

PERLIFOC HP



Fireproof mortar for the passive fire protection of steel, concrete, concrete sheet composite slab structural elements, fire compartmentation and firestop strips.

Fire resistance of up to 4 hours depending on the construction system.

MAIN ADVANTAGES:

- High fire performance
- Saving on transport costs
- Single coat application
- High adhesion



SPECIFICATIONS

Generic Type Gypsum-based fireproof mortar with thermal insulation properties for passive fire protection.

Characteristics

- Formulation with light high performance fillers.
- Non-combustible.
- Low thermal conductivity compared with gypsum-based mortars on the market.
- Asbestos-free – Complies with regulations 2003/18/EC and RD 396/2006.
- Good adhesion on different substrates.
- Light and low abrasion with the use of spraying equipment. Saving on consumables.
- Low protection thicknesses. Saving on transport and labour.
- Wide range of fire solutions.

Colour Antique white

Finish Rough. Can be smoothed.

Primer PERLIFOC HP can be applied on bare steel and on primed steel, and it is compatible with different primer families as stated on its CE marking. For application on other substrates such as galvanised steel, concrete and masonry, no prior priming or bonding bridge is required. Contact the Perlita y Vermiculita SLU technical service for further information. PERLIFOC HP does not promote or prevent corrosion.

Protection thickness Maximum thickness per coat of 30 mm.

Limitations It is not designed for exteriors beyond the normal construction phases and timescales. It must not be exposed to the rain or water leakage. It is not recommended as a refractory mortar or where normal operating temperatures exceed 90°C.

Topcoats Generally not necessary. In highly corrosive atmospheres, consult the Perlita y Vermiculita SLU Technical Service for the selection of the most appropriate coating for the work environment.

TECHNICAL SPECIFICATIONS

Apparent density	350 ± 15% kg/m ³
Hardened density	550 ± 15% kg/m ³ (CONTINUOUS machine) ¹
Performance	4.1 ± 15% kg/m ² /cm (CONTINUOUS machine) ¹
Adhesion	≥ 0.1 MPa (In accordance with EGOLF SM/5)
Resistance to compression	≥ 0.2 MPa (In accordance with EN 1015-11)
Flexural strength	≥ 0.2 MPa (In accordance with EN 1015-11)
Reaction to fire	A1 (In accordance with EN 13501-1)
Thermal conductivity	0.087 W/m.K (UNE-EN 12667:2002)
Sound absorption	α _w =0.2 (In accordance with UNE-EN-ISO 354 and 20 mm thickness)
VOC emission	<0.035 mg/m ³ (In accordance with EN 16516)
Asbestos	Does not contain

¹ Average value obtained under laboratory conditions.

TESTS/CERTIFICATIONS

Fire resistance in accordance with EN standards carried out in accredited laboratories:

Protection of metal structures (EN 13381-4)

Open beams and columns and tubular profiles up to R240

Protection of concrete structures (EN 13381-3)

Beams, columns, solid slabs, walls and floor slabs up to REI 240

Protection of concrete steel composite slabs (EN 13381-5)

Protection of composite slabs up to REI 180

Non-load bearing walls (EN 1364-1)

Vertical compartmentation wall with EI 120 rating

Firestop strips (in accordance with Ministry of Industry protocol)

Anchored to purlin system, EI 180

Reaction to fire in accordance with EN standards carried out in accredited laboratories:

Reaction to fire (classified in accordance with EN 13501-1)

Classification A1

Fire resistance and reaction to fire


SUSTAINABILITY

Products **certified as “Indoor Air Comfort GOLD – the top level”** are in the best, i.e. the lowest, emissions class, and are the best as regards air quality. Additional product emission compliance with the ecological labels and similar specifications of the EU, as well as the sustainable building certifications. For more information: www.eurofins.com



Indoor Air Quality (AIQ) Certification Indoor Air Comfort GOLD

Evaluation of the Results

Regulation or Protocol	Conclusion	Version of regulation or Protocol
French VOC Regulation		Regulation of March and May 2011 (DEVL1101903D and DEVL1104875A)
French CMR components	Pass	Regulation of March and May 2011 (DEVL1101903D and DEVL1104875A)
Italian CAM Edilizia	Pass	Decree 11 October 2017 (GU n. 259 del 6-11-2017)
AgBB/ABG	Pass	Anforderungen an bauliche Anlagen bezüglich des Gesundheitsschutzes, ABC May 2019, AgBB August 2018
Belgian Regulation	Pass	Royal decree of May 2014 (C-2014/24239)
EMICODE	EC 1 PLUS	April 2020
Indoor Air Comfort	Pass	Indoor Air Comfort 7,0 of May 2020
Indoor Air Comfort GOLDS	Pass	Indoor Air Comfort GOLD 7,0 of May 2020
Blue Angel (DE-UZ 113)	Fail	DE-UZ 113 for “Low Emission Floor Covering, Adhesives and other Installation Materials” (Version January 2019)
BREEAM International	Exemplary Level	BREEAM International New Construction v2,0 (2016)
BREEAM NOR	Pass	BREEAM-NOR New Construction v1,2 (2019)



The Environmental Product Declarations (EPD) provide quantitative information of the environmental impacts of a product throughout its life-cycle. For more information: www.csostenible.net



Leadership in Energy and Environmental Design (LEED) is an evaluation system and international standard developed in the U.S. Green Building Council, for promoting the development of buildings based on sustainable and high-efficiency criteria. For more information: www.product-testing.eurofins.com



Green Building Council España, or the Council for sustainable building in Spain, is the main sustainable building organisation in Spain. The aim is to facilitate environmental information on construction products and systems, in order to demonstrate their environmental, social and economic benefits. For more information: <https://gbce.es>

SUBSTRATES AND SURFACE PREPARATION

General	Before application, all the substrates must be clean and free of loose particles, dirt, oil, grease, condensation or any other substance that may affect the adhesion. Contact the Perlita y Vermiculita SLU technical service for further information.
Galvanised Steel	PERLIFOC HP can be directly applied to galvanised steel without the need for priming or an adhesion promoter. Ensure that the substrate is clean, free from loose particles, dirt, grease, condensation or salts that could affect adhesion. Contact the Perlita y Vermiculita SLU technical service for further information.
Concrete/ceramic structures	PERLIFOC HP can be directly applied to concrete without the need for priming or an adhesion promoter. Ensure that the substrate is clean, free from loose particles, decorative paints, dirt, grease or condensation that could affect adhesion. If there are doubts about the condition of the substrate or it has an old coating, the use of a metal mesh prior to application of the mortar is recommended. Contact the Perlita y Vermiculita SLU technical service for further information.
Primed/bare metal structure	If the steel structure is not primed, it must be cleaned using an abrasive material to an Sa 2 ½ grade of cleanliness, in accordance with ISO 8501 or equivalent. If it is primed, this must be clean, free from loose particles, dirt, grease or condensation that could affect adhesion. Furthermore, it must be ensured that the existing primer is compatible with the PERLIFOC HP mortar, in accordance with its CE marking. Mesh is never required, although its use is recommended on beam flanges wider than 500 mm, on columns with only one sprayed face and profiles that are subject to high deformation. Contact the Perlita y Vermiculita SLU technical service for further information.

MIXING

Machine



1. CONTINUOUS.

Use a gypsum mortar mixer or similar with a capacity of at least 25 litres/min. Contact the Perlita y Vermiculita SLU Technical Service for recommendations.

Mixing

Always mix with clean drinking water. The mixer should be kept clean and free from any previously mixed material which could cause premature setting of the product. Adjusting the feed water supply is recommended for flow rates that vary between 550 and 650 l/hour on continuous machines (which approximately corresponds to a range of 15-17 litres of water for each bag of product). The flow rate regulation may be different to that indicated, depending on the substrate on which it is applied, the weather conditions, the height and distance to the substrate and, above all, the experience and expertise of the applicator.

Usage Time

1 hour at 20°C, the higher the temperature the shorter the usage time. These times are for guidance and can vary depending on the ambient humidity and air currents. The useful life of the material ends when it hardens and becomes unusable.

Density

To obtain information and recommendations on how to obtain adequate density and performance, contact the Perlita y Vermiculita SLU sales or technical department.

APPLICATION EQUIPMENT CHARACTERISTICS

The general guidelines for this mortar's application equipment are set out below. The conditions of the working location may require modifications to these guidelines in order to achieve the desired results.

Pump	This material may be pumped with a wide range of piston, rotor, stator and compressor pumps designed for pumping cement and plaster materials, including: Putzmeister – model # MP25 PFT – model # G4 Smart Essick – model # FM9/FM5E Hy-Flex – model # HZ-30E
Ball valve	Ball valves must be fitted on at least one end of the spray hose to facilitate cleaning.
Hose	Use a flexible spray hose of between 5 and 10 m in length and at least 25 mm inner diameter. Working pressure at least 30 bar.
Spray lance	Maximum length of 600 mm and minimum inner diameter of 25 mm. With material shut-off ball valve and air shut-off valve.
Nozzle	From 10 to 16 mm depending on the desired finish.
Compressor	The pump compressor must be capable of maintaining a minimum of 2 bar (30 psi) and from 250 to 300 l/min at the nozzle.
Air line	Use a line with an inner diameter of 16mm. Hose with a minimum burst pressure of 7 bar (100 psi).

APPLICATION PROCEDURE

General	Thicknesses of 30 mm or less can be applied in one pass. When additional coats are required to reach the specified thickness, it is recommended to apply the subsequent coats once the previous coat has started to set. If the previous coat has set and is dry, wet the surface with water before applying additional coats. Contact the Perlita y Vermiculita SLU technical service if further information is required.
Finish	Normally the finish is a sprayed texture.

APPLICATION CONDITIONS

CONDITION	MATERIAL	SUBSTRATE	ENVIRONMENT	HUMIDITY
Minimum	5°C	5°C	5°C	0%
Maximum	38°C	52°C	43°C	90%

The air and ambient temperatures must be maintained 24 hours before, during and 24 hours after application. Gypsum-based mortars are sensitive to water and therefore must be adequately protected. For additional recommendations, contact the Perlita y Vermiculita SLU technical department.

CURING TIME

General

25°C

New coat application time

2 hours

The new coat application times are for guidance and could vary depending on the ambient conditions and air currents. In enclosed areas with little ventilation (basements, confined spaces, etc.), for the mortar to dry properly, it is recommended that the RH does not exceed 60% and there is adequate ventilation, which means at least 4 complete air exchanges per hour until the material is dry (or for at least 2 weeks after the end of application).

CLEANLINESS AND SAFETY

Cleaning

The case, mixer and hoses should be cleaned with drinking water. Pass sponges or plenty of water through the hoses to remove any material residue that remains in them. Excess wet sprayed mortar should be cleaned with clean drinking water. Dry sprayed mortar may require scraping off to remove it.

Safety

Follow all the safety precautions described in the safety data sheet for the mortar. The use of personal protective equipment is recommended, including overalls, gloves and eye protection.

Excess

Adjacent surfaces should be protected against damage and splashing. Sprayed fireproof materials can be difficult to remove from surfaces and can damage architectural finishes.

Ventilation

In enclosed areas, ventilation must be no less than 4 complete air exchanges per hour until the material is dry.

PACKAGING, HANDLING AND STORAGE

Expiry

12 months

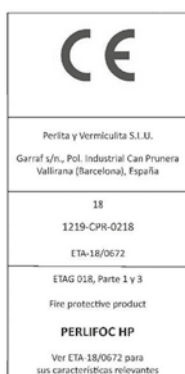
Packaging (approx)

17 kg/bag (42 bags/pallet)

Storage

Store indoors and in dry environments between 0°C and 50°C. The material must be kept dry or may become lumpy.

Marking



WARRANTY

To the best of our knowledge, the technical data contained in this document is true and accurate at the time of publication and may be subject to change without prior notice. The user must contact Perlita y Vermiculita SLU to verify the accuracy before specifying and ordering. No guarantee of accuracy is given or assumed. We guarantee that our products comply with Perlita y Vermiculita SLU's quality control. We take no responsibility for the protection, performance, injury or damage resulting from its use. Perlita y Vermiculita SLU's only obligation, where applicable, is to replace or refund the purchase price of the Perlita y Vermiculita products shown to be defective. Perlita y Vermiculita SLU will not be responsible for any loss or damage. PERLITA Y VERMICULITA SLU DOES NOT OFFER ANY OTHER WARRANTY OF ANY TYPE, EXPRESS OR IMPLICIT, STATUTORY, BY APPLICATION OF THE LAW, OR OTHERWISE, INCLUDING MARKETABILITY AND SUITABILITY FOR A PARTICULAR PURPOSE. All the commercial brands previously mentioned are the property of Perlita y Vermiculita SLU, unless stated otherwise.

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