

Fire protection systems

Light - Fast - Safe

Mixed penetration seal TIROTECH®

according to ETA-17/0586

Maximum safety through simple processing





Mixed penetration seal TIROTECH® €€

Simply safe!

TIROTECH® is a kit for use as a cable and/or pipe penetration seal (mixed penetration seal). It combines the positive properties of the unique TIROTECH® lightweight fire protectivce mortar (10 kg / 30 l) with the advantages of the proven System RORCOL pipe collars and thus enables the safe and uncomplicated penetration sealing of openings in flexible walls, rigid walls, rigid floors, cross-laminated timber walls and cross-laminated timber floors.

In addition, the installation of **INLAP fire dampers** and **FSAeco fire protection closures** has been tested and approved for sealing off air ducts. Plastic air ducts can be sealed off with the **PRODEC fire damper air vent**. TIROTECH® is also tested as a combined penetration seal according to EN 15882-5, a combination of mixed penetration seal and fire damper, according to EN 1366-2 and EN 1366-3.



TIROTECH® Light fire protective mortar

- Low weight with high volume 10 kg/30 liter bag
- Processing without elaborate formwork or with lost formwork
- Installation of empty conduits for subsequent cable routing
- Approved for:



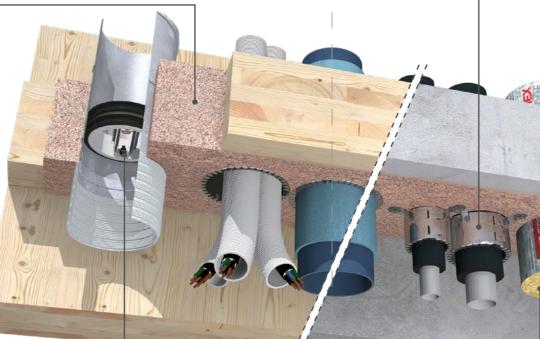
Rigid floors and rigid walls



Cross laminated timber floors and cross laminated timber walls (See page 5)



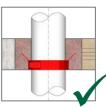
Flexible walls



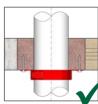


- For comustible and non-comustible pipes
- For cable bundles up to Ø 100 mm and empty conduits
- For air conditioning pipes
- Zero distance between fire protection collars and to pipe sections

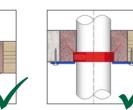




Flush-mounted installation possible



Dowel-free fixing



Lost formwork with plasterboard or sheet steel



INLAP Fire dampers El120/El90



FSAeco Fire damper air vent FLI-VE90

PRODEC Fire damper air vent FLI-VE90



Also for plastic air ducts!

FIRE PROOF Pipe section

- For non-combustible pipes up to Ø 76 mm
- Zero distance between pipe section and to pipe collars



Information on the manufacture of the TIROTECH® penetration seal and a list of the tested pipe brands can be found in the "TIROTECH® installation instructions and declaration of performance" according to European Technical Assessment ETA-17/0586.





TIROTECH® - Fire protective mortar

according to ETA-17/0586



Advantages

- Low weight with high volume 10 kg/30 liter bag
- Simple and safe processing
- High yield –30 liters wet mortar/bag
- Use condition X

With its low weight of just 10 kg per 30 liter bag and high yield, TIROTECH® fire protective mortar is the indispensable choice for efficient installation on the construction site. Whether in flexible walls, rigid walls, rigid floors or cross-laminated timber constructions - the lightweight mortar impresses with its simple and time-saving application, without the need for complex formwork.

	Article number			
ArtNo.	Matchcode	Contents		
9900950	BSM/S30	30 litres		



"Because fire seals simply must be safe!"

Properties

TIROTECH® - Fire protective mortar						
	Flexible walls	Rigid walls & Cross laminated timber walls	Rigid floors & Cross laminated timber floors			
	Thickness ≥ 100 mm	Thickness ≥ 100 mm	Thickness ≥ 140 mm			
Maximum bulkhead size	1000x600mm	1200 x 1000 mm	1200 x 800 mm bzw. 820 x 8200 mm			
Minimum mortar thickness	100 mm		140 mm			
Dry bulk density	450 kg/m³					
Utilization category	X					
Thermal conductivity	0,12 W/mK					
Delivery form	30 liter bag – Weight 10 kg					
Water requirement	approx. 5 liters/bag					
Mixing time	approx. 1 minute					
Processing temperature	min. 8°C					
Paintable	Yes					
Storage	Store in a dry place. Protect from moisture. Shelf life approx. 6 months					

Not all wood is the same!

Each manufacturer of cross laminated timber has its own European Technical Assessment (ETA) for its timber structures. According to EN 1366-3:2022 point 7.2.1, these belong to the so-called specific load-bearing structures.

