
|               |                         | Waterproofing                  |                                |  |                       |                           |                           |
|               | Product characteristics | Yield in free expansion        | 45 litres (30 litres)          | 45 litres  | 38-45 litres          | 40-45 litres              | 45 litres                 |
|               | racte                   | Yield in beads                 | 20                             | 60   | 30-50                 | 30                        | 30                        |
|               | chai                    | Thermal resistance             | -40/+90°C                      | -40/+90°C  | -40/+90°C             | -40/+90°C                 | -40/+90°C                 |
|               | nct<br>nct              | Resistance to fire             |                                | 90°C -40/+90°C -40/+90°C -40/+90°C Up to EI240  3 B3 B2 B1  hours 1.5 to 5 hours 1.5 to 5 hours  7 (m·K) 0.036 W (m·K) 0.039 W (m·K) 0.039 W (m·K)  dB 58 dB 58 dB |                       |                           |                           |
|               | Prod                    | Reaction to fire               | B3                             | B3   | B2                    | B1                        | B2                        |
|               | _                       | Finishing after hardening      | 1.5 to 5 hours                 | 1.5 to 5 hours   | 1.5 to 5 hours        | 1.5 to 5 hours            | 1.5 to 5 hours            |
|               |                         | Thermal insulation             | 0.039 W (m·K)                  | 0.036 W (m·K)  | 0.039 W (m·K)         | 0.039 W (m·K)             | 0.039 W (m·K)             |
|               |                         | Acoustic insulation            | 58 dB                          | 58 dB  |                       | 58 dB                     |                           |
|               |                         | Impermeability to water        | good                           | good   | good                  | good                      | good                      |
|               |                         | density                        | 22 kg/m³                       | 17 kg/m³   | 17 kg/m³              | 24 kg/m³                  | 20 kg/m³                  |
|               |                         | Door and window frames         | <b>&amp;</b>                   | <b>&amp;</b>   | <b>&amp;</b>          | <b>(2)</b>                |                           |
|               |                         | Roller shutters                | <b>&amp;</b>                   | <b>&amp;</b>   | <b>&amp;</b>          |                           |                           |
|               |                         | attics                         |                                |  |                       | <b>@</b>                  | <b>②</b>                  |
|               |                         | Pipes passing through concrete | <b>&amp;</b>                   | <b>&amp;</b>   | <b>&amp;</b>          | <b>@</b>                  |                           |
|               | atinç                   | Thermo-hydraulic pipes         | <b>&amp;</b>                   | <b>&amp;</b>   | <b>②</b>              | <b>(2)</b>                |                           |
|               | Insulating              | Fire-break joints              |                                |  |                       | <b>@</b>                  |                           |
|               | _                       | Prefabricated elements         |                                |  |                       |                           | <b>®</b>                  |
| MPI D'IMPIEGO |                         | Wells and hydraulic pipes      |                                |  |                       |                           | <b>&amp;</b>              |
| Δ <u>Σ</u>    |                         | External thermal insulation    | <b>&amp;</b>                   | <b>&amp;</b>   |                       |                           |                           |
| <u> </u>      |                         | Gaps and breaks                | <b>&amp;</b>                   | <b>&amp;</b>   | <b>&amp;</b>          |                           | <b>②</b>                  |
| CAM           |                         | Coating elements               |                                |  |                       |                           |                           |
|               |                         | Vertical insulating sheets     |                                |  |                       |                           |                           |
|               |                         | Horizontal insulating sheets   |                                |  |                       |                           |                           |
|               | Bonding                 | Rectified brick blocks         |                                |  |                       |                           |                           |
|               | Bone                    | Electrical system              |                                |  |                       |                           |                           |
|               | _                       | Board coverings                |                                |  |                       |                           |                           |
|               |                         | Roof tiles                     |                                |  |                       |                           | <b>&amp;</b>              |
|               |                         | counterframes                  |                                |  |                       |                           |                           |



