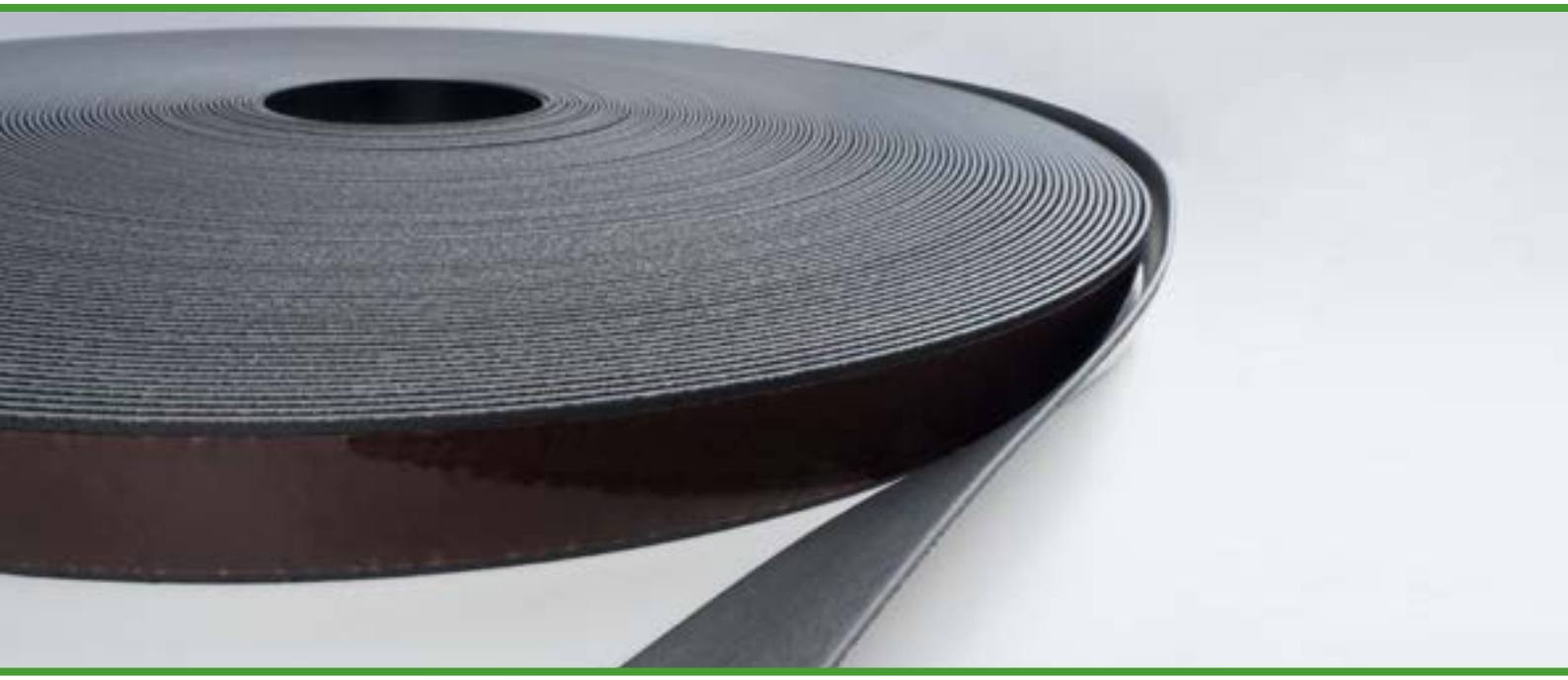
MARVON
DOMINIAMO IL FUOCO

GROUP SILMAR



TECNOFLAME

Technical information

Marvon's TECNOFLAME intumescent seals are an essential complementary accessory for the construction of high performing fire-stop doors.

The main characteristic of the TECNOFLAME is to significantly expand the initial volume in the event of fire, producing a stable foam that creates a containment barrier for fire and smokes.

Application field

- Metal fire-stop door.
- Woodenfire-stop door.
- Fire hatches.
- Safety cabinets.
- Safes.
- Elevators.
- Fire structures for doors.
- Cut-off fire dampers.
- Fire stop collars.
- Marine application.
- Railway application.
- Curtain walls.
- Sandwich panels.

