PENOSIL

TECHNICAL DATA SHEET

PENOSIL 2K Fire Rated Foam 282

Fire-rated two-component straw foam

Quick-curing two component strawfoam for sealing of joints in fire rated walls, installation of fire-proof doors and windows and other filling and sealing works in places which have heightened requirements concerning building materials reaction to fire properties. Particularly well suited for filling areas that are difficult to access, require mechanical strength or fast curing speed. Does not require air humidity for curing. Adheres well to most materials like wood, concrete, stone, plaster, metal, PVC and polystyrene.

Main benefits

- Fire rated up to 240 minutes
- Fire class B1 (DIN)
- Quick curing time
- High mechanical strength
- Very good adhesion properties
- No shrinkage
- High thermal and acoustic insulation value
- No need for additional moistening

Fields of application

- Sealing of joints in fire rated walls
- Installation of fire-proof doors and windows
- Filling and sealing works in places which have heightened requirements concerning building materials reaction to fire properties
- Filling areas that are difficult to access or require mechanical strength

Colour

Pink.

Package

650 ml aerosol can, content 400 ml, 12 pcs in a box.

Storage conditions and shelf life

Guaranteed shelf life is 12 months from production date if stored in an unopened packaging in a cool and dry place at +5 °C to +30 °C. Do not expose to temperature over +50 °C, do not keep near heat sources or in direct sunlight. Store and transport in vertical position. Secure cans before transport.

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Technical classifications and certificates

- EMICODE® EC 1 Plus - very low emission
- M1 - low emission & odour
- French VOC class A+

Technical data

Properties	Value	Unit
Tack free time (EN 17333-3)	8...10	min
Cutting time (30 mm bead, EN 17333-3)	15	min
Fully cured in joint, 3x5 cm (+23 °C)	<2	h
Curing pressure (EN 17333-2, dry surfaces)	<11	kPa
Post expansion (EN 17333-2)	<100	%
Density in joint, 3x10 cm (WGM106)	34...37	kg/m³
Dimensional stability (EN 17333-2, moistened surfaces)	<1	%
Temperature resistance of cured foam	-50...+90	°C
Fire resistance class (EN 13501-2)	EI30...EI240	
Reaction to fire classification (EN 13501-1)	E	
Fire class of cured foam (DIN 4102-1)	B1	
Tensile strength / elongation (EN 17333-4, dry surfaces)	>275/14	kPa / %
Compression strength (EN 17333-4, dry surfaces)	>90	kPa
Shear strength (EN 17333-4, dry surfaces)	>120	kPa
Thermal conductivity (EN 12667, EN 17333-5)	0,026	W/(m·K)
Sound reduction index Rst,w (EN ISO 10140)	63	dB
Water vapour permeability (EN 12086)	0,004	mg/(m·h·Pa)

The values specified were obtained at +23 °C and 50% relative humidity, unless otherwise specified. These values may vary depending on environmental factors such as temperature, moisture and type of substrates.

Application instructions

Application conditions

Air temperature during use: +10 °C to +30 °C. Make sure the ambient temperature stays within this range until the foam has fully cured.
Can temperature during application: +15 °C to +25 °C, best results at +20 °C.

Surface preparation

Remove dust, loose particles and oil stains from the surfaces. Protect adjacent surfaces with paper, plastic film or other suitable material. If needed add additional shield outside for weather protection (against rain, wind, etc.).

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Application method

Before use, remove the protective cap from the valve and turn the straw applicator onto it. Turn the actuator propeller on the bottom of the cylinder at least 6 times in the direction of the arrow to activate the internal cylinder. Then shake the can vigorously at least 30 times in order for components A and B to mix properly. If the can is cold, shake more. Foam quality depends on the result of shaking. Immediately turn the can upside down and begin applying foam, or else the temperature inside the can may rise over +50 °C and result in the risk of explosion. After turning the propeller, you have approximately 5 minutes to use the foam; after that, any foam left inside the canister will cure. Hold the can upside down and adjust the foam output by pressing the trigger. Foam should be evenly pink color. If it is not, shake the canister again and continue to apply the foam.
Fill the gap only partially, since the foam will expand. Gaps of any size may be filled, since the foam does not require air humidity to cure. There are no constraints on the volume or diameter of joints or gaps. Excess foam can be cut after it has fully cured.

Fire resistance tested according to EN 1366-4 and rated according to EN 13501-2:

Fire Resistance Classification	EI 60-V-X-F-W10	Joint depth 100 mm and over
	EI 45-V-X-F-W20	Joint depth 100 mm and over
	EI 30-V-X-F-W30	Joint depth 100 mm and over
	EI 30-V-X-F-W40	Joint depth 100 mm and over
	EI 45-T-X-F-W15	Joint depth 100 mm and over
	EI 45-T-X-F-W30	Joint depth 100 mm and over
	EI 240-V-X-F-W10	Joint depth 200 mm and over
	EI 240-V-X-F-W20	Joint depth 200 mm and over
	EI 120-V-X-F-W30	Joint depth 200 mm and over
	EI 90-V-X-F-W40	Joint depth 200 mm and over
	EI 180-T-X-F-W15	Joint depth 200 mm and over
	EI 180-T-X-F-W30	Joint depth 200 mm and over

V - vertical joint
T - horizontal joint

This classification is valid for the following end use applications:

- The foam shall be used as fire resistant joint seal in joints of concrete, block work and masonry vertical separating elements with density of 450 kg/m^3 or greater and thickness of 100 mm and over.
- Linear joints shall have vertical or horizontal orientation and shall be filled throughout. Joint seal shall be fitted flush with the surface of the supporting construction and protected with steel sheet, thickness at least 0,6 mm.
- The decrease of joint width is permitted.
- Movement capability ±7,5% is permitted.

Cleaning

Use PENOSIL Foam Cleaner to clean tools and surfaces from uncured foam. Hands and clothes can also be cleaned from uncured foam with PENOSIL Cleaning Wipes. Remove cured foam mechanically after softening with PENOSIL Foam Remover.

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Limitations

- Once the two component curing system has been activated, heat is released; for this reason, the content of the can needs to be used within 5 minutes. If the can is not emptied completely or if its temperature exceeds +25 °C before activation, there is a risk of explosion of the can
- PU foam lacks adhesion to Teflon, polyethylene and silicone surfaces.
- Cured foam is sensitive to UV-light and direct sunlight and therefore must be covered with suitable opaque sealant, filler, paint or other material. Do not cover before foam has fully cured.
- Please observe the expiration date!

Safety regulations

Pressurized canister. Use only in well-ventilated areas. Do not smoke during application! Use protective gear when necessary. Keep out of the reach of children.
See label and safety data sheet (SDS) for more information.

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