possible application

| MapePUR<br>Roof<br>Foam G | MapePUR<br>Multi Adhesive<br>Foam G | MapePUR<br>2K Adhesive | MapePUR<br>Rooftop<br>Adhesive G | MapePUR<br>Waterstop M | MapePUR<br>Waterstop G | MapePUR<br>Cleaner |
|---------------------------|-------------------------------------|------------------------|----------------------------------|------------------------|------------------------|--------------------|
| 750 ml                    | 750 ml                              | 400 ml                 | 750 ml                           | 750 ml                 | 750 ml                 | 500 ml             |
| 1                         | 1                                   | 2                      | 1                                | 1                      | 1                      | 1                  |
| grey                      | yellow                              | yellow                 | yellow                           | yellow                 | yellow                 | transparent        |
| <b>&amp;</b>              |                                     | <b>8</b>               |                                  | <u> </u>               | <b>&amp;</b>           |                    |
| <b>&amp;</b>              | <b>@</b>                            | <b>8</b>               | <b>@</b>                         |                        |                        |                    |
|                           |                                     | <b>8</b>               |                                  | <b>&amp;</b>           | <b>&amp;</b>           |                    |
| 45 litres                 | 10-12 m²<br>(insulating panels)     | 14 litres              | 8-12 m²<br>(insulating panels)   | 40 litres              | 45 litres              |                    |
| 60                        | 70                                  |                        | 70                               | 25                     | 50                     |                    |
| -40/+90°C                 | -40/+90°C                           | -30/+80°C              | -40/+90°C                        | -40/+90°C              | -40/+90°C              |                    |
|                           |                                     |                        |                                  |                        |                        |                    |
| B2                        | B2                                  | B2                     | B2                               | В3                     | B3                     |                    |
| 1.5 to 5 hours            | 1.5 to 5 hours                      | 1.5 to 5 hours         | 1.5 to 5 hours                   | 1.5 to 5 hours         | 1.5 to 5 hours         | 1.5 to 5 hours     |
| 0.036 W (m·K)             | 0.036 W (m·K)                       |                        | 0.038 W (m·K)                    |                        |                        |                    |
|                           |                                     |                        |                                  |                        |                        |                    |
| good                      | good                                | good                   | good                             | excellent              | excellent              |                    |
| 19 kg/m³                  | 17 kg/m³                            | 35 kg/m³               | 14 kg/m³                         | 22 kg/m³               | 22 kg/m³               |                    |
| <del>_</del>              | _                                   |                        | -                                |                        | _                      |                    |
|                           |                                     |                        |                                  |                        |                        |                    |
| <b>8</b>                  |                                     |                        |                                  |                        |                        |                    |
|                           |                                     |                        |                                  | <u> </u>               | <b>&amp;</b>           |                    |
|                           |                                     |                        |                                  |                        |                        |                    |
|                           |                                     |                        |                                  |                        |                        |                    |
| <b>&amp;</b>              | <b>®</b>                            |                        |                                  | <u> </u>               | <b>&amp;</b>           |                    |
| <u> </u>                  | <b>&amp;</b>                        |                        |                                  | <u> </u>               | <u>@</u>               |                    |
|                           |                                     |                        |                                  |                        |                        |                    |
| <b>(2)</b>                |                                     |                        |                                  |                        |                        |                    |
|                           | <b>&amp;</b>                        | <u>@</u>               | <b>3</b>                         |                        |                        |                    |
|                           | <b>®</b>                            |                        | <b>3</b>                         |                        |                        |                    |
|                           | <u>&amp;</u>                        |                        | <b>&amp;</b>                     |                        |                        |                    |
|                           | <u>@</u>                            |                        |                                  |                        |                        |                    |
|                           | <b>®</b>                            | <b>®</b>               |                                  |                        |                        |                    |
|                           |                                     |                        |                                  |                        |                        |                    |
| <u></u>                   | <b>@</b>                            | <u> </u>               |                                  |                        |                        |                    |
| <u> </u>                  |                                     |                        |                                  |                        |                        |                    |
|                           | <b>②</b>                            | <b>@</b>               |                                  |                        |                        |                    |

# FOR A MORE PRACTICAL USE

## MapePUR Dispenser M

Spare nozzles for MapePUR M series (hand-held spray cans).



## MapePUR Easy Spray

Reusable ergonomic grip for MapePUR M series (hand-held spray cans), to improve extrusion accuracy and ease application.



# MapePUR Gun Standard

Extrusion gun for MapePUR G series (gun extrusion spray cans).



# MapePUR Gun Special

Pro-grade high-precision extrusion gun for MapePUR G series (gun extrusion spray cans).



## **APPLICATION PROCEDURE** OF **FOAMS**



## **Manual application**

**Before use** store the product right way up in a covered area and at recommended temperatures



Hold the can upside down and shake for 30 seconds



02.

Screw the nozzle



Dampen



04.

Start extruding from the **lowest** and deepest **point** 



05.

Fill 2/3 of the total volume



Clean the head of the can and the extrusion straw with MapePUR Cleaner



Store the can **right side up** for future applications



08.

Let the foam expand



Cut off excess foam





## **Gun application**

**Before use** store the product right way up in a covered area and at recommended temperatures



01.

Hold the can upside down and **shake** for 30 seconds



Screw the gun to the can



Open the gun



04.

Dampen the surfaces



Start extruding from the **lowest** and deepest **point** 



06.

Fill 2/3 of the total volume



07.

**Unscrew** 



Clean the head of the can and the internal circuit of the gun with MapePUR Cleaner



Store the can **right side up** for future applications



Let the foam expand



Cut off excess foam



Paint or smooth the surfaces (if in exterior)



Paint or smooth the surfaces (if in exterior)



Use the necessary SPD



Use the necessary SPD



# EVERYTHING'S **OK**, WITH **MAPEI**

HEAD OFFICE MAPEI SpA Via Cafiero, 22 20158 Milan +39-02-37673.1 mapei.com mapei@mapei.it

