



FOR MEDIUM-TO-LARGE
FIRESTOP PENETRATIONS

ArmaProtect CB

Coated firestop board system

Ablative coated board system for
mixed fire seals in walls and floors

- // Blank openings
- // Mixed and multiple services
- // Cables, cable bundles and cable trays
- // Conduit and conduit bundles
- // Non-combustible and combustible pipes

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 **armacell**[®]
ArmaProtect[™]

ENHANCING SAFETY LEVELS TO PROTECT PROPERTY AND SAVE LIVES.

PASSIVE FIRE PROTECTION (PFP) products and systems are designed to provide fire-safe circumstances in the event of a fire emergency. Often built as part of the building component, PFP measures are not visible to building users and hence often overlooked as a fire protection measure.



PFP systems include:

// Building construction

- Fire protection to the load bearing structure
- The building envelope, e.g. fire rated external walls, curtain walls etc.

// Building services

- Firefighting shafts and stairwells
- Fire rated service ducts and shafts
- Fire rated cable coatings
- Fire rated elevators for emergency use only

// Ventilation systems

- Fire rated ductwork including fire dampers
- Fire rated air transfer grilles (mechanical or intumescent)

// Compartmentation

- Partitions and floors
- Fire rated doors
- Service shafts
- Suspended ceilings
- Fire rated glazing
- Fire shutters
- Industrial fire shutters and curtains
- Cavity barriers
- Linear gap seals
- Penetration seals for pipes, cables and other services, also known as firestop systems

COMPARTMENTATION

Regulated by building codes in many countries, buildings are sub-divided into "fire compartments" and in some cases also smoke compartments. In the event of a fire emergency in a building, the strategy is to keep the fire and smoke contained within a limited area of the building (the fire compartment) for a given amount of time (referred to as the fire rating). Fire ratings are country-dependent and typically ranges between 30 and 120 minutes (partly even up to 240 minutes).

Properly designed and installed, PFP systems complement fire compartments to provide multiple levels of fire safety, such as

- Providing building users sufficient time to safely make their way to a means of egress and escape from the building
- Keeping escape routes free from smoke and other toxic gasses, and
- Allowing emergency responders to safely rescue building users from the fire scene and attempt to extinguish the fire

Fire and flames cause severe harm but a key concern for humans is the inhalation of smoke and other toxic gasses. For example, if there is a hole



Compartmentation contributes to a holistic fire safety strategy, and firestop systems is an integral measure to be considered.

as small as 10 mm (0.4") in diameter penetrating a fire rated floor or ceiling between the two rooms and a fire is to occur in a room, it would take less than 3 minutes for the adjacent room to be filled with smoke. In this situation, you would not be able to see your own hand even if placed just 45 cm (18") in front of you. Incapacitation and physical impairment due to smoke inhalation occurs even faster.

Apart from being a safety issue for humans, smoke can also cause severe damage to assets and equipment, for example in hospitals and data centres.



BUILDINGS ARE EQUIPPED WITH MECHANICAL AND ELECTRICAL SYSTEMS TO PROVIDE COMFORT, SAFETY AND SECURITY. SERVICES CONNECTED TO THESE APPLIANCES RUN ACROSS BUILDINGS AND PENETRATE FIRE RATED WALLS, FLOORS AND SERVICE SHAFTS, COMPROMISING THE FIRE COMPARTMENTATION STRATEGY.

Firestop systems are designed to seal penetrations of such services, including:

- Insulated and non-insulated combustible pipes
- Insulated and non-insulated non-combustible pipes
- Single cables and cable bundles
- Cable trays

These systems should be tested according to local governing fire standards and installed in line with the details shown in the fire test report.

At Armacell, safety comes first and maximum reliability is essential. As a systems solutions provider, we know firestop system requirements and standards and offer global support. This table provides an indicative overview of fire test standards for firestop systems globally.

Standard	Description	Geographic coverage
EN 1366-3	Penetration seals	Europe
EN 1366-4	Linear joints	Europe
EN 13501-2	Fire classification of construction products and building elements	Europe
ISO 834	Fire resistance tests	Europe
UL 263	Fire tests of building construction and materials	Asia, Middle East, USA
UL 1479	Fire test of through-penetration firestops	Asia, Middle East, USA
UL 2079	Tests for fire resistance of building joint systems	Asia, Middle East, USA
ASTM E814-13	Standard test method for fire tests of penetration firestop systems	Asia, Middle East, USA



EUROPEAN STANDARDS

The European Standards applicable to firestop systems are EN1366-3, EN1366-4 and EN13501-2. Fire rating is measured as EI (integrity and insulation) for a specific time duration, and written as EI 60, EI 90, EI 120, EI 180 or EI 240.

- E rating (integrity, "E" from French "Étanchéité"): This is the ability of a test component to stop fire

from spreading to an unexposed side as a result of penetration of flames or smoke.