Single and mixed penetration seals must therefore be tested and approved with the cross laminated timber construction of the respective manufacturer in the system and listed in the penetration seal manufacturer's declaration of performance. This declaration of performance and installation instructions must be made available to the installer according to the EU Construction Products Regulation (Regulation (EU) No. 305/2011).

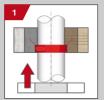
Approved cross laminated timber constructions

- KLH Massivholz GmbH KLH Kreuzlagenholz (KLH® CLT) according to ETA-06/0138
- Mayr-Melnhof Holz Holding AG MM crosslam according to ETA-09/0036
- MMK Holz-Beton-Fertigteile GmbH XC® living
- Stora Enso Wood Products GmbH CLT Cross Laminated Timber according to ETA-14/0349
- HASSLACHER Holding GmbH HASSLACHER CROSS LAMINATED TIMBER according to ETA-12/0281
- **Brüder Theurl GmbH** CLTPLUS according to ETA-20/0843
- Binderholz Group CLT BBS according to ETA-06/0009*
- Thoma Holz Holz100 according to ETA-13/0785*
- *Currently not included in ETA-17/0586. Required for use in Austria according to the building materials list.

 Test reports available or in preparation by MA39 Testing, Inspection and Certification Body of the City of Vienna.

Processing ,

Installation with flush-mounted pipe collar



Attaching the formwork (e.g. EPS insulation board)

Insert pipe collar



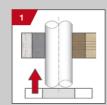
Provide mortar trough (min. 50 liters)

Fill with clean water, approx. 5 liters / bag



Add the entire contents of the bag to TIROTECH® fire protective mortar

Installation with surface mounted pipe collar



Attaching the formwork (e.g. EPS insulation board)

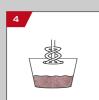


Provide mortar trough (min. 50 liters)

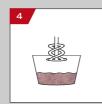
Fill with clean water, approx. 5 liters / bag



Add the entire contents of the bag to TIROTECH® fire protective mortar

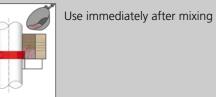


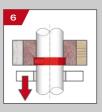
Mix with agitator



Mix with agitator



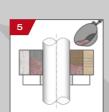




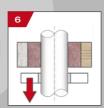
Remove formwork after solidification (Plasterboard ≥ 15 mm or steel sheets ≥ 1 mm can remain as permanent formwork)



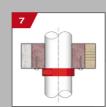
No additional fastening of the pipe collar required



Use immediately after mixing

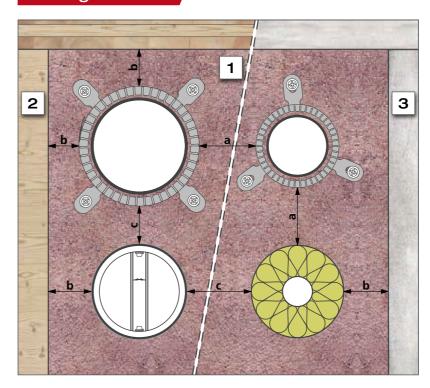


Remove formwork after solidification



Installing the pipe collar

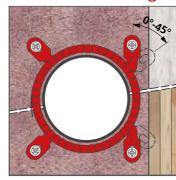
Working clearance



Legend 1 Mixed penetration seal TIROTECH® Cross laminated timber wall or floor Flexible walls, rigid walls or rigid floors Minimum distance 0 mm Minimum distance 30 mm

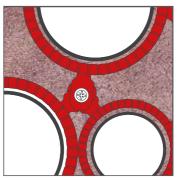
c Minimum distance 50 mm

Twistable mounting lugs



Up to four mounting lugs can be rotated at any angle between 0° and 45°.

Common screw fastening



Up to three mounting lugs of three adjacent fire collars can be fastened with just one screw fastening.

"Save on installation time, not on safety!"

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RORCOL pipe collars

RORCOL V30



- Installation depth: 30 mm
- For sewage pipes up to Ø135 mm

RORCOL V60



- Installation depth: 60 mm
- For sewage pipes and thick-walled plastic pipes up to Ø160 mm
- U-application

RORCOL AV60



- Installation depth: 60 mm
- For multi-layer composite pipes up to Ø63 mm
- For metal pipes Ø76 mm
- Bundles of conduits and cables up to Ø100 mm

Product description

RORCOL pipe collars are used to seal off plastic pipes, aluminum composite pipes, metal pipes, conduits and cables. They consist of a stainless steel housing with an internal intumescent layer. The different serration of the stainless steel housing enable the RORCOL V30/V60 fire protection sleeves to be distinguished from RORCOL AV60 and assigned to the intended area of application. The mounting lugs, which can be extended by 15 mm and can be rotated by up to 45° if space is limited, are used to attach the pipe collar. The RORCOL pipe collars are closed using a locking system. The integrated positioning aids of the RORCOL V60 and RORCOL AV60 pipe collