MASTER® BUILDERS SOLUTIONS

MasterFlame®

Passive Fire Protection Systems

A brand of MBCC GROUP

MasterFlame offerings

Passive fire protection is an Integral component of today's modern, safe & sustainable buildings, so that if fire breaks out, it is contained within a compartment surrounded by fire-resistive walls and floors. For the walls and floors to maintain their fire resistance, every opening, penetration and joint must be sealed against the escape of fire and smoke

MasterFlame Passive fire protection systems are designed to stop the spread of flames, smoke, and toxic gases in case of fire accident by providing different solutions like linear seals, pipe seals, penetration seals & cable protection. MasterFlame products comply with the relevant local and International standards to ensure the safety of the building & its inhabitant.

Master Builders Solutions

Master Builders Solutions is our global brand for the construction chemicals industry. Active presence in the construction industry for more than a century, Master Builders Solutions offering a range of construction chemicals solutions to meet the growing demand for high-performance, differentiated and sustainable products.

We collaborate with our clients closely to offer innovative solutions tailored to their projects. Backed by our robust global and local R&D expertise, an international community of construction experts and a worldwide record of construction projects from which know-how, experience and insights can be readily harnessed to address any technical specifications or challenges.

Apart from providing high-performance and cost-effective solutions, we also emphasize "sustainability" geared towards helping our customers meet the increasingly stringent environmental guidelines laid down by regulatory authorities and fulfill their social responsibilities as builders and infrastructure developers.

Our comprehensive portfolio of advanced chemical solutions includes:

Concrete admixtures

Cement additives

Chemical solutions for underground construction

Concrete repair and protection solutions

Sealants

Performance flooring solutions

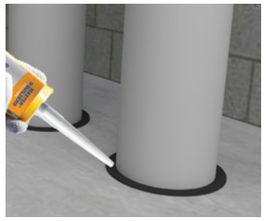
Tile fixing systems

Waterproofing solutions

Performance grouts

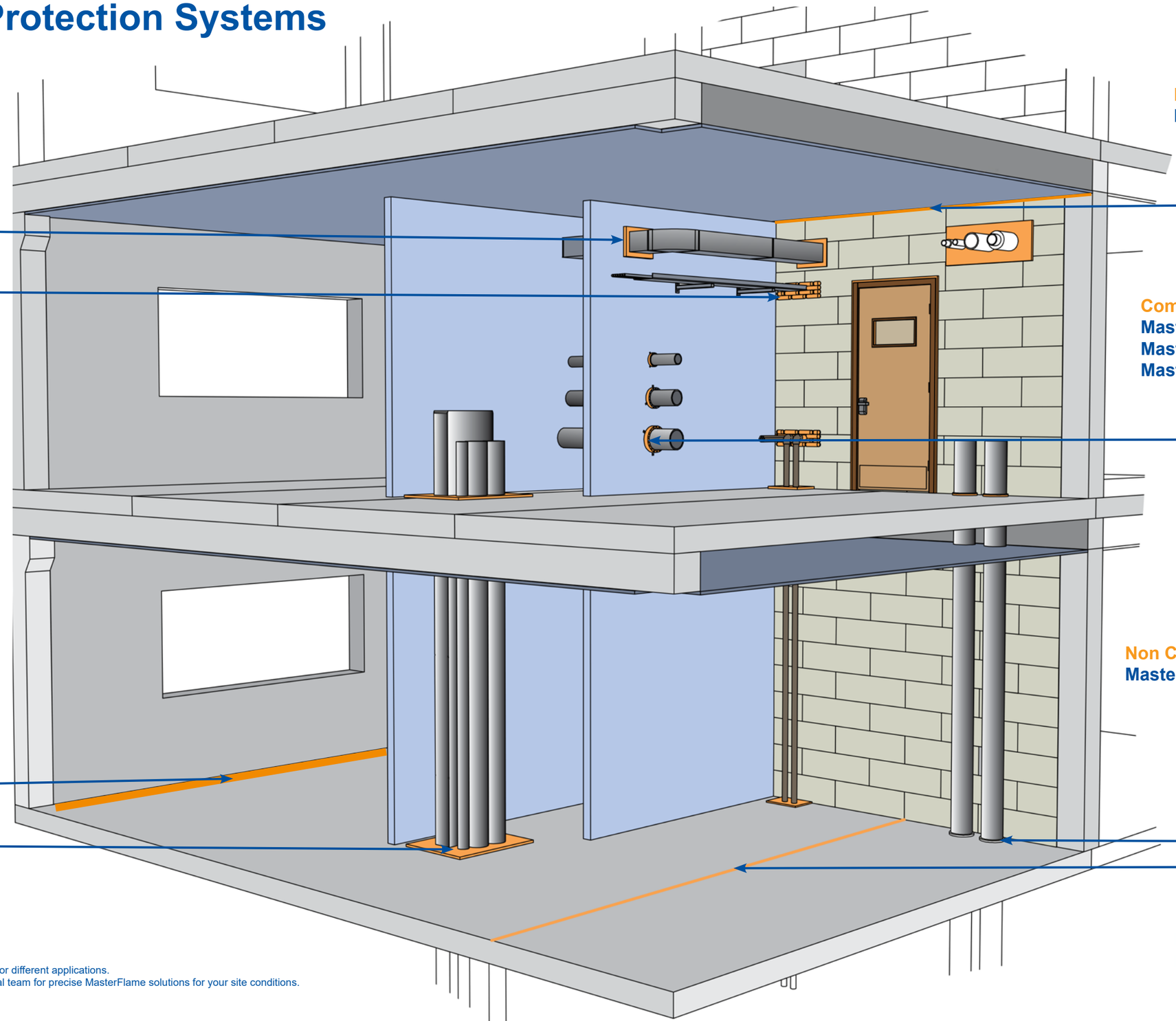
Wall systems

Expansion control systems



Fire protection systems

MasterFlame®
Passive Fire Protection Systems



HVAC Duct Penetrations
MasterFlame® B 302

Cables and Cable Trays Penetrations
MasterFlame® B 302

Perimeter Joints
MasterFlame® C 3005

Floor Duct Penetrations
MasterFlame® MO 700

Head of Wall Joints
MasterFlame® JS 110

Combustible Pipe Penetrations
MasterFlame® JS 225
MasterFlame® PW 2252
MasterFlame® PC 2350

Non Combustible Pipe Penetrations
MasterFlame® JS 110

Floor Joints
MasterFlame® JS 110
MasterFlame® JS 125

* The above pictures show typical products/solutions for different applications.
Kindly contact the Master Builders Solutions technical team for precise MasterFlame solutions for your site conditions.

Product Selection Guide

Use the Product Selection Guide to choose the right product for your application and particular requirements.

S.No	Category	Products	Description	Joints	Metal Pipes	Plastic Pipes	Cables & Trays	Fire Rating	Approvals
1	Sealants	MasterFlame® JS 110	Fire rated Acrylic Sealant for use in fire rated joint system and MEP penetration	•	•		•	up to 240 min	UL
2	Sealants	MasterFlame® JS 125	One part neutral cure silicone for use in fire rated joint systems and through penetration	•					UL
3	Sealants	MasterFlame® JS 225	Intumescent graphite sealant for combustible and non-combustible penetrations		•	•	•	up to 240 min	UL
4	Joint Spray	MasterFlame® C3005	Water based acrylic flexible coating for dynamic movement joints & gaps	•				up to 240 min	UL
5	Boards	MasterFlame® B 302	Mineral fiber board coated both sides with an elastomeric ablative water based sealant		•	•*	•	up to 120 min	UL
6	Coating	MasterFlame® C 3000	Ablative coating to be used along with MasterFlame B302 for sealing the gap						UL
7	Mortars	MasterFlame® MO 700	Gypsum based fire rated mortar for sealing around all types of MEP service penetrations		•	•*	•	up to 240 min	UL
8	Pillows	MasterFlame® PI 2502	Intumescent pillow to create temporary or permanent fire barrier		•		•	up to 120 min	UL
9	Pipe wrap	MasterFlame® PW 2252	Intumescent wrap for combustible pipes supplied in rolls			•		up to 240 min	UL
10	Pipe collar	MasterFlame® PC 2350	Fire rated steel pipe collar to be used on plastic pipes, insulated metal pipes & cables			•		up to 240 min	UL
11	Cable coating	MasterFlame® C 3000CA	Ablative fire protection coating for electrical cables & penetration				•		FM

Site conditions varies therefore this table should be used as a guide only.
* to be used with multiple MasterFlame products

MasterFlame JS 110

Firestop and Acoustic Sealant

Description

MasterFlame JS 110 is an acrylic based sealant used to reinstate the fire resistance performance of wall and floor constructions where they have been provided with apertures for the penetrations of multiple services.

Features and Benefits

- UL Classified systems up to 4 hrs.
- VOC compliant
- Fire resistance tested in flexible walls, rigid walls and floors
- Compatible with plastic pipes, cables, or metallic components
- Upholds a high level of Acoustic reduction

Approvals

- HVAC Penetrations EN 13501-2
- EN1366-3 2009
- EN 1366-4 2006

CLASSIFIED C UL US

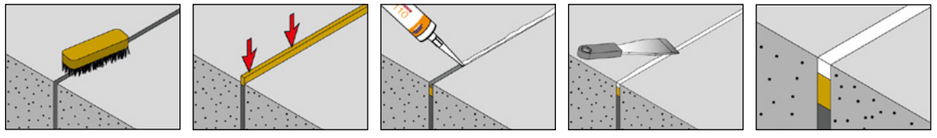
FILL, VOID OR CAVITY MATERIAL FOR USE IN THROUGH-PENETRATION FIRESTOP SYSTEMS AND/OR JOINT SYSTEMS AND/OR PERIMETER FIRE CONTAINMENT SYSTEMS SEE UL FIRE RESISTANCE DIRECTORY <R27645>

Recommended for use

MasterFlame JS 110 is used to reinstate the fire resistance performance of wall and floor constructions where they have been provided with openings for the penetrations of multiple services, also to form linear gap seals where gaps are present within the wall and floor constructions and linear joints where wall and floor constructions abut.

Installation guide

1. Clean all joints free from dust, oil and grease.
2. Fill the gap with mineral wool.
3. Fill gap to the required depth
4. Tool off for a smooth finish.



Additional info

Note: Please refer to TDS/MSDS for further information

MasterFlame JS 125

Firestop elastomeric silicone sealant

Description

MasterFlame JS 125 is a high performance fire rated silicone sealant for fire
sealing applications up to 50mm wide.

Features and Benefits

- Excellent adhesion to porous and non-porous substrates used in the construction industry
- Neutral curing fire resistant silicone sealant with excellent weatherability, flexibility and being odourless
- Fire resistant up to 4 hours in both horizontal and vertical joints
- Non-slump, easy to apply and tool of
- No priming required for most substrates
- Highly flexible and waterproof

Approvals

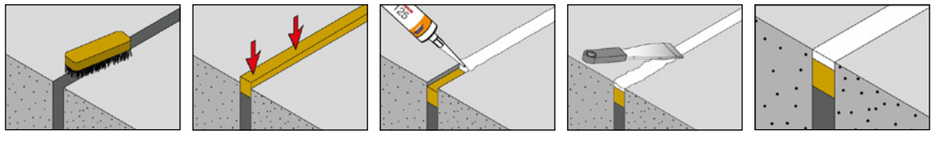
- EN 13501-1
- EN 13501-2
- EN 1366-4 : 2006
- ISO 11600

Recommended for use

- Can be used for fire protection on sealing of expansion joints, door frames and block work walls
- Can be used in joints up to 60mm wide

Installation guide

1. Clean all joints free from dust, oil and grease.
2. Fill the gap with mineral wool.
3. Fill gap to the required depth
4. Tool off for a smooth finish.



Additional info

Note: Please refer to TDS/MSDS for further information

MasterFlame JS 225

High performance intumescent firestop sealant

Description

MasterFlame JS 225 is a graphite based product which when exposed to fire expands protecting penetrations including cables, cable bunches, cable trays, plastic and metallic pipes.

Features and Benefits

- It has excellent non slump properties coupled with ease of application due to its water based nature.
- Easy to clean up with water and odourless
- Resists fungi and vermin
- Smoke, gas, watertight and airtight
- Higher expansion ratio

Approvals

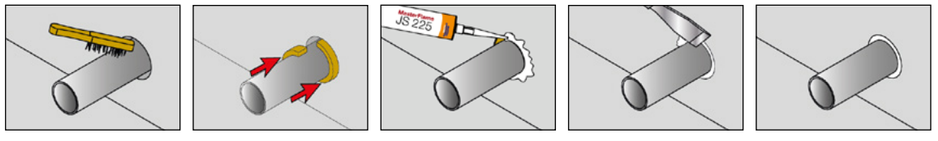
- N 13501-2
- EN 1366-3
- EN 1366-4
- ISO 11600

Recommended for use

- Tested for use for use with line joints up to 20mm wide.
- Large service openings up to 300 x 100mm.
- Suitable for use in block wall, concrete, masonry and plasterboard partition

Installation guide

1. Clean all joints free from dust, oil and grease.
2. Fill the gap with mineral wool.
3. Fill gap to the required depth
4. Tool off for a smooth finish.



Additional info

Note: Please refer to TDS/MSDS for further information

MasterFlame C3000
Firestop coating

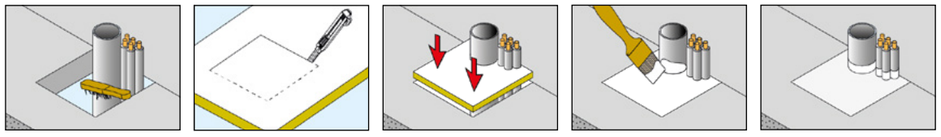
Description
MasterFlame C3000 is a water based acrylic ablative coating, having excellent fire and electrometric properties.

Features and Benefits
- Can be spray, brush or trowel applied
- Remains flexible between -5°C to +70°C
- Once the ablative coating is applied it prevents the passage of fire and smoke between fire rated compartments giving up to 4-hour fire resistance
- Easy to use fibre free coating
- Contributes to Green Building.
- Flexible and water resistant.
- Halogen free, resists fungi and vermin.

Approvals
- EN 13501-2
- EN 1366-3 2009
- EN 1366-4 2006

Recommended for use
- MasterFlame C3000 has been developed to seal MasterFlame B302 board once installed in the aperture.
- Suitable for indoor use without additional environmental protection
- Suitable for large openings in walls and floors with additional supports.
- Fire resistance tested in flexible walls, rigid walls & floors, composite panel

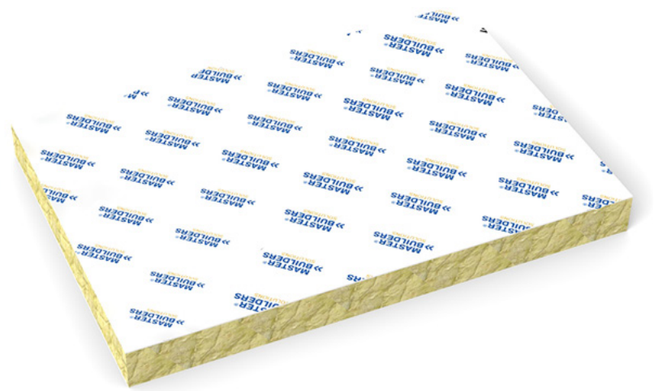
Installation guide
1. Clean all the edges of passage free from dust, oil and grease
2. Measure the gap and cut the MasterFlame B 302 board to the proper size
3. Install the board in a gap
4. Seal the joint of boards as well as inlet and outlet of cable route with MasterFlame C 3000
5. Tool off for a smooth finish
6. Mark the information plate culvert



Additional info
Note: Please refer to TDS/MSDS for further information

MasterFlame B302
Pre-coated firestop board

Description
MasterFlame B 302 has a 1200mm x 600mm x 50mm >140kg/m³ stone fibre core coated with MasterFlame C 3000 on both sides or 1 side depending on requirements.

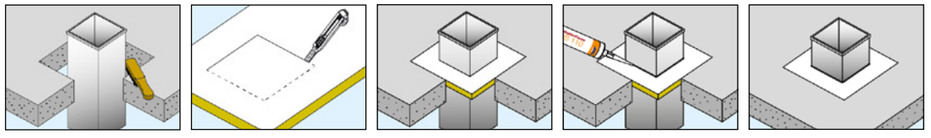


Features and Benefits
- MasterFlame B 302 is tested to EN1366-3 giving a fire resistance and smoke barrier for up to 120 minutes.
- Fire Classification to EN 13501-2.
- Remains flexible between -5°C to +70°C.
- Easy to use fibre free sealant.

Approvals
- EN 13501-2
- EN 1366-3

Recommended for Use
- **MasterFlame B302** are designed to prevent the passage of fire and smoke between compartment walls and floors built from masonry, composite partition or plasterboard whilst still allowing the installation of services
- Suitable for indoor use without additional environmental protection.
- Suitable for large openings in walls and floors with additional supports.
- Fire resistance tested in flexible walls, rigid walls & floors, composite panel, CLT wall and Durasteel wall

Installation Guide
1. Clean all the edges of passage free from dust, oil and grease
2. Measure the gap and cut the MasterFlame B302 board to the proper size
3. Install the board in a gap
4. Seal the joint of boards as well as inlet and outlet of cable route with MasterFlame C 3000
5. Tool off for a smooth finish
6. Mark the information plate culvert



Additional info
Note: Please refer to TDS/MSDS for further information

MasterFlame MO700
Firestop mortar

MasterFlame MO 700 is a gypsum based mortar material, used to reinstate the fire resistance performance of floor constructions where they have been provided with apertures for the penetrations of multiple services.

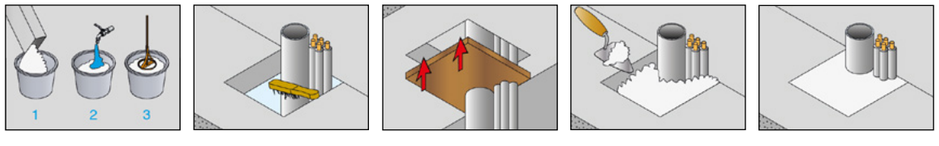
Features and Benefits
- Fire Integrity up to 4 hours
- Rapid setting, zero shrinkage formulation - can be used as pourable or trowel grade, gas tight seals
- Excellent workability ranging from stiff to pourable mix
- Good load bearing performance in floor apertures. (Consult BASF Technical Team for details)

Recommended for Use
- MasterFlame MO700 is intended for sealing around all types of M&E service penetrations through floors and walls, where a rigid seal is required
- Suitable for indoor use without additional environmental protection.
- Suitable for large openings in walls and floors with additional supports.
- Fire resistance tested in flexible walls, rigid walls & floors, composite panel, CLT wall and Durasteel wall

Approvals
- EN 13501-2
- EN 1366-3
- ETAG-026

Recommended for use
- MasterFlame MO700 is intended for sealing around all types of M&E service penetrations through floors and walls, where a rigid seal is required
- Suitable for indoor use without additional environmental protection.
- Suitable for large openings in walls and floors with additional supports.
- Fire resistance tested in flexible walls, rigid walls & floors, composite panel, CLT wall and Durasteel wall

Installation Guide
1. Clean all the edges of wall or floor opening free from dust, oil and grease
2. Pour the mortar in to a container with water (Mortar to Water 2:1 ratio)
3. Mix the mortar
4. Fill the opening with the mortar
5. Mark the information plate culvert



Additional info
Note: Please refer to TDS/MSDS for further information

MasterFlame PI 2502
Firestop Pillows

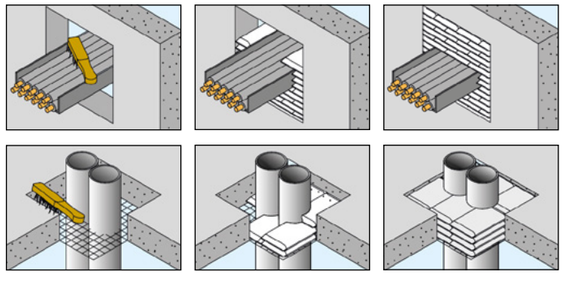
Description
MasterFlame PI2502 are an ideal product to create a temporary or permanent fire barrier around all types of services to prevent the passage of fire through a compartment wall or floor, especially suitable where services are continuously being changed or replaced.

Features and Benefits
- Non-combustible and non-toxic
- Ease of installation and long life
- Reaction temperature 180°C.
- High expansion ratio.
- Remains flexible between -20°C to +130°C.
- Waterproof lining unaffected by damp conditions.

Approvals
- EN 13501-2
- EN 1366-4

Recommended for Use
- Suitable for indoor and outdoor locations up to 1m²
- Tested with metallic pipes, cables, cable bunches, cable trays and cable ladders
- Fire resistance tested in rigid walls & floors.

Installation guide
1. Pack bags tightly into the opening around the services to a minimum depth of 150mm.
2. For floor openings install a 5mm mild steel mesh, arrange fire pillows on the flat side to a minimum depth of 150mm.
3. When cable trunkings pass through the seal infill with MasterFlame PI 2502.
4. Always ensure that large voids are completely filled and fire pillows are packed tightly.
5. Ensure records of all installations are kept.



Additional info
Note: Please refer to TDS/MSDS for further information

MasterFlame C 3005
Firestop coating

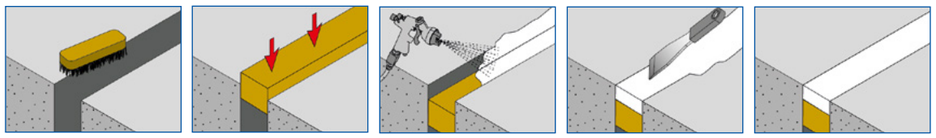
Description
MasterFlame C3005 is a water based acrylic coating, having excellent fire and electrometric properties.

Features and Benefits
- Joint movement capability of +/- 50%.
- Dynamic movement testing 500 cycles per 30 minutes.
- Highly flexible and water resistant.
- Halogen free, resists fungi and vermin.
- Can be spray, brush, pour or trowel applied.
- Suitable for voids / cavities up to 500mm wide.

Approvals
- N 13501-2
- EN 13501-2
- EN 1366-4

Recommended for use
- MasterFlame C 3005 has been developed for use on stone wool or elastomeric base
- Once applied it prevents the passage of fire, smoke and sound between fire rated compartments giving a fire resistance tested to EN 1366-4 EI 120
- Ideal for slab edge applications, head of wall and movement installations.

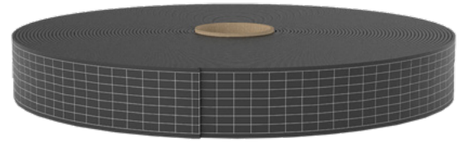
Installation guide
1. Clean all the edges of passage free from dust, oil and grease
2. Measure the gap and cut the MasterFlame B302 board to the proper size
3. Install the board in a gap
4. Seal the joint of boards as well as inlet and outlet of cable route with MasterFlame C 3000
5. Tool off for a smooth finish
6. Mark the information plate culvert



Additional info
Note: Please refer to TDS/MSDS for further information

MasterFlame PW 2252
Firestop pipe wrap

MasterFlame PW 2252 is an intumescent pipe wrapping material, based on elastomeric thermoplastic polymers combined with active components available as a 25m x 40mm roll that provides a high volume expansion and pressure seal in the event of a fire.



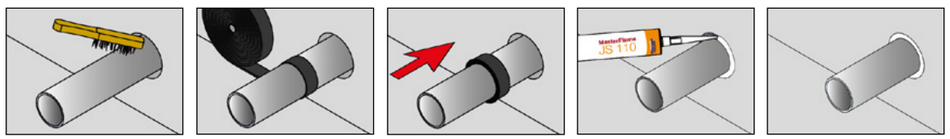
Features and Benefits
- Fire resistance up to 120 minutes using EN 1366-3: 2009
- Classified as EI 120 using EN 13501-2
- Causes no known effects to plastic pipes
- Thermoplastic composite and non-toxic
- Halogen free, contains no asbestos, ceramic, mineral fibres and is environmentally friendly.
- Not affected by fungus, vermin or rodents

Approvals
- EN 13501-2
- EN 1366-3 : 2009
- ETAG-026

Recommended for Use
- Can be use with Plastic Pipes - PVC, HDPE, PP, PE, ABS, PVC-C and SAN + PVC
- Can be used to close off various types of insulation around metallic pipes
- Fire resistance tested in flexible walls and rigid floors and suitable for wall and floor installation

Installation Guide
- Place pipe wraps around the pipe or insulation and secure with adhesive tape. See TDS or table below for correct installation details.
- Adjust the position of each wrap so that the outer edge of the wraps are flush with either side or floor or wall.
- Seal over with MasterFlame JS 110.
- Maintain record of installation.
- Soiled plastic pipes should be cleaned in the area where wrap strip is to be installed.
- Fasten installation sticker for maintenance and identification reason.

Additional info
Note: Please refer to TDS/MSDS for further information



MasterFlame PC2350

Firestop collar

MasterFlame PC2350 are designed and tested to seal service penetration apertures containing plastic and metallic pipes, pipes with insulation or cables, using thermoplastic composites based on graphite intumescent technology.

Features and Benefits

- Developed to provide a high volume expansion and pressure seal during a fire
- It offers upto EI 240 when tested to EN1366-3
- MasterProtect FP Collars is tested with end capping configurations that cover U/U, C/U, U/C & C/C pipes
- Allows thermal and mechanical movement of pipe
- Halogen free, contains no asbestos, ceramic, mineral fibres and is environmentally friendly
- Not affected by fungus, vermin, rodents or moisture

Approvals

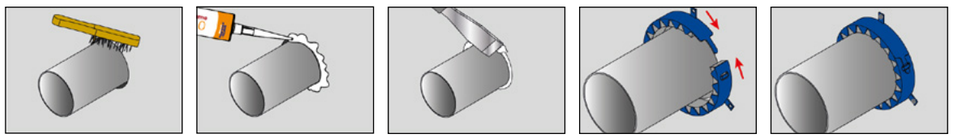
- EN 1366-3

Recommended for Use

- Suitable for use with flexible walls with 100mm minimum thickness, rigid wall with 100mm minimum thickness and rigid floors with 150mm minimum thickness.
- They are compatible with polypropylene (PP), polyethylene (PE) and polyvinyl chloride (PVC) pipes.

Installation Guide

1. Annular space between pipe and substrate to be filled with MasterFlame JS 110.
2. Place MasterFlame PC 2350 around pipe and hold in place using the slide clip.
3. Slide into place.
4. Fix using the require fixing, fix into place. For some fixings a drilled hole may be required.
5. NO COMBUSTIBLE FIXINGS MAY BE USED.



Additional info

Note: Please refer to TDS/MSDS for further information

MasterFlame C 3000CA

Firestop cable coating

MasterFlame C 3000CA is a water based ablative coating especially developed for the fire protection of grouped or bundled electrical cables and for cable penetration needs

Features and Benefits

- Does not derate electrical cables
- Totally weather and water resistant
- Has an LOI of 100 which means it does not even burn in a 100% oxygen environment.
- MasterFlame C 3000CA is in no way affecting the human health system. It is nontoxic, solvent-free, phosphate-free and does not contain asbestos or any other substances identified as being carcinogenic.

Approvals

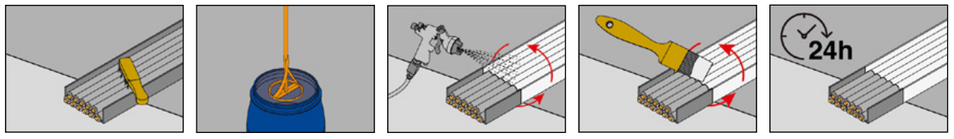
FM APPROVED

Recommended for Use

- Prevents flame propagation along vertical and horizontal cable ways.
- Also delays short circuit whereby circuit integrity depends on the distance of the cables from fire and the incurred temperature

Installation Guide

1. Extensive cleaning of cables is not required. However, oil or grease should be taken up with dry rags (no solvent). Using a broom or vacuum cleaner to remove heavy layers of dust is sufficient.
2. MasterFlame C 3000CA is easily applied by conventional methods such as spray and brush, as well as by hand.
3. Apply coating to a wet thickness of approx. 2.5 mm, resulting in a required dry thickness of 1.6 mm. Generally, this is achieved in one coat by spray, while brushing may take two or possibly three coats. The coverage for this thickness is 3.0 kg/m² for level surface, but considering the curved surfaces of grouped cables, 4 kg should be calculated. Also consider loss due to overspray.



Additional info

Note: Please refer to TDS/MSDS for further information

Test Standards Reference Key

Standard	Description
UL Listing	UL Certifies, validates, tests, inspects and audits. The UL mark is the most common certification mark in the United States. If a product carries one of the marks, it means UL found that the representative product samples met UL's requirements.
Certifire	An independent third party certification scheme that assures performance, quality, reliability and traceability of fire products.
ETA	The European Technical Assessment is a document providing information about the performance of a construction product to be declared in relation to its essential characteristics. The ETA provides a way for the manufacturer to CE Mark of a product. The ETA can be issued in the following cases:
	The product is not or not fully covered by any harmonized technical specification such as European Technical Documents (EADs) or European Standards (hENs)
	The product is covered by a European Assessment Document (EAD)
ETAG 026 Part 1	Fire stopping and fire sealing products: General
ETAG 026 Part 2	Fire stopping and fire sealing products: Penetration Seals
ETAG 026 Part 3	Fire stopping and fire sealing products: Linear Joint and Gap Seals
EN 1366-1	Fire resistance tests for service installations. Ventilation ducts.
EN 1366-3	Fire resistance tests for service installations. Penetration seals.
EN 1366-4	Fire resistance tests for service installations. Linear joint seals.
EN ISP 11925-2	Standard for reaction to fire.
EN 13823	Standard for reaction to fire.
EN 13501-1	Reaction to Fire Classifications.
EN 13501-2	Reaction to Fire Classifications.
EN 10140	Acoustics. Laboratory measurement of sound insulation of building elements. Measurements of airborne sound insulation, Measured as Rw dB and Dnew dB.
EN 1027	Water permeability test method.
EN 15651-1	Sealants for non-structural use in joints in buildings and pedestrian walkaways. Sealants for façade elements.
EN 1363-1	Fire Resistance Tests. General requirements.

Standard	Description
LEED 4.1.2009	Part of the test method for volatile content of products. Low emitting materials for adhesive and sealants.
ASTM D2360-10	Standard test method of volatile content of coatings.
ASTM D522	Mandrel bend test of attached organic coatings.
AS Standards	National Standards developed by Australia, used in many areas of the World.
AS 1350.4-2005	Methods for the fire tests on building materials, components and structures. Part 4: Fire Resistance tests of elements of construction.
AS 1191-2002	Acoustics- Method for laboratory measurement of airborne sound insulation of building elements.
AS 4072.1- 2005	Components for the protection of openings in the fire resistant separating elements. Part2: service penetrations and control joints.
ISO 4589-2:1996	Plastics- determination of burning behavior of oxygen index- part 2: ambient- temperature test.
IMO 745	Marine or offshore applications in steel/aluminum bulkheads.
IET (IEE)	Institution of Engineering and Technology, electrical test method.
Flexible Walls	A wall made from steel stud, gypsum board and mineral wool cavity with a thickness and make up appropriate to the required fire resistance classification.
Rigid Walls	A wall made of aerated concrete slabs, lightweight concrete or high density concrete and a thickness appropriate to the required fire resistance classification.
Rigid Floors	A floor made of aerated concrete slabs, lightweight concrete or high density concrete and a thickness appropriate to the required fire resistance classification.
BS 7671-2008	Requirements for electrical installations,. IET wiring regulations. Seventeenth edition.
BS 476 Pt 20 & 22	Pt 20: Fire tests on building materials and structures. Method for determination of the fire resistance of elements of construction (general).
	Pt 22: Fire tests on building materials and structures. Methods for determination for the contribution of the components to the fire resistance of the structure.
EN 1928: 2000	Flexible sheets for waterproofing, bitumen, plastic and rubber sheets for roof waterproofing. Determination of water tightness.
ISO EN 11600	Classification of sealants for building construction.

Master Builders Solutions products for the Construction Industry:

MasterAir®
Complete Solutions for air entrained concrete

MasterBrace®
Solutions for strengthening and structural adhesives

MasterCast®
Solutions for the manufactured concrete product industry

MasterCell®
Density reducing admixtures

MasterCem®
Solutions for cement manufacture

MasterEase®
Solutions for low viscosity concrete

MasterEmaco®
Solutions for concrete repair

MasterFiber®
Comprehensive solutions for fiber reinforced concrete

MasterFinish®
Solutions for formwork treatment

MasterFlame®
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