



PRODUCT DESCRIPTION

iPASSIVE EX Mortar is a dry white powder consisting of inorganic compounds and perlite designed to stop the spread of smoke and fire along services that pass through walls and floors and will provide an unsupported load bearing capacity. When mixed with water, the compounds form a highly thermally insulating fire sealing compound while also maintaining the acoustic design performance in walls and floors.

iPASSIVE EX Mortar expands approximately 1% by hydraulic action during curing ensuring a very tight seal around the service penetrations and the surrounding opening apertures. The compound dries to an off-white colour which may be painted and is easy to sand or drill.

FEATURES

- Up to 4hrs FRR (derived when the seal has been left to cure for 1 month)
- Suitable for cables, bundled cables, cable racks, cable trays, steel, copper, alupex, plastic pipes and air ventilation ducts
- Classified in walls and floors of concrete, brick, gypsum
- Simple to apply leaving a very smooth finish
- High degree of mechanical resistance; the seal is load bearing without reinforcement
- No priming necessary prior to application in most building material substrates however metal services in contact with the seal must be corrosion protected
- Suitable for most surfaces, included concrete, bricks, Leca, steel, plastic etc, but not suitable to fitting of doors or in-service openings that involve movement
- Fully set within 1 hour
- Nearly unlimited storage time

SOUND INSULATION

Description	Sound reduction
Single sided cast \geq 50 mm on stone wool board	64 dB
Single sided cast \geq 100 mm without board	64 dB
Double sided cast \geq 25 mm on stone wool board	64 dB
Double sided cast \geq 50 mm without board	64 dB

iPASSIVE EX Mortar has been tested at BM Trada (UKAS accredited).

TECHNICAL INFORMATION

Condition	Powder ready for mixing with water
Product consumption at 2:1 mix	Approx. 3.42 bags per m ² @ 50mm depth Approx. 6.83 bags per m ² @ 100mm depth
Dry density	About 900 kg/m ³ after full cure
Flash point	None
Reaction to fire	Class A1 according to EN 13501-1
Hardened	Less than 1 hour depending on the local climate
Totally hardened	Up to 30 days depending on thickness and temp.
Flexibility	None
Durability/service	Class Z2
Thermal conduct.	0.051 W/mK
Working life	30 years
Storage	No limit for unopened bags in dry places with storage temperatures between 5°C and 30°C
Compatibility	Suitable for use with most materials, but should not be used in direct contact with metals that may corrode
Limitations	Should not be used in permanently damp areas or in moving joints
Classification	Fire seal for fire rated openings and penetrations up to -/240/240
Colour	Off white
Packaging	Bags of 20 litres Pails of 10 litres Bags: 63 on the pallet, equals approx. 800 kg Pails: 72 on the pallet, equals approx. 500 kg

TESTED STANDARD

Tested and assessed in accordance with AS 1530.4 and AS 4072.1.

LOAD BEARING PROPERTIES (FLOORS)

iPASSIVE EX Mortar has been subject to concentrated load and impact tests in floors according to ETAG 026-2 and EOTA TRO01 Clause 2.

The tests were conducted on the minimum allowed cast depth of 100mm.

According to the loading limits in the table below, reinforcement is not necessary, however it is highly recommended that the edges of the aperture are brushed free of any dust or loose particles and that any contamination is washed away using clean water. Moistening the edges well before casting will improve adhesion.

iPASSIVE EX Mortar should not be cast in surface treated concrete. The mortar must be mixed to a thick but fluid mass at a rate of approx. 2 parts of powder to 1 part water. Maximum loadbearing performance will be achieved 28 days after casting.

Test results:

Test in 1500x1000mm frame	Results
Soft body impact, serviceability	500Nm
Soft body impact, safety in use	700Nm
Hard body impact, serviceability	6 Nm
Hard body impact, safety in use	10 Nm
Concentrated load to ETAG 26-2	15 kN

Curing times:

Application	Temperature	Cure time
For filler 3.5 to 1 mix	0 °C	19 minutes
	10 °C	18 minutes
	20 °C	17 minutes
	30 °C	16 minutes
	40 °C	15 minutes
For casting 2 to 1 mix	0 °C	40 minutes
	10 °C	35 minutes
	20 °C	30 minutes
	30 °C	25 minutes
	40 °C	20 minutes

iPASSIVE EX Mortar was mixed with an electric mixer for 90 seconds at 750 rpm with a 100mm diameter paddle. Note the greater the sheer/agitation generated in the mixing process the quicker the mortar will set.

iPASSIVE EX Mortar is designed to be a quick curing system for professional installers where fast application times is of the highest importance. For slower cure, a retarder can be added to the dry mortar powder (sold separately).

EMISSION INFORMATION (INDOOR AIR QUALITY)

Compound	Emission rate after 3 days	Emission rate after 4 weeks
TVOC	12 µg/m ³	< 5 µg/m ³
TSVOC	n.d.	< 5 µg/m ³
VOC w/o NIK	n.d.	< 5 µg/m ³
R Value	n.d.	< 1
Formaldehyde	7.1 µg/m ³	n.d.
Acetaldehyde	< 3 µg/m ³	n.d.
Sum for+ace	< 0.006 ppm	n.d.
Carcinogenic	< 1 µg/m ³	< 1 µg/m ³

n.d. or < means not detected

iPASSIVE EX Mortar complies with the requirements of GEV and the results correspond to the EMICODE emission class EC 1PLUS which is the best possible environmental and indoor hygiene health protection mark.

Tested by Eurofins Product Testing

FIRE RESISTANCE RATINGS

Blank Seals

Construction	Description	FRR
Flexible walls: gypsum, masonry, aerated concrete or concrete	Up to 2400 mm wide x 1200 mm high blank seal with double sided 25mm iPASSIVE EX Mortar on 25mm cast board	-/120/120
Rigid walls: within walls or between the head of walls and the soffit of floor slabs	Up to 2400 mm wide x 1200 mm high blank seal with single sided 50mm iPASSIVE EX Mortar on 50mm cast board	-/180/120
	Up to 2400 mm wide x 1200 mm high blank seal with single sided 100mm iPASSIVE EX Mortar	-/240/240
Rigid floors: within floors or between floors and walls	Up to 2400 mm x 1200 mm blank seal with 50mm iPASSIVE EX Mortar on top of 50mm cast board	-/180/180
	Up to 2400 mm x 1200 mm blank seal casted with 100mm iPASSIVE EX Mortar	-/240/240

The cast board comprises of stone wool with density $\geq 150\text{kg/m}^3$.

Seals in Rigid Walls, Rigid Floors & Flexible Walls

Services	Seal details			Insulation	Backing Stone wool 150kg/m ³	Max Aperture	FRR		
	Rigid Wall	Rigid floor	Flexible wall				Rigid Wall	Rigid Floor	Flexible wall
Electrical Cables, single $\leq \varnothing 21\text{mm}$	50mm either side	50mm either side	25mm both sides	None	50mm	1200x 2400mm wide	-/180/60	-/180/90	-/120/90
Electrical Cables, single $\leq \varnothing 80\text{mm}$ or bundled (on trays)		50mm either side	25mm both sides	None	50mm		-/120/30	-/90/30	-/120/60
Cables, single $\leq \varnothing 21\text{mm}$ or bundled $\leq \varnothing 100\text{mm}$		50mm either side	25mm both sides	None	50mm		-/180/90	-/180/180	-/120/60
Steel cable trays & ladders		50mm either side	25mm both sides	None	50mm		-/180/60	-/90/60	-/120/60
Unsheathed wires up to $\varnothing 24\text{mm}$		50mm either side	25mm both sides	None	50mm		-/180/30	-/180/30	-/120/30
Copper conduit $\leq \varnothing 16\text{mm}$			25mm both sides	None	50mm		-/180/30		-/120/30
Steel conduit $\leq \varnothing 16\text{mm}$			25mm both sides	None	50mm		-/180/60		-/120/60
PVC conduit $\leq \varnothing 16\text{mm}$		50mm either side	25mm both sides	None	50mm		-/180/60	-/180/180	-/120/120
Steel pipe $\leq \varnothing 219\text{mm} / 4.5\text{-}14.2\text{mm}$ wall ($\leq \varnothing 324\text{mm}$ in floors)		50mm either side	25mm both sides	$\geq 30\text{mm}$ CS* stone wool 80kg/m ³	50mm		-/120/90	-/180/180	-/120/90
Copper pipe $\leq \varnothing 54\text{mm} / 1\text{-}14.2\text{mm}$ wall		50mm either side	25mm both sides	$\geq 1000 \times 20\text{mm}$ CI/LI* stone wool 80kg/m ³	50mm		-/180/120	-/180/180	-/120/120
Alupex pipe $\varnothing 75\text{mm} / 7.5\text{mm}$ wall		25mm both sides	$\geq 600 \times 32\text{mm}$ LI/CI* elastomeric	50mm	-/60/60		-/60/60		
Cables, single $\leq \varnothing 21\text{mm}$ ($\leq \varnothing 50\text{mm}$ in floors)	100mm either side	100mm top		None	None	1200x 2400mm wide	-/240/60	-/180/60	
Cables, single $\leq \varnothing 80\text{mm}$ or bundled (on trays)		100mm either side		None	None		-/240/60	-/120/60	
Cables, single $\leq \varnothing 21\text{mm}$ or bundled $\leq \varnothing 100\text{mm}$		100mm top		None	None		-/120/120	-/180/120	
Steel cable trays & ladders		100mm top		None	None		-/120/60	-/120/60	
Unsheathed wires up to $\varnothing 24\text{mm}$		100mm top		None	None		-/120/60	-/180/-	
PVC conduit $\leq \varnothing 16\text{mm}$		100mm top		None	None		-/240/240	-/180/180	
Steel pipe $\leq \varnothing 219\text{mm} / 5\text{-}14.2\text{mm}$ wall		100mm top		$\geq 1000 \times 30\text{mm}$ CI/LI* Stone wool 80kg/m ³	None		-/240/120	-/240/120	
PVC-U pipe $\leq \varnothing 32\text{mm} / 1.6\text{-}2.4\text{mm}$ wall			25mm both sides	None	50mm		-/120/120		-/120/120
PE pipe $\leq \varnothing 32\text{mm} / 1.8\text{-}3\text{mm}$ wall			25mm both sides	None	50mm		-/120/120		-/120/120
PP pipe $\leq \varnothing 32\text{mm} / 1.9\text{-}4.4\text{mm}$ wall			25mm both sides	None	50mm		-/120/120		-/120/120
Copper conduit $\leq \varnothing 16\text{mm}$			None	None	-/180/30				
Steel conduit $\leq \varnothing 16\text{mm}$			None	None	-/180/60				
Cables, single/bundled $\leq \varnothing 80\text{mm}$	50mm both sides			None	50mm	1200x 2400mm wide	-/240/60		
Steel cable trays & ladders up to 500mm wide				None	50mm		-/240/60		
Unsheathed wires up to $\varnothing 24\text{mm}$				None	50mm		-/240/120		

· LI/CI = Local interrupted or Continuous interrupted. · LS/CS = Local sustained or Continuous sustained

FIRE RESISTANCE RATINGS

Seals requiring iPASSIVE FR Wrap

Services	iPASSIVE FR wrap details			Seal details			Insulation	Backing	Max Aperture	FRR		
	Rigid Wall	Rigid floor	Flexible wall	Rigid Wall	Rigid floor	Flexible wall	Elastomeric	Stone wool 150kg/m ³		Rigid Wall	Rigid Floor	Flexible wall
Steel pipe ≤ Ø165mm / 2.8-14.2mm wall	50x1.8mm	50x1.8mm	2x50x3.6mm	100mm either side	100mm top	25mm both sides	13-19mm CS*	50mm	1200x 2400mm wide	-/240/60	-/180/120	-/120/60
Copper pipe Ø12-Ø54mm / 1-1.2mm wall		50x3.6mm	2x50x3.6mm		100mm		9-25mm CS*	50mm		-/240/60	-/120/120	
Alupex pipe ≤Ø75mm / 2.25-4.7mm wall		50x3.6mm	2x50x3.6mm				9-25mm CS*	50mm (flexible wall)		-/180/90	-/120/120	
PP pipe ≤Ø110mm / 6.6mm wall		50x3.6mm	2x50x3.6mm				none	50mm (flexible wall)		-/240/240	-/120/90	
PVC-U pipe ≤Ø125mm / 3.7-7.4mm wall		50x7.2mm	2x50x5.4mm				none	50mm (flexible wall)		-/120/120	-/120/120	

-LS/CS = Local sustained or Continuous sustained

DISCLAIMER

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