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Feature

- Supplied with or without double-sided adhesive for an easy application. Base colour anthracite.
- WOOD line with mechanical insert for wooden doors.
- Wide width / thickness range for different application fields.
- Wide range of sizes and profiles with high application possibilities.
- Available in the coloured co-extruded version which, with the same thermo-expanding properties, improves the aesthetic appearance.
- Supplied in custom bars, rolls and coils according to the customer's production requirements.
- The inside of the seal can be marked with water-based ink upon request.
- Complete product traceability.

Technical data

Width tolerance	0.3 mm
Thickness tolerance	10%
Ratio between initial cold volume and maximum expansion volume	5.7÷8.5
Expansion index	1:10
Expansion temperature	180°C
Average expansion pressure	0.20÷1.30 N/mm²
Fire response	E class
Absolute resistance to water and atmospheric agents	Yes
Self-extinguishing features	B2 according to DIN 4102
Support material	PVC resin
Expanding material	27% mineral graphite
Terms of use	Type Z_1: Intended for use in indoor conditions with high humidity, excluding temperatures below 0°C.

Test	Ref.	Report n°	Value
Content of non-volatile substances (3 h - 105°C)	Z-19.11-1533	902 0554 016/Ü-1	99.8%
Weight loss (45 min - 350°C)	Z-19.11-1533	III 45-8.11.04-22/15	54÷64%
Expansion ratio with applied weight 100 g (30 min - 450°C)	Z-19.11-1533	III 45-8.11.04-22/15	5.7÷8%
Expansion pressure	Z-19.11-1533	III 45-8.11.04-22/15	0.2÷1.3 N/mm²
Thermal conductivity	DIN EN 12667	903 3079 000/B-1	0.194 Wm-1K-1

Paint compatibility

It is recommended to use vinyl based paints or inks. However, you can use other types of paint if they do not include Cyclohexanone or Methyl ethyl ketone that could damage the seal surface as well as its expansion properties and in the case of double-sided tape, cause it to detach. We recommend contacting our technical office to verify compatibility in the event of changes in materials during the production phase.

Certifications

- Deutsches Institut für Bautechnik: Zulassungsnummer Z-19.11.1533.

MPA Stuttgart No. 0672 performed test according to EN ISO 11 925-2 for fire-reaction class in compliance with EN 13501-1 and released the following report:

- Report No. 903 0294 000-2.
- European Technical Assessment ETA 15-0350.

Material safety data

Information on composition

Thermoplastic product is a based polyvinyl chloride (PVC) compound with the inclusion, added in the plastic material, of some dangerous elements: antimony trioxide (1-5%) and chlorinated paraffin (5-9%).

Possible hazards

There is no chemical or physical risk with Marvon's Tecnoflame, not for nature neither for health.

Dangerous components are included in the plastic material not causing any problems during delivery and use. Seals are slightly flammable and self-extinguishing.

At the temperature of 200°C seal starts decomposing itself and it could produce some smokes or gas containing mainly HCl (hydrochloric acid), CO (carbon monoxide), CO_2 (carbon dioxide) which might cause irritation to eyes and respiratory tract.

Personal protective equipment

- Compulsory workwear.
- Compulsory protective gloves for hot material.
- Compulsory respiratory and eye protection due to dust and fumes formation.

Ecological information

Do not discharge product into the environment.

Disposal consideration

Dispose by means in accordance with local regulation.

Other informations

All informations reported here are referred to our current know-how. Please read the instructions carefully before using these appliances. Recipient must assume every responsibility according to the existent legislations and standards. Marvon's TECNOFLAME seals are not a subject to European Regulation (EU) 2020/1149 concerning restrictions on the use of diisocyanates.

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Application instructions

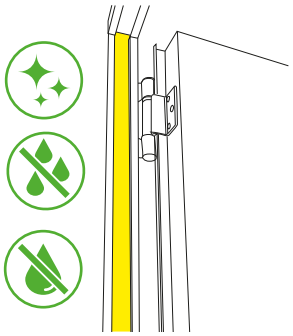
STEP 1/8

Application temperature.
The optimal gasket application temperature is between +18°C and +35°C.
If the gasket application is realized at higher temperature the adhesion will be reduced.

