



FOR MEDIUM-TO-LARGE
FIRESTOP PENETRATIONS

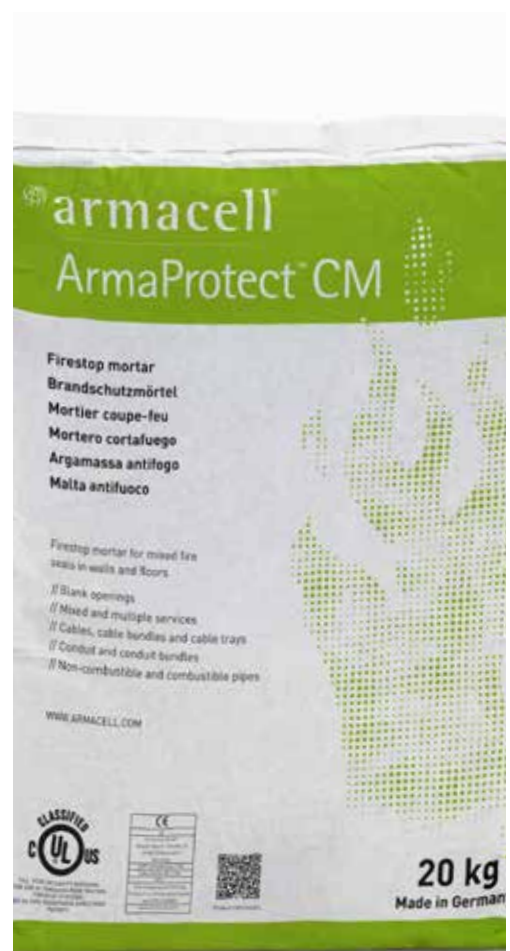
ArmaProtect CM

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-combusitble and combustible pipes
- // Speed pipes

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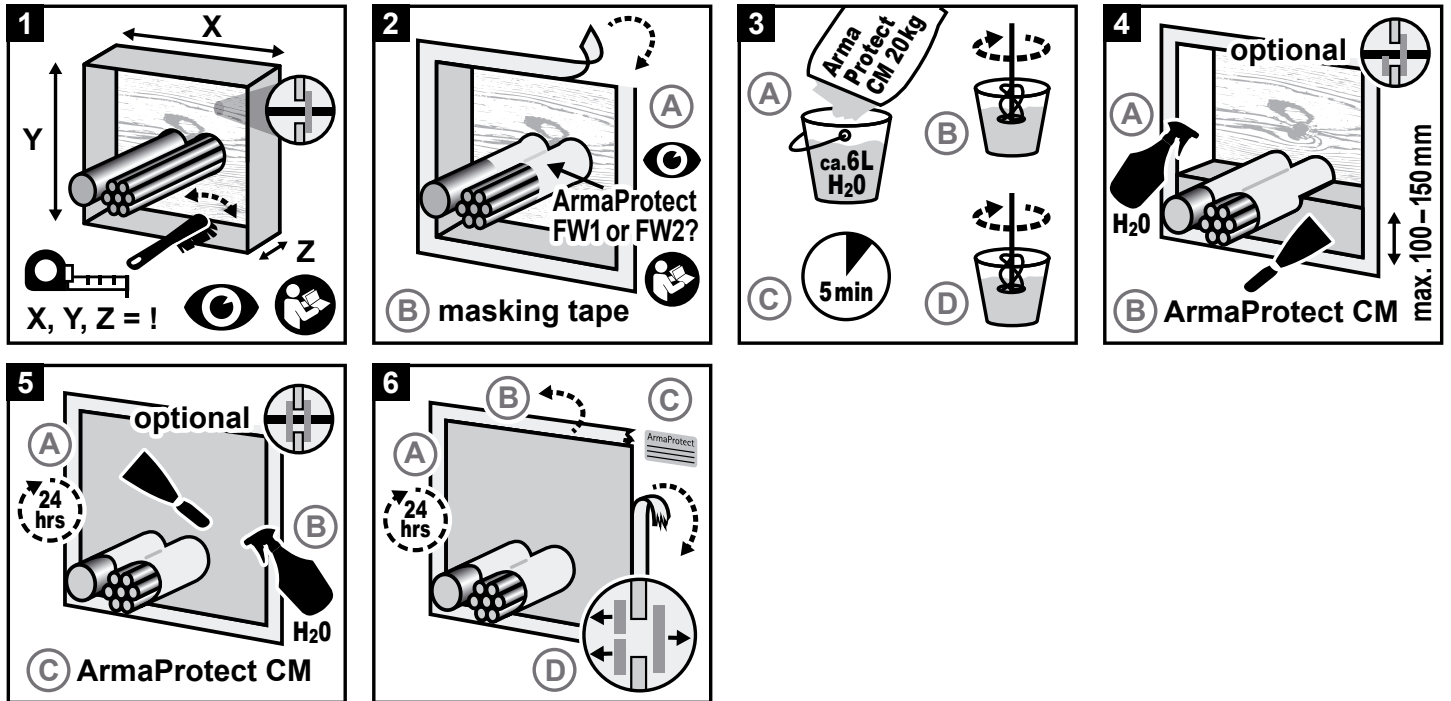


 **armacell**[®]
ArmaProtect[™]

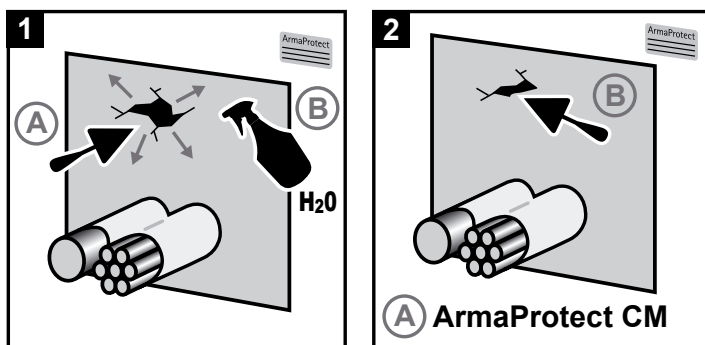
INSTRUCTIONS FOR USE

Before you begin, ensure surfaces are solid and free of any adhesion-reducing substances such as dust. Absorbent surfaces should be pre-wet with water. The mortar consistency needs to be adapted so that all components are filled without cavities.

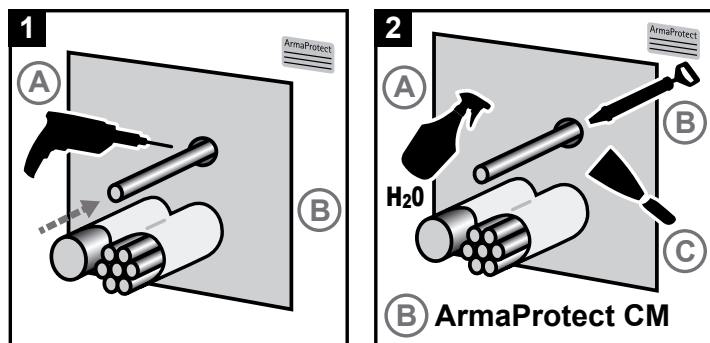
// Wall installation



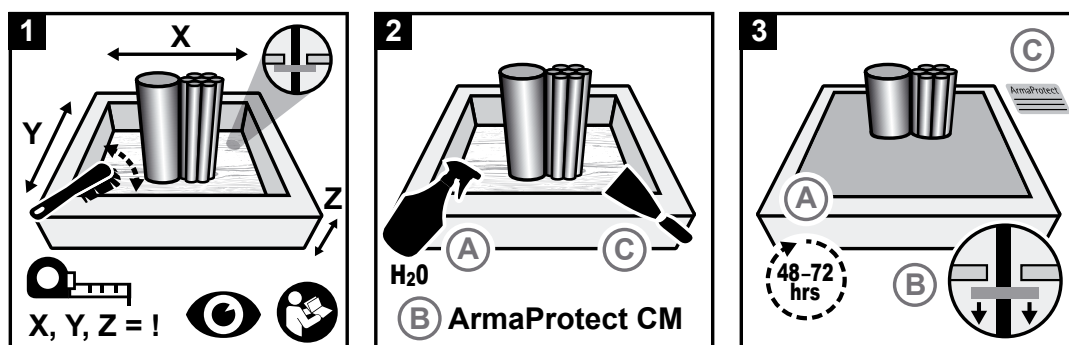
// Repairing cracks



// Repenetration



// Floor installation



// Consumption guide

Approximate consumption [kg]