- I rating (insulation, "I" from French "Isolation"): This is the ability of a test component to restrict the temperature rise of the non-heated side to below specified levels during the fire, which is not more than +140 °C and up to +180 °C.

UL 1479 FOR THROUGH-PENETRATION FIRESTOPS

This method exposes test samples of penetration firestops to a fire for a standard period of time and temperature and to an application of a hose stream. Ratings are then established based on the length of time the firestop is able to resist before the first development of through-openings or flaming on the unexposed surface, the acceptable limitation of thermal transmission and acceptable performance under the application of the hose stream test.

Two ratings are established for each penetration firestop system:

- F rating (F = fire): based upon flame occurrence on the unexposed side of the test sample and acceptable hose stream performance
- T rating (T = temperature) based on temperature rise and flame occurrence on the unexposed side of the test sample and acceptable hose stream performance.

UL 2079 FOR FIRE RESISTANCE OF BUILDING JOINT SYSTEMS

These tests are applicable to joint systems of various materials and construction intended for use in linear openings between adjacent fire resistive structures. The fire endurance ratings for joint systems are intended to register performance during the period of fire exposure and are not intended to be interpreted as having determined the acceptability of the joint systems for use before or after fire exposure.

The intent of these methods is to develop data to assist others in determining the suitability of the joint systems where fire resistance is required. These requirements are intended to evaluate the length of time that the types of joint systems specified will contain a fire during a predetermined test exposure. The test evaluates the joint system's resistance to heat and, in some instances, to a hose stream, while carrying an applied load if the assembly is load bearing.

ARMAPROTECT FIRESTOP SOLUTIONS

ArmaProtect firestop systems:

- are easy to install and highly reliable.
- have been globally tested.
- are certified in numerous combinations and configurations, making the range a “one-stop-shop” solution
- are easy to inspect and to maintain.

Large,
global
approved
range

Excellent
fire
performance



ArmaProtect CM
Firestop mortar

Firestop mortar for mixed fire seals in walls and floors

- Blank openings
- Mixed and multiple services
- Cables, cable bundles and cable trays
- Conduit and conduit bundles
- Non-combustible and combustible pipes



ArmaProtect CB
Coated fireboard system with
ArmaProtect ABLC Firestop
coating and ArmaProtect ABLF
Firestop filler mastic

Ablative coated board system for mixed fire seals in walls and floors

- Blank openings
- Mixed and multiple services
- Cables, cable bundles and cable trays
- Conduit and conduit bundles
- Non-combustible and combustible pipes



ArmaProtect CU
Firestop cushion

Firestop cushions for wall and floor openings

- Temporary or permanent sealing
- Cables and cable trays



ArmaProtect CT
Firestop cable tube

Cable tube for fire seals in walls and floors

- Blank openings
- Cables and cable bundles
- Conduit and conduit bundles
- Combustible pipes
- HVAC split-line combinations
- Ideally for retrofitting applications



ArmaProtect EXPS
Firestop sealant

Intumescent firestop sealant for mixed fire seals in walls and floors

- Blank openings
- Cables and cable bundles
- Conduit and conduit bundles
- Non-combustible and combustible pipes



ArmaProtect FW1
Firestop wrap

Firestop wrap for fire seals in walls and floors

- Cable bundles up to Ø150mm
- Combustible pipes up to Ø160mm



ArmaProtect FW2
Firestop wrap

Firestop wrap for fire seals in walls and floors

- Non-combustible pipes up to Ø323.9mm with combustible insulation
- Composite pipes
- Conduits and conduit bundles



ArmaProtect FW3
Firestop wrap

Firestop wrap for fire seals in walls and floors

- Combustible pipes Ø≤160mm (without combustible insulation)
- Combustible pipes Ø≤110mm (with combustible insulation)
- Multi-layer composite pipes Ø≤110mm



ArmaProtect FC1 and FC2
Firestop collar

Firestop collar for fire seals in walls and floors

For sealing of combustible pipes without insulation up to Ø160 mm (FC1) and Ø400 mm (FC2), respectively











ArmaProtect EFC1 and EFC2
Endless firestop collar

Endless firestop collar for fire seals in walls and floors








- Combustible pipes Ø≤ 160 mm (with and without sound insulation)
- Non-combustible pipes Ø≤ 108 mm (with combustible insulation)
- Multi-layer composite pipes Ø≤ 110 mm¹

SOLUTIONS WITH EN TESTING (ETA)

// For small to large openings
See relevant ETA for further installation details.










	SMALL	MEDIUM	LARGE
EXCEPTIONAL SOLUTION 	<div>ArmaProtect CT</div> <ul style="list-style-type: none">Pre-installed deviceClean installationEasy re-penetrationOpenings up to Ø116mmUp to EI 120 	<div>ArmaProtect CB</div> <ul style="list-style-type: none">Easy re-penetration and maintenanceCable, pipe, mixed and multiple penetrationsUp to EI 240Openings up to 1.4m x 2.0m or 1.2m x 2.4m, respectively 	
SUPERIOR SOLUTION 	<div>ArmaProtect EXPS</div> <ul style="list-style-type: none">Up to EI 120Openings up to Ø150mm  <div>ArmaProtect ABLF</div> <ul style="list-style-type: none">Up to EI 90Openings up to Ø160mm 		
STANDARD SOLUTION 		<div>ArmaProtect CM</div> <ul style="list-style-type: none">Cable, pipe, mixed and multiple penetrationsUp to EI 240Openings up to 1.2m x 2.0m 	

// For pipe penetrations
See relevant ETA for further installation details.




	SMALL TO MEDIUM PIPE DIAMETER	LARGE PIPE DIAMETER
EXCEPTIONAL SOLUTION 	<div>ArmaProtect EFC1 and EFC2</div> <ul style="list-style-type: none">Flexible and clean installationProblem solver for special applications on job siteCombustible pipes Ø≤ 160 mm (with and without sound insulation)Non-combustible pipes Ø≤ 108 mm (with combustible insulation)Multi-layer composite pipes Ø≤ 110 mmUp to EI 240 	<div>ArmaProtect FC2</div> <ul style="list-style-type: none">Pre-formed productClean installationCombustible pipes Ø≤ 400mm (without insulation)Up to EI 120 
SUPERIOR SOLUTION 	<div>ArmaProtect FC1</div> <ul style="list-style-type: none">Pre-formed productClean installationCombustible pipes Ø≤160mm (without insulation)Up to EI 240  <div>ArmaProtect FW3</div> <ul style="list-style-type: none">Flexible and clean installationCombustible pipes Ø≤160mm (without combustible insulation)Combustible pipes Ø≤110mm (with combustible insulation)Multi-layer composite pipes Ø≤110mmUp to EI 120 	<div>ArmaProtect FW2</div> <ul style="list-style-type: none">Flexible and clean installationNon-combustible pipes up to Ø323.9mm (with combustible insulation)Up to EI 120 

SOLUTIONS WITH UL TESTING (ACC. TO UL 1479 / ASTM E814)

// For small to large openings
See relevant UL systems for further installation details.

	SMALL	MEDIUM	LARGE
EXCEPTIONAL SOLUTION 	<div>ArmaProtect CT</div> <ul style="list-style-type: none">Pre-installed deviceClean installationEasy re-penetrationOpenings up to Ø116mmUp to 3 h F rating 	<div>ArmaProtect CU</div> <ul style="list-style-type: none">Pre-formed productClean installationEasy re-penetrationFor temporary and temporary useOpenings up to 400mm x 200mmUp to 3 h F rating 	
SUPERIOR SOLUTION 	<div>ArmaProtect FW1</div> <ul style="list-style-type: none">Flexible and clean installationCombustible pipes up to Ø160mmCable bundles up to Ø150mmUp to 3 h fire rating  <div>ArmaProtect FW2</div> <ul style="list-style-type: none">Flexible and clean installationNon-combustible pipes up to Ø159mmComposite pipesConduits and conduit bundlesUp to 3 h fire rating 	<div>ArmaProtect CB</div> <ul style="list-style-type: none">Easy re-penetration and maintenanceAlso tested for bus bars and ductsUp to 3 h F ratingOpenings up to 0.6m x 0.4m 	
STANDARD SOLUTION 		<div>ArmaProtect CM</div> <ul style="list-style-type: none">Up to 3 h F ratingOpenings up to 0.6m x 0.4m 	

// For pipe penetrations
See relevant UL systems for further installation details.

	COMBUSTIBLE PIPES	NON-COMBUSTIBLE PIPES
SUPERIOR SOLUTION 	<div>ArmaProtect FW1</div> <ul style="list-style-type: none">Flexible and clean installationCombustible pipes up to Ø160mmAlso tested for cable bundles up to Ø150mmUp to 3 h fire rating 	<div>ArmaProtect FW2</div> <ul style="list-style-type: none">Flexible and clean installationNon-combustible pipes up to Ø159mmPE/AL/PE composite pipe up to Ø63mmAlso tested for PE-HD conduits up to Ø100mm (conduits Ø≤ 32mm), PE-HD conduits up to Ø50mm with speed pipe bundles and clima split bundlesUp to 3 h fire rating 

INSTRUCTIONS FOR USE

The recommended application temperature is between 5 °C and 25 °C and relative humidity of less than 85%. Ensure that surfaces to be coated are free of impurities and old coatings.

- ArmaProtect ABLC: Use brush, roller or airless sprayer (nozzle orifice > 0.48mm / 0.019").
- ArmaProtect ABLF: Use spatula.

1

X, Y, Z = !

2

ArmaProtect ABLC, FW1, FW2?

≥ 20 mm

masking tape

3

ArmaProtect ABLC

4

optional: ArmaProtect CB

5

ArmaProtect ABLF

6

ArmaProtect ABLF

7

ArmaProtect ABLF

8

ArmaProtect ABLF

9

optional: ArmaProtect FW1 or FW2

Consumption guide

Solid content (per weight): 66 - 68%

Applied material	Wet film material	Dry film material
1,000 g/m²	ca. 900 µm	ca. 500 µm
2,000 g/m²	ca. 1,800 µm	ca. 1,000 µm
3,200 g/m²	ca. 2,700 µm	ca. 1,600 µm
4,000 g/m²	ca. 3,600 µm	ca. 2,000 µm

Take note of potential material loss during application at the job site.

ArmaProtect ABLF

ArmaProtect ABLF

MAIN APPLICATIONS
ACC. ETA-22/0063

Single board system (1 x mineral wool board 60 mm, 2 side coated)¹

Base material	Drywall, concrete wall, aerated concrete wall, masonry wall, concrete floor
Base material thickness	≥ 100 mm (wall) ≥ 125 mm (floor)
Seal thickness	≥ 60 mm (wall) ≥ 60 mm (floor)
Maximum seal size (wall)	1175 mm x 1200 mm
Maximum seal size (floor)	1200 mm x 2400 mm or 800 x ∞
Penetrants	up to EI 60 ¹
• Cables ≤ Ø 80 mm ²	
• Cable bundles ≤ Ø 100 mm (with cables ≤ Ø 21 mm) ²	
• Cable trays ²	
• Plastic conduits ≤ Ø 32 mm (with cables ≤ Ø 21 mm) ²	
• Plastic conduit bundles ≤ Ø 100 mm (conduits ≤ Ø 32 mm, with cables ≤ Ø 21 mm) ²	
• PE lines "speed pipes" (24 x ≤ Ø 7.0 mm, 7 x ≤ Ø 10.0 mm, 5 x ≤ Ø 12.0 mm) ¹	
• Non-combustible pipe with mineral wool insulation (steel pipes ≤ Ø 219.1 mm, copper pipes ≤ Ø 88.9 mm) ¹	
• Non-combustible pipe with FEF insulation (steel pipes ≤ Ø 170 mm, copper pipes ≤ Ø 108 mm) ¹	
• Multilayer composite pipes ≤ Ø 63 mm ¹	
• Combustible pipes ≤ Ø 110 mm ¹	
• HVAC split-line-combinations ¹	

¹ See ETA-22/0063 for further installation details.

² Cables / cable bundles / cable trays to be coated with ArmaProtect ABLC or wrapped with ArmaProtect FW2, see further details in the ETA-22/0063

// Typical ETA approved systems¹

Wall application

Floor application

Legend

- 1. Rigid wall ≥ 100 mm
- 2. Flexible wall ≥ 100 mm
- 3. Mineral wool board
- 4. ArmaProtect ABLC Firestop coating
- 5. Cable
- 6. Rigid floor ≥ 125 mm

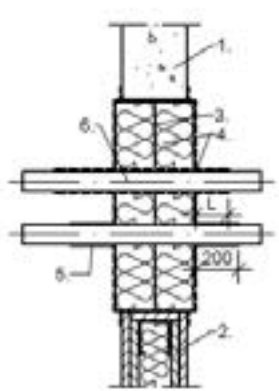
¹ See ETA 22/0063 for further installation details.

Double board system (2 x mineral wool board 60mm, 1 side coated) ¹	
Base material	Drywall, concrete wall, aerated concrete wall, masonry wall, concrete floor
Base material thickness	≥ 100 mm (wall) ≥ 150 mm (floor)
Seal thickness	≥ 120 mm (wall) ≥ 150 mm (floor)
Maximum seal size (wall)	1400 mm x 2000 mm
Maximum seal size (floor)	1400 mm x 2000 mm
Penetrants	up to EI 120 ¹
<div><ul style="list-style-type: none">Cables ≤ Ø 80 mm²Cable bundles ≤ Ø 100 mm (with cables ≤ Ø 21 mm)²Cable trays²Plastic conduits ≤ Ø 32 mm (with cables ≤ Ø 21 mm)²Plastic conduit bundles ≤ Ø 100 mm (conduits ≤ Ø 32 mm, with cables ≤ Ø 21 mm)²PE lines "speed pipes" (24 x ≤ Ø 7.0 mm, 7 x ≤ Ø 10.0 mm, 5 x ≤ Ø 12.0 mm)²Non-combustible pipe with mineral wool insulation (steel pipes ≤ Ø 323.9 mm, copper pipes ≤ Ø 108 mm)¹Non-combustible pipe with FEF insulation (steel pipes ≤ Ø 170 mm, copper pipes ≤ Ø 108 mm)¹Multilayer composite pipes ≤ Ø 63 mm¹Combustible pipes ≤ Ø 160 mm¹HVAC split-line-combinations¹</div>	

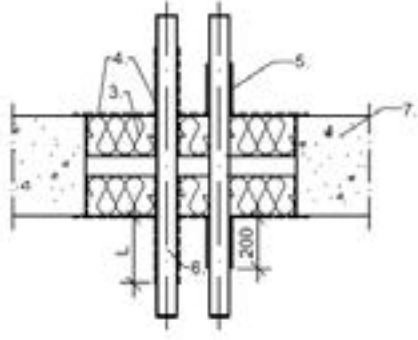
¹ See ETA-22/0063 for further installation details.
² Cables / cable bundles / cable trays to be coated with ArmaProtect ABLC or wrapped with ArmaProtect FW2, see further details in the ETA-22/0063.

// Typical ETA approved systems¹

Wall application



Floor application



- Legend
- 1. Rigid wall ≥100 mm
 - 2. Flexible wall ≥100 mm
 - 3. Mineral wool board
 - 4. ArmaProtect ABLC Firestop coating
 - 5. ArmaProtect FW2 Firestop wrap
 - 6. Cable
 - 7. Rigid floor ≥150 mm

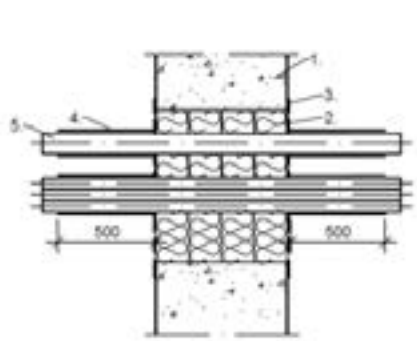
¹ See ETA 22/0063 for further installation details.

Quadruple board system (4 x mineral wool board 60 mm, 1 side coated) ¹	
Base material	Concrete wall, aerated concrete wall, masonry wall, concrete floor
Base material thickness	≥ 240 mm (wall) ≥ 200 mm (floor)
Seal thickness	≥ 240 mm (wall) ≥ 240 mm (floor)
Maximum seal size (wall)	600 mm x 600 mm
Maximum seal size (floor)	600 mm x ∞
Penetrants	up to EI 240 ¹
<div><ul style="list-style-type: none">Cables ≤ Ø 80 mm²Cable bundles ≤ Ø 100 mm (with cables ≤ Ø 21 mm)²Cable trays²</div>	

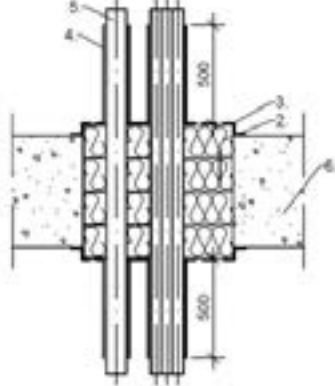
¹ See ETA-22/0063 for further installation details.
² Cables / cable bundles / cable trays to be wrapped with ArmaProtect FW2, see further details in the ETA-22/0063.

// Typical ETA approved systems¹

Wall application



Floor application



- Legend
- 1. Rigid wall ≥ 240 mm
 - 2. Mineral wool board
 - 3. ArmaProtect ABLC Firestop coating
 - 4. ArmaProtect FW2 Firestop wrap
 - 5. Cable
 - 6. Rigid floor ≥ 200 mm

¹ See ETA 22/0063 for further installation details.

OTHER APPROVED SYSTEMS

ACC. ETA-22/0063



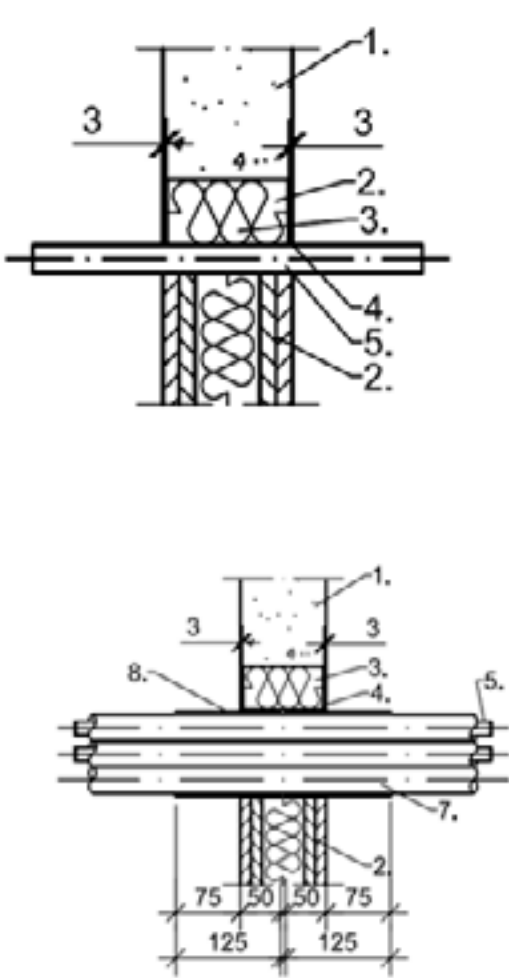
Sealing system made of mineral wool and ArmaProtect ABLC Firestop Coating¹

Base material	Concrete wall, aerated concrete wall, masonry wall, concrete floor
Base material thickness	≥ 100 mm (wall) ≥ 125 mm (floor)
Seal thickness	≥ 100 mm (wall) ≥ 125 mm (floor)
Maximum seal size (wall)	350 mm x 150 mm (rectangular) Ø 150 mm (round)
Maximum seal size (floor)	350 mm x 150 mm (rectangular) Ø 160 mm (round)
Penetrants	up to EI 90 ¹
<div><div><div>Cables ≤ Ø 21 mm¹</div><div>Cable bundles ≤ Ø 100 mm (with cables ≤ Ø 21 mm)¹</div><div>Plastic conduits ≤ Ø 32 mm (with cables ≤ Ø 21 mm)²</div><div>Plastic conduit bundles ≤ Ø 70 mm (conduits ≤ Ø 16 - 50 mm, with cables ≤ Ø 21 mm)²</div><div>Plastic conduit bundles ≤ Ø 100 mm (conduits ≤ Ø 32 mm, with cables ≤ Ø 21 mm)²</div><div>Metal conduits ≤ Ø 16 mm (with cables ≤ Ø 14 mm) and ≤ Ø 50 mm (with cables ≤ Ø 21 mm)²</div><div>Combustible pipes ≤ Ø 32 mm¹</div><div>Combustible pipes ≤ 219.1 mm (with mineral wool insulation)¹¹</div><div>HVAC split-line-combinations¹</div></div></div>	

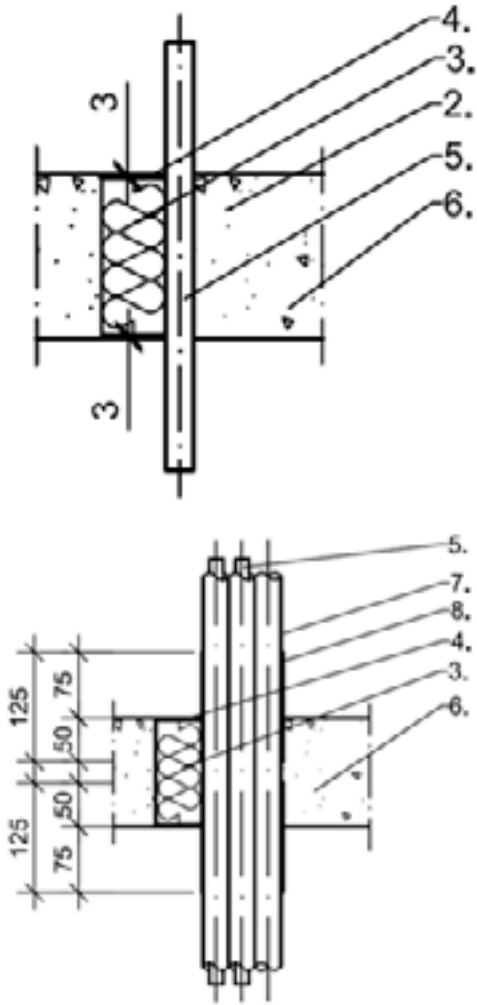
¹ See ETA-22/0063 for further installation details.
² Plastic conduits/plastic conduit bundles to be wrapped with ArmaProtect FW2, see further details in the ETA-22/0063.

// Typical ETA approved systems¹

Wall application



Floor application



- Legend
- 1. Rigid wall ≥ 240 mm
 - 2. Mineral wool board
 - 3. ArmaProtect ABLC Firestop coating
 - 4. ArmaProtect FW2 Firestop wrap
 - 5. Cable
 - 6. Rigid floor ≥ 200 mm
 - 7. Rigid wall ≥ 100 mm
 - 8. Wall ≥ 100 mm
 - 9. Loose mineral wool
 - 10. ArmaProtect ABLF Firestop filler mastic
 - 11. Cable
 - 12. Rigid floor ≥ 150 mm
 - 13. Conduits
 - 14. ArmaProtect FW2 Firestop wrap

¹ See ETA 22/0063 for further installation details.

UL APPROVED SYSTEMS

// Typical UL approved systems¹

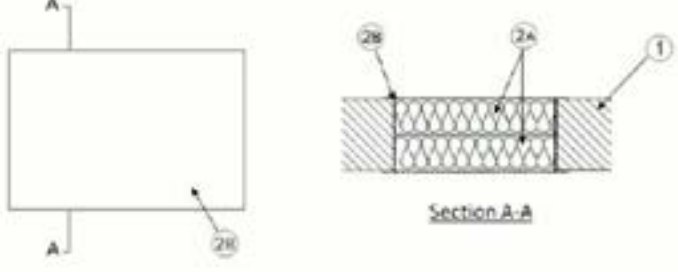
Penetrants		
<ul style="list-style-type: none">Blank openings	≤ 400 mm x 600 mm	
<ul style="list-style-type: none">Cable trays	≤ 500 mm width	
<ul style="list-style-type: none">Cable bundles	≤ Ø 150 mm	
<ul style="list-style-type: none">PE-HD conduit bundles	≤ Ø 100 mm (conduits Ø ≤ 32 mm)	
<ul style="list-style-type: none">Copper tubes	≤ Ø 32 mm	
<ul style="list-style-type: none">Waveguides	≤ Ø 63 mm	
<ul style="list-style-type: none">Speed pipe bundles		
<ul style="list-style-type: none">Bus bars		
<ul style="list-style-type: none">Steel pipes	≤ Ø 323.9 mm	
<ul style="list-style-type: none">Copper pipes	≤ Ø 159 mm	
<ul style="list-style-type: none">PE/Al/PE composite pipes	≤ Ø 32 mm	
<ul style="list-style-type: none">PVC pipes	≤ Ø 110 mm	
<ul style="list-style-type: none">PE pipes	≤ Ø 110 mm	
<ul style="list-style-type: none">PP-HT pipes	≤ Ø 100 mm	
<ul style="list-style-type: none">PP pipes	≤ Ø 75 mm	
<ul style="list-style-type: none">AB/PVC pipes	≤ Ø 75 mm	
<ul style="list-style-type: none">Clima split bundles		
<ul style="list-style-type: none">Ducts	up to 400 mm x 300 mm (rectangular) up to Ø 300 mm (round)	

¹See relevant UL system for further installation details.

// Selected exemplary UL approved systems

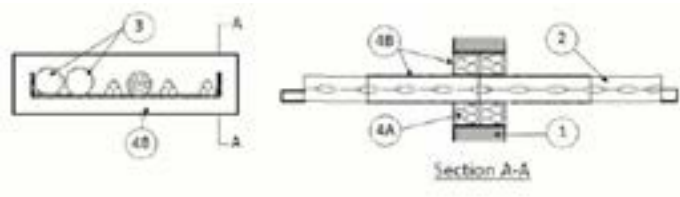
System No. C-AJ-0181 (blank floor opening)

- ANSI/UL 1479 (ASTM E814)
- F rating - 3 hours
 - T rating - 3 hours



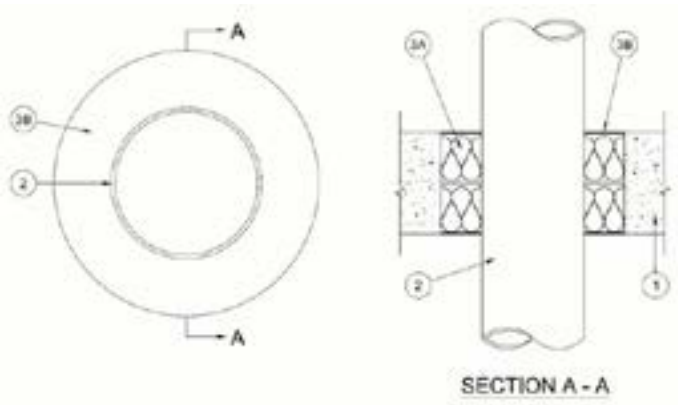
System No. W-J-4106 (cable tray in wall opening)

- ANSI/UL 1479 (ASTM E814)
- F rating - 3 hours
 - T rating - 2 hours



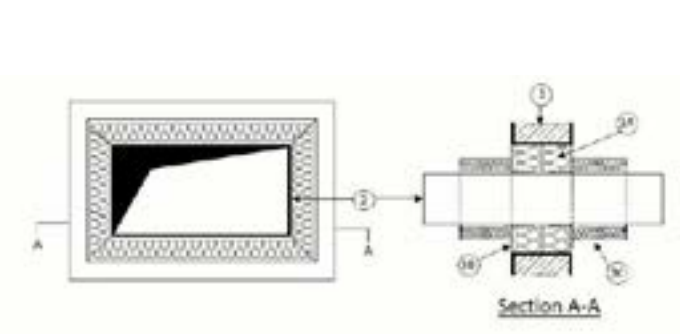
System No. C-AJ-1753 (Steel pipe in floor opening)

- ANSI/UL 1479 (ASTM E814)
- F rating - 3 hours
 - T rating - 0 hours



System No. W-J-1330 (duct in wall opening)