+18°C ÷ +25°C

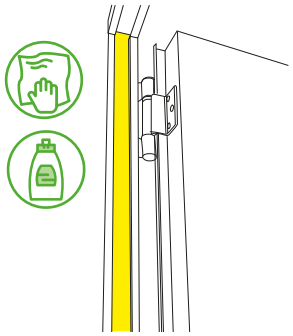
STEP 2/8

Surfaces.
The surfaces of the materials on which the adhesive seal is to be placed must be perfectly clean and dry.
Moisture condensation (which can occur when transferring cold objects inside a warm environment) must be absolutely avoided on the surfaces to be adhered.
The materials to be adhered must be free of dust, oils and release agents.
Detaching layers of paint or previous protective coatings should also be removed, or alternatively made stable.



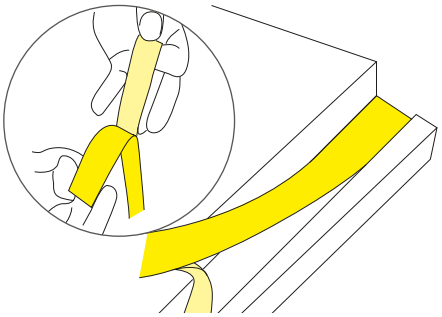
STEP 3/8

Cleanup.
To clean the surfaces only use clean clothes and compatible solvents with the interested material, such as gas, alcohols, esters or ketones.



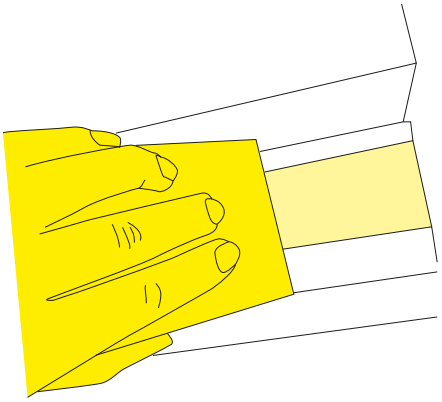
STEP 4/8

Application.
Detach the adhesive protective Liner with gloves or cleaned hands, without touching the adhesive, to avoid the alteration of the performances of the adhesive itself.
Start laying down the gasket on the surface to be sticked, paying always attention to not attach the bi-adhesive with dust or dirty hands or gloves when removing the liner.



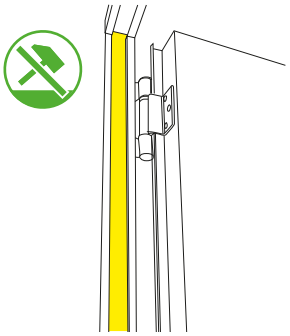
STEP 5/8

Exercise pressure.
To optimize the adhesion is necessary to exert an homogenous pressure of about 10-15 N/cm^2 on the whole surface, using, where it is possible, a roller or a plate.



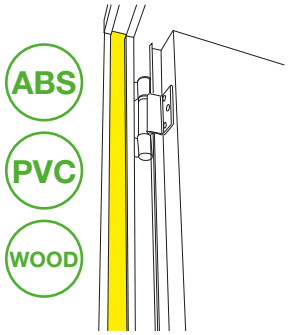
STEP 6/8

Loads.
Avoid applying useless loads.
The joints between the surfaces to be bonded must be realized in such a way to not determine the development of any leverage effect (flaking stresses).
Any shear or tensile stress should be spread on the overall adhesive surface.
Continuous peeling stresses compromise the permanent elasticity of the adhesive connection (for example, labels to be applied to curved surfaces must be adequately preformed).
Avoid any stresses near the ends of the materials that must adhere.



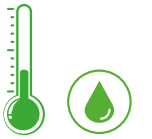
STEP 7/8

Surface characteristics.
To have a good adhesive bond, smooth surfaces are required.
Below are examples of materials on which adhesion presents no problems: metals, high-energy plastics (ABS, polycarbonate, rigid PVC), smooth wood, stone and glass.
Plastic materials containing plasticizers require particular attention.
The plasticizer can cause alterations to the adhesive layer, consequently compromising the strength of the adhesive union.



STEP 8/8

Storage.
Our seals should be stored at room temperature and normal humidity conditions of 50% to 70%.



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