Maximum sealing size [m ²]	0% services	30% services	60% services
0.01	1.50	1.05	0.60
0.02	3.00	1.10	1.20
0.03	4.50	3.15	1.80
0.05	7.50	5.25	3.00
0.10	15.00	10.50	6.00
0.20	30.00	21.00	12.00
0.30	45.00	31.50	18.00
0.50	75.00	52.50	30.00
1.00	150.00	105.00	60.00

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

MAIN APPLICATIONS

ACC. ETA-22/0064



In drywalls¹

Base material	Drywall
Base material thickness	≥ 100 mm
Seal thickness	≥ 100 mm
Maximum seal size (wall)	550 mm x 600 mm
Penetrants	
<ul style="list-style-type: none"> Cables ≤ Ø 80 mm² Cable bundles ≤ Ø 150 mm (with cables ≤ Ø 21 mm)² Cable trays² Plastic conduits ≤ Ø 32 mm (with cables ≤ Ø 21 mm)³ Plastic conduit bundles ≤ Ø 100 mm (conduits ≤ Ø 32 mm, with cables ≤ Ø 21 mm)³ Plastic conduits ≤ Ø 32 mm (with cables ≤ Ø 21 mm)³ PE lines "speed pipes" (24 x ≤ Ø 7.0 mm, 7 x ≤ Ø 10.0 mm, 5 x ≤ Ø 12.0 mm)¹ 	up to EI 120 ¹

¹ See ETA-22/0064 for further installation details.

² For cables > 21 mm and cable bundles use 2 x 2-layer ArmaProtect FW2, 125 mm outside seal.

³ Use 2 x 2-layer ArmaProtect FW2, 50 mm inside seal / 75 mm outside seal.

In solid walls and concrete floors¹

Base material	Concrete wall, aerated concrete wall, masonry wall, concrete floor
Base material thickness	≥ 150 mm (wall) ≥ 150 mm (floor)
Seal thickness	≥ 150 mm (wall) ≥ 150 mm (floor)
Maximum seal size (wall)	1200 mm x 1200 mm
Maximum seal size (floor)	1200 mm x 2000 mm
Penetrants	
<ul style="list-style-type: none"> Cables ≤ Ø 80 mm² Cable bundles ≤ Ø 100 mm (with cables ≤ Ø 21 mm)³ Cable trays¹ Plastic conduits ≤ Ø 63 mm (with cables ≤ Ø 21 mm)⁴ Plastic conduit bundles ≤ Ø 100 mm (conduits ≤ Ø 32 mm, with cables ≤ Ø 21 mm)³ 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 323.9 mm, copper pipes ≤ Ø 88.9 mm)¹ Non-combustible pipe with FEF insulation (steel pipes ≤ Ø 168.3 mm, copper pipes ≤ Ø 108 mm)¹ Multilayer composite pipes ≤ Ø 63 mm¹ Combustible pipes ≤ Ø 160 mm¹ HVAC split-line-combinations¹ 	up to EI 120 ¹

¹ See ETA-22/0064 for further installation details.

² For cables ≤ 50 mm use 2 x 2-layer ArmaProtect FW2, 125 mm outside seal, for cables > 50 mm use 2 x 2-layer ArmaProtect FW2, 125 mm (EI 90) or 150 mm (EI 120) outside seal.

³ Use 2 x 1-layer ArmaProtect FW2, 125 mm outside seal.

⁴ Use 2 x 2-layer ArmaProtect FW2.

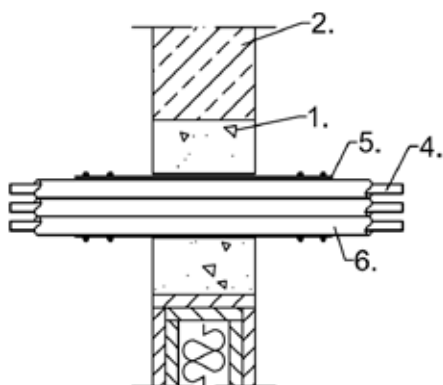
In solid walls and concrete floors¹

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 600 mm
Penetrants	up to EI 240 ¹
<ul style="list-style-type: none"> • Cables ≤ Ø 80 mm¹ • Cable bundles ≤ Ø 100 mm (with cables ≤ 21 mm)¹ • Cable trays¹ 	

¹ See ETA-22/0064 for further installation details.

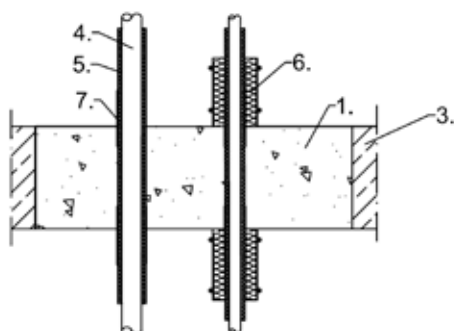
// Typical ETA approved systems¹

Wall application



- Legend
1. ArmaProtect CM
 2. Rigid wall
 4. Cable
 5. ArmaProtect FW2
 6. Plastic conduits

Floor application



- Legend
1. ArmaProtect CM
 3. Rigid floor
 4. Non-combustible pipe
 5. FEF insulation
 6. Protection insulation made of mineral fibre mats / shells
 7. ArmaProtect FW2

¹ See ETA 22/0064 for further installation details.

OTHER APPROVED APPLICATIONS

ACC. ETA-22/0064

ArmaProtect CT firestop cable tube (150 mm length) in ArmaProtect CM penetration for retrofitting in walls¹

Penetrants

- Cables $\leq \varnothing 50$ mm¹
- Cable bundles $\leq \varnothing 107$ mm (with cables $\leq \varnothing 21$ mm)¹
- Plastic conduits $\leq \varnothing 32$ mm (with cables $\leq \varnothing 14$ mm)¹
- HVAC split line combinations¹

up to EI 90¹

¹ See ETA-22/0064 for further installation details.

UL APPROVED SYSTEMS

// Typical UL approved systems¹

Penetrants

- Cables trays

≤ 300 mm width

- PE-HD conduit bundles

≤ Ø 100 mm (conduits ≤ 32mm)

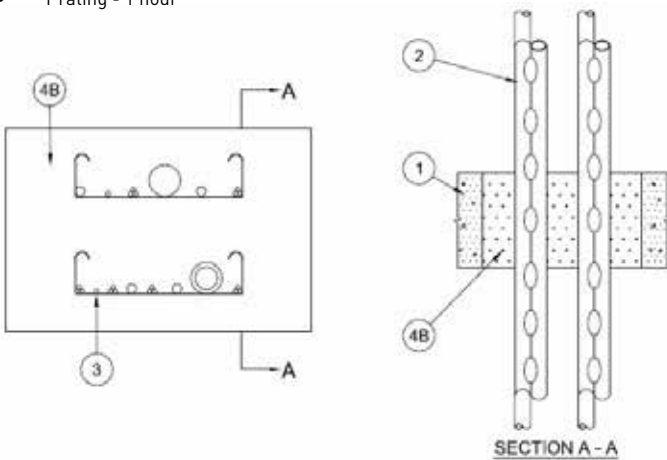
¹ See relevant UL system for further installation details.

// Selected exemplary UL approved systems

System No. F-A-4025 (cable tray in floor opening)

ANSI/UL 1479 (ASTM E814)

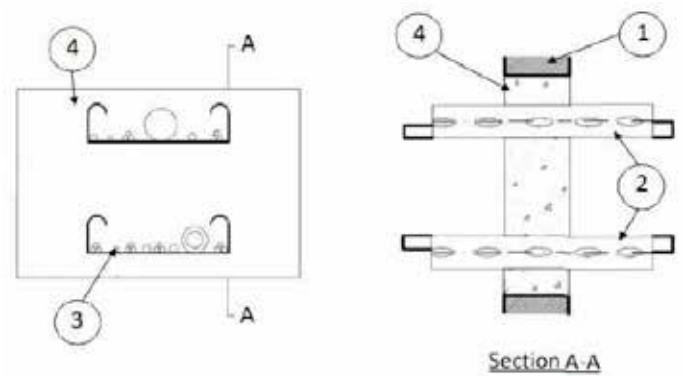
- F rating - 3 hours
- T rating - 1 hour



System No. W-J-4107 (cable tray in wall opening)

ANSI/UL 1479 (ASTM E814)

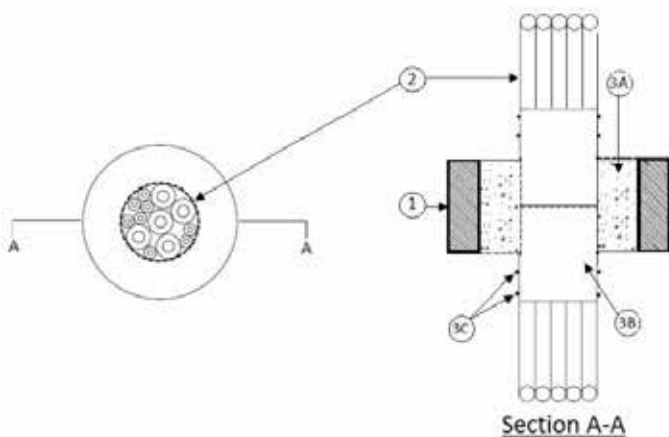
- F rating - 2 hours
- T rating - 2 hours



System No. F-A-8061 (PE-HD bundle in floor opening)

ANSI/UL 1479 (ASTM E814)

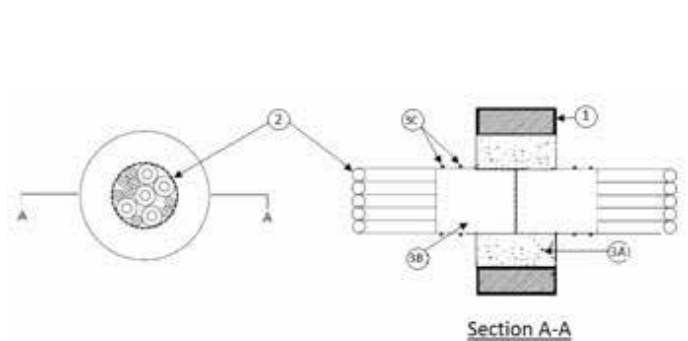
- F rating - 3 hours
- T rating - 2 hours



System No. W-J-8090 (PE-HD bundle in floor opening)

ANSI/UL 1479 (ASTM E814)

- F rating - 3 hours
- T rating - 1 hour



TECHNICAL DATA - ARMAPROTECT CM FIRESTOP MORTAR

Brief description	ArmaProtect CM is a cementitious-based firestop mortar used to maintain the fire resistance performance of fire penetrations in walls and floors.
Material type	Cementitious based firestop mortar.
Additional material information	6 - 7 l water + 20 kg dry mortar ≈ 20 l ready-to-use wet mortar ≈ 20 l volume after hardening
Product colour range	Grey
Product range	Available as a 20 kg bag of mortar. 25 bags on a pallet.
Applications	Firestop mortar 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 CM

Approvals and compliance

Specification compliance	<ul style="list-style-type: none"> • ETA-22/0064 acc. EN 1366-3 • UL acc. UL 1479 (ASTM E814)
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Property	Value/Assessment	Standard/Test method
Temperature range		
Operating temperature	5 °C to 200 °C (41 °F to 392 °F)	
Application temperature	5 °C to 25 °C (41 °F to 77 °F)	
Storage and transportation temperature	5 °C to 25 °C (41 °F to 77 °F)	
Mechanical properties		
Dry bulk density	ca. 900 kg/m ³	EN 998-2
Bulk density	1200 ± 100 kg/m ³ (fresh mortar)	EN 998-2
Pressure resistance	M 2.5	EN 998-2
Fire performance		
Reaction to fire	Class A1	EN 13501-1
Resistance to fire	See Annex	
Health and environment		
Emission of dangerous substances	No dangerous substances.	ETAG 026-02
Other technical features		
Durability and serviceability	Use category type Z ₂	EOTA TR 024
Cure time	Fully cured after approximately 28 days.	
Safety information	Please refer to the safety data sheet available on our website.	
Shelf life	Can be kept for at least 12 months unopened if stored properly.	
Storage	Store in a cool and dry place with an ambient temperature of 5 °C to 25 °C and protect from frost.	

Firestop mortar

Item	Description	Content
PRO-CM-20kg	ArmaProtect CM Firestop mortar	20 kg

Firestop wrap

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

Firestop cable tube

Item	Description	Content
PRO-CT-S060	ArmaProtect CT Firestop cable tube 150 mm / Ø 60 mm packed as 1 cable tube with 2 soft plugs	30 set(s)
PRO-CT-S090	ArmaProtect CT Firestop Cable tube 150 mm / Ø 90 mm packed as 1 cable tube with 2 soft plugs	24 set(s)

Firestop identification plate.

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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