

### **ENDLESS FIRESTOP COLLAR**

# ArmaProtect EFC1 and EFC2

Flexible solution for firestop pipe penetrations

Endless firestop collar for fire seals in walls and floors

- // Combustible pipes  $\emptyset \le 160$  mm (with and without sound insulation)
- // Combustible pipes  $\emptyset \le 110$  mm (with combustible insulation)
- // Non-combustible pipes  $\emptyset \le 108$  mm (with combustible insulation)
- // Multi-layer composite pipes ∅ ≤ 110 mm













# ArmaProtect<sup>™</sup>

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.



#### // Fire safety is top priority

The requirements for fire protection are increasing. Regulated by building codes, buildings are sub-divided in fire compartments. In the event of a fire, they keep fire and smoke contained in a limited area for a given amount of time. Fire ratings typically range from 30 to 120 or even up to 240 minutes

ArmaProtect firestop products reliably seal off penetrations in walls, floors or service shafts and keep escape routes free of smoke and toxic gases. This gives occupants valuable time to leave the building and rescue teams unhindered access for evacuation.

#### // One-stop-shop solution

Whether flexible walls, rigid wall or rigid floors with cable and pipe penetrations – Armacell offers specifiers and installers compliant solutions for almost all firestop penetrations.

The range includes intumescent firestop wraps, firestop collars, coated firestop boards, intumescent firestop sealants and mortars.

The ArmaProtect portfolio is an ideal addition to ArmaFlex Protect, Armacell's unique firestop solution which combines high fire resistance, condensation control and thermal insulation in a single product.

SOLUTIONS
WITH EN TESTING
(ETA)

## The firestop portfolio from Armacell

Firestop penetration seals with cables, conduits, combustible and non-combustible pipes for residential, commercial and industrial building.

- ✓ Specifiable, reliable and flexible for each firestop application in residential, commercial and industrial buildings
- Cost efficient solution –
   the ideal choice for specifiers
- Easy to install and maintain –perfectly designed for the need of installers
- ✓ Easy to inspect compliant solutions to fulfill the expectations of firestop inspectors
- ✓ Firestop solutions for cable, pipe and mixed penetrations globally tested with European Technical Assessments and tested UL systems
- Full approval range from small to large openings –
   covering customer's requirement on the job sites









ArmaProtect EXPS
Firestop sealant



ArmaProtect FW2 & FW3
Firestop wrap



ArmaProtect FC1 & FC2
Firestop collar



ArmaProtect CB
Coated firestop board
(includes ArmaProtect ABLC
Firestop coating and
ArmaProtect ABLF
Firestop filler mastic)



ArmaProtect CM Firestop mortar



ArmaProtect CT
Firestop cable tube



ArmaProtect EFC1 & EFC2
Endless firestop collar

#### TECHNICAL DATA - ARMAPROTECT EFC1 AND EFC2

Product colour range   Stainless steel (strap) and anthractie (Intumescent strip)	Brief description	ArmaProtect EFC1 and EFC2 are endless firestop collars as solution for covering various pipe diameters and design variants.		
Secial features Easy visual inspection.  Product range Self-adhesive firestop wrap: 10 m. x 40 mm x 2 mm, stainless steel strap; 3 m lincluding 18 hookal.  Endies Firestop collar for fire seals inwalls and filoror for combustible pipes livith and without insulation) and non-combustible pipes with and without insulation and non-combustible pipes with and without insulation and renormalization.  For professional size only, Refer to third parry published listings, national approvals / assessments and Armacell's product literature for specification compliance  **ETA-22/0061 acc. EN 1346-3  **Property***  Value / Assessment  **For third parry published listings, national approvals / assessments and Armacell's product literature for specification compliance  **ETA-22/0061 acc. EN 1346-3  **Value / Assessment	Material type	Stainless steel strap with self-adhesive flexible intumescent strip based on blowing graphite technology.		
Product range Self-achesive firestop wrap: 10 m x 40 mm x 2 mm, stainless steel strap: 3 m lincluding 18 hooks).  Applications Eddaes Firestop collar for fire seals in walls and floors for combustible pipes with and without insulation) and non-combustible pipes with combustible insulations.  Installation For professional use only. Refer to third parry published listings, national approvals / assessments and Armacell's product literature for specific application details as well as before handling this product.  Approvals and compliance  Specification compliance  * ETA-2200601 acc. EN 1366-3  Property Value / Assessment  **ETA-2200601 acc. EN 1366-3  **Property Value / Assessment  **Corporating temperature  Operating temperature  **Processing temperature  **Proces	Product colour range	Stainless steel (strap) and anthracite (intumescent strip)		
Applications Endess Firestop collar for fire seals in walls and floers for combustible pipes (with and without insulation) and non-combustible pipes (with combustible insulation).  For processing alone 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.  Approvals and compliance  Specification compliance  Property  Value / Assessment  Approvals and compliance  Separating temperature  Processing temperature  Processing temperature  Processing Temperature  Processing temperature  Processing temperature  Processing temperature  SPC to 25°C (41°F to 77°F)  Thermal conductivity  Obertained thermal conductivity  Obertained thermal conductivity  Separation to fire  Class A1 (tabinities steel collar) / Class E (intumescent strip)  Declared thermal conductivity  Specification to fire  Class A1 (tabinities steel collar) / Class E (intumescent strip)  Declared thermal conductivity  Property  Thermal conductivity  Obertained for use al temperatures below 0°C with exposure to IJV but no exposure to rain  ED1A TR 1024  Passive fire protection  Fire resistance of elements of Drywall, concrete wall, assessed concrete wall, masonry wall: up to El 120  Declared through a specific fire of the strip of the st	Special features	Easy visual inspection.		
Installation	Product range	Self-adhesive firestop wrap: 10 m x 40 mm x 2 mm, stainless steel strap: 3 m (including 18 hooks).		
Approvals and compliance  Specific application details as well as before handling this product.  **ETA-22/0061 acc. EN 1366-3  Property  Value / Assessment  Standard / Test method  Operating temperature  Operating temperature  Operating temperature  Processing Temperature  STC to 25°C (41°F to 77°F)  Thermal conductivity  Mad (W/Im-XI)  Oberland thermal conductivity  Mad (W/Im-XI)  Oberland to fire  Class A1 Istainless steet collarl / Class E (intumescent strip)  Use category  Type Y1: intended for use at temperatures below 0°C with exposure to UV but no exposure to rain  STATE 024  Processing temperature  Processing temperature  Type Y1: intended for use at temperatures below 0°C with exposure to UV but no exposure to rain  STATE 024  Properation to fire  Class A1 Istainless steet collarl / Class E (intumescent strip)  Use category  Type Y1: intended for use at temperatures below 0°C with exposure to UV but no exposure to rain  STATE 024  Properation to fire  Class A1 Istainless steet collarl / Class E (intumescent strip)  Start of traction / Volume  Dywalt_concrete walt, aerated concrete walt, masonry wall; up to E1 120  Concrete filtors: up to E1 246  Wechanical properties  Start of traction / Volume  A100 = 10 kg/m²  Wechanical properties  Start of traction / Volume  A100 = 10 kg/m²  Wechanical properties  Emission of dangerous  Substances  Please refer to the safety data sheet ovaliable on our website.  Emission of dangerous  Substances  Other technical features  Storage  Store / Transport in a cool and dry place with an ambient temperature of 5°C to 25°C (41°F to 77°F) and protect	Applications			
Property   Value / Assessment   Standard / Test method	Installation			
Property Value / Assessment Standard / Test method  Operating temperature Operating temperature Operating temperature -40°C to 70°C (40°F to 158°F)  Processing Temperature Processing temperature Processing temperature Section 5°C to 25°C (41°F to 77°F)  Thermal conductivity Operating temperature Operating temperature Operating temperature Section to fire Class A1 [stainless steel collar] / Class E [intumescent strip] Obertance and Approvable Reaction to fire Class A1 [stainless steel collar] / Class E [intumescent strip] Obertance and Approvable Reaction to fire Class A1 [stainless steel collar] / Class E [intumescent strip] Obertance and Approvable Reaction to fire Obertance and Approvable Operating temperature Oper	Approvals and compliance		_	
Operating temperature Operating temperature Operating temperature Operating temperature -40°C to 70°C (40°F to 158°F) Processing Temperature Processing Temperature Processing temperature Operating t	Specification compliance	• ETA-22/0061 acc. EN 1366-3		
Operating temperature	Property	Value / Assessment		
Processing Temperature  Processing Temperature  5°C to 25°C (41°F to 77°F)  Thermal conductivity  Declared thermal conductivity  Declared thermal conductivity  The Processing Temperature  6°C to 25°C (41°F to 77°F)  8°C   0.403  Fire Performance and Approvals  Reaction to fire  Class A1 (stainless steel collar) / Class E (intumescent strip)  Use category  Type Y1: intended for use at temperatures below 0°C with exposure to UV but no exposure to rain  EOTA TR 024  Passive fire protection  Fire resistance of elements of construction  Drywall, concrete wall, aerated concrete wall, masonry wall: up to El 120  Concrete floors: up to El 240  Physical attributes  Density  1200 ± 10 kg/m²  Mechanical properties  Expansion pressure  > 0.8 N/mm²  Health aspects  Please refer to the safety data sheet available on our website.  Emission of dangerous  substances  Differ technical features  Sheff life  No sheff life.  Storage  Store / Transport in a cool and dry place with an ambient temperature of 5°C to 25°C (41°F to 77°F) and protect	Operating temperature			
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Ad < [W/[m-KI]] 0.403  Fire Performance and Approvals  Reaction to fire Class A1 (stainless steel collar) / Class E (intumescent strip) EN 13501-1  Use category Type Y1: intended for use at temperatures below 0°C with exposure to UV but no exposure to rain EOTA TR 024  Passive fire protection  Fire resistance of elements of Concrete wall, aerated concrete wall, masonry wall: up to EI 120 EN 13501-2  Concrete floors: up to EI 240  Physical attributes  Density 1200 ± 10 kg/m³  Mechanical properties  Start of reaction / Volume exposure to UV but no exposure to rain EN 13501-2  EXAMPLE OF TRAIN	Thermal conductivity			
Reaction to fire Class A1 (stainless steel collar) / Class E (intumescent strip) EN 13501-1  Use category Type Y1: intended for use at temperatures below 0°C with exposure to UV but no exposure to rain EOTA TR 024  Passive fire protection  Fire resistance of elements of Concrete wall, aerated concrete wall, masonry wall: up to El 120 Concrete floors: up to El 240  Physical attributes  Density 1200 ± 10 kg/m³  Mechanical properties  Start of reaction / Volume exposure volume exposure to rain EN 13501-2  Expansion pressure > 0.8 N/mm²  Health and environment  Health aspects Please refer to the safety data sheet available on our website.  Emission of dangerous substances  Shelf life No shelf life.  Storage Store / Transport in a cool and dry place with an ambient temperature of 5 °C to 25 °C (41°F to 77°F) and protect	Declared thermal conductivity	θm 0 °C		
Reaction to fire Class A1 (stainless steel collar) / Class E (intumescent strip)  Type Y1: intended for use at temperatures below 0°C with exposure to UV but no exposure to rain  EOTA TR 024  Passive fire protection  Fire resistance of elements of Concrete wall, aerated concrete wall, masonry wall: up to El 120  Physical attributes  Density 1200 ± 10 kg/m³  Mechanical properties  Start of reaction / Volume expansion pressure > 0.8 N/mm²  Health and environment  Health and environment  Health aspects Please refer to the safety data sheet available on our website.  Emission of dangerous substances.  Shelf life No shelf life.  Storage Store / Transport in a cool and dry place with an ambient temperature of 5 °C to 25 °C (41°F to 77°F) and protect		λd ≤ [W/(m·K)] 0.403		
Use category  Type Y1: intended for use at temperatures below 0°C with exposure to UV but no exposure to rain  EOTA TR 024  Passive fire protection  Fire resistance of elements of construction  Drywall, concrete wall, aerated concrete wall, masonry wall: up to El 120 Concrete floors: up to El 240  EN 13501-2  EN 13501-2  Physical attributes  Density  1200 ± 10 kg/m³  Mechanical properties  Start of reaction / Volume expansion  Expansion pressure  > 0.8 N/mm²  Health and environment  Health aspects  Please refer to the safety data sheet available on our website.  Emission of dangerous  substances  Other technical features  Shelf life  No shelf life.  Storage  Store / Transport in a cool and dry place with an ambient temperature of 5 °C to 25 °C (41°F to 77°F) and protect	Fire Performance and Approval	5		
Passive fire protection  Fire resistance of elements of concrete wall, aerated concrete wall, masonry wall: up to El 120 EN 13501-2  Physical attributes  Density 1200 ± 10 kg/m³  Mechanical properties  Start of reaction / Volume expansion	Reaction to fire	Class A1 (stainless steel collar) / Class E (intumescent strip)	EN 13501-1	
Fire resistance of elements of Concrete wall, aerated concrete wall, masonry wall: up to EI 120  Physical attributes  Density 1200 ± 10 kg/m³  Mechanical properties  Start of reaction / Volume expansion > 190 °C / 18 to 34 times  Expansion pressure > 0.8 N/mm²  Health and environment  Health aspects Please refer to the safety data sheet available on our website.  Emission of dangerous substances.  No dangerous substances.  Shelf life No shelf life.  Storage Store / Transport in a cool and dry place with an ambient temperature of 5 °C to 25 °C (41°F to 77°F) and protect	Use category	Type Y1: intended for use at temperatures below 0°C with exposure to UV but no exposure to rain	EOTA TR 024	
Concrete floors: up to El 240  Physical attributes  Density 1200 ± 10 kg/m³  Mechanical properties  Start of reaction / Volume expansion > 190 °C / 18 to 34 times  Expansion pressure > 0.8 N/mm²  Health and environment  Health aspects Please refer to the safety data sheet available on our website.  Emission of dangerous substances.  Other technical features  Shelf life No shelf life.  Storage Storage Storage on the safety data of the place with an ambient temperature of 5 °C to 25 °C (41°F to 77°F) and protect	Passive fire protection			
Density 1200 ± 10 kg/m³  Mechanical properties  Start of reaction / Volume expansion > 190 °C / 18 to 34 times  Expansion pressure > 0.8 N/mm²  Health and environment  Health aspects Please refer to the safety data sheet available on our website.  Emission of dangerous substances.  Other technical features  Shelf life No shelf life.  Storage Store / Transport in a cool and dry place with an ambient temperature of 5 °C to 25 °C (41°F to 77°F) and protect	Fire resistance of elements of construction	Drywall, concrete wall, aerated concrete wall, masonry wall: up to EI 120 Concrete floors: up to EI 240	EN 13501-2	
Mechanical properties  Start of reaction / Volume expansion	Physical attributes			
Start of reaction / Volume expansion > 190 °C / 18 to 34 times    Expansion pressure > 0.8 N/mm²    Health and environment    Health aspects Please refer to the safety data sheet available on our website.  Emission of dangerous substances.    Other technical features    Shelf life    No shelf life.    Storage Storage Store / Transport in a cool and dry place with an ambient temperature of 5 °C to 25 °C (41°F to 77°F) and protect	Density	1200 ± 10 kg/m³		
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Emission of dangerous substances.  Other technical features  Shelf life  No shelf life.  Storage  Store / Transport in a cool and dry place with an ambient temperature of 5 °C to 25 °C (41°F to 77°F) and protect	Health and environment			
Other technical features  Shelf life No shelf life.  Storage Store / Transport in a cool and dry place with an ambient temperature of 5 °C to 25 °C (41°F to 77°F) and protect	Health aspects	Please refer to the safety data sheet available on our website.		
Shelf life No shelf life.  Storage Store / Transport in a cool and dry place with an ambient temperature of 5 °C to 25 °C (41°F to 77°F) and protect	Emission of dangerous substances	No dangerous substances.	ETAG 026-02	
Storage Store / Transport in a cool and dry place with an ambient temperature of 5 °C to 25 °C (41°F to 77°F) and protect	Other technical features			
	Shelf life	No shelf life.		
	Storage			

#### Firestop collar

Item	Description	Content [quantity]
PRO-EFC1-3M	ArmaProtect EFC1 Endless Firestop collar comprised of 10m firestop wrap and 3m stainless steel strap	1 piece
PRO-EFC2-3M	ArmaProtect EFC2 Endless Firestop collar comprised of 10m firestop wrap and 3m stainless steel strap	1 piece

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### ABOUT ARMACELL

As the inventor of flexible foam for equipment insulation and a leading provider of engineered foams, Armacell develops innovative and safe thermal 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 3,300 employees and 25 production plants in 19 countries, the company operates two main businesses, Advanced Insulation and Engineered Foams. Armacell focuses on insulation materials for technical equipment, high-performance foams for acoustic and lightweight applications, recycled PET products, next-generation aerogel technology and passive fire protection systems.