- ANSI/UL 1479 (ASTM E814)
- F rating - 3 hours
 - T rating - 1-1/2 hour



TECHNICAL DATA - ARMAPROTECT CB COATED BOARD SYSTEM

Brief description	ArmaProtect CB is an ablative coated board system to maintain the fire resistance performance of fire penetrations in walls and floors.
Material type	Mineral wool board with ablative firestop coating and ablative firestop filler mastic.
Additional material information	The entire system as well as the separate components (coated board, ablative firestop coating and ablative firestop filler mastic) are halogen- and solvent-free.
Product colour range	White
Special features	In a cured state, the ablative firestop coating (ArmaProtect ABLC) and ablative firestop filler mastic (ArmaProtect ABLF) are resistant against humidity, frost-dew-change and UV radiation.
Product range	Coated boards are packed as 4 pieces in a box. The length x width x height of the boards are as follows: - One-side coated board: 1000 mm x 600 mm x 60 mm with dry-film thickness of 0.7 mm - Two-side coated board: 1000 mm x 600 mm x 60 mm with dry-film thickness of 0.7 mm ArmaProtect ABLC ablative firestop coating is available in pails of 12.5 kg and 15 kg. ArmaProtect ABLF ablative firestop filler mastic is available as 310 ml cartridges with 12 cartridges packed in a carton.
Applications	Ablative coated board system for mixed fire seals in walls and floors for blank openings, mixed and multiple services, cables, cable bundles and cable trays and non-combustible and combustible pipes.
Installation	For professional use only. Refer to third party published listings, national approvals / assessments and Armacell's product literature for specific application details as well as before handling this product.
Declaration of Performance (DoP)	ArmaProtect CB

Approvals and compliance

Specification compliance	• ETA-22/0063 acc. EN 1366-3 • UL acc. UL 1479 (ASTM E814)
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Property	Value/Assessment	Standard/Test method
Temperature range		
Operating temperature	-40°C to +70°C [-40°F to 158°F]	
Application temperature	5°C to 25°C [41°F to 77°F]	
Storage and transportation temperature	ArmaProtect CB Coated firestop board: 5°C to 25°C [41°F to 77°F] ArmaProtect ABLC Firestop coating: 5°C to 25°C [41°F to 77°F] ArmaProtect ABLF Firestop filler mastic: 5°C to 25°C [41°F to 77°F]	
Mechanical properties		
Density	ArmaProtect ABLC Firestop coating: 1.34 - 1.48 g/cm³ [at 20 °C] ArmaProtect ABLF Firestop filler mastic: 1.34 - 1.48 g/cm³ [at 20 °C]	
Fire performance		
Reaction to fire	Class E	EN 13501-1
Resistance to fire	See Annex	
Health and environment		
Emission of dangerous substances	No dangerous substances.	ETAG 026-02
Volatile organic compounds (VOC) content	ArmaProtect ABLC Firestop coating: < 50 g/l ArmaProtect ABLF Firestop filler mastic: < 50 g/l	GS-11, Green Seal Standard
Other technical features		
Durability and serviceability	Use category type X.	EOTA TR 024
Cure time	Dust-dry: > 4 h [23 °C / 65% relative humidity] 2nd layer: > 8 h [23 °C / 65% relative humidity] Fully cured: > 4 d [23 °C / 65% relative humidity]	
Safety information	Please refer to the safety data sheet available on our website.	
Shelf life	Can be kept for at least 18 months if unopened and stored properly. ¹	
Storage	Store in a cool and dry place with an ambient temperature of 5 °C to 25 °C and protect from frost.	

¹ ArmaProtect ABLC Firestop coating and ArmaProtect ABLF Firestop filler mastic only.

Firestop coating. Colour: White

Item	Description	Content
PRO-ABLC-12.5kg	ArmaProtect ABLC Firestop coating packed in a pail	12.5 kg
PRO-ABLC-15kg	ArmaProtect ABLC Firestop coating packed in a pail	15 kg

Firestop filler mastic. Colour: White

Item	Description	Content
PRO-ABLF-12.5kg	ArmaProtect ABLF Firestop filler mastic packed in a pail	12.5 kg
PRO-ABLF-15kg	ArmaProtect ABLF Firestop filler mastic packed in a pail	15 kg
PRO-ABLF-310ml	ArmaProtect ABLF Firestop filler mastic packed in a cartridge	310 ml

Coated board system. Colour: White

Item	Description	Content
PRO-CB-60S1	ArmaProtect CB Coated firestop board 1000 mm x 600 mm x 60 mm S1 (dry-film thickness: 0.7 mm)	4 piece(s)
PRO-CB-60S2	ArmaProtect CB Coated firestop board 1000 mm x600 mm x 60 mm S2 (dry-film thickness: 0.7 mm)	4 piece(s)

Firestop wrap.

Item	Description	Content
PRO-FW1-10m	ArmaProtect FW1 Firestop wrap	10 m
PRO-FW2-10m	ArmaProtect FW2 Firestop wrap	10 m

Firestop wrap.

Item	Description	Content
PRO-ID-SET	ArmaProtect ID identification plate set	5 pieces

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ABOUT ARMACELL

As the inventors of flexible foam for equipment insulation and a leading provider of engineered foams, Armacell develops innovative and safe thermal, acoustic and mechanical solutions that create sustainable value for its customers. Armacell's products significantly contribute to global energy efficiency making a difference around the world every day. With more than 3,000 employees and 24 production plants in 16 countries, the company operates two main businesses, Advanced Insulation and Engineered Foams. Armacell focuses on insulation materials for technical equipment, high-performance foams for high-tech and lightweight applications and next generation aerogel blanket technology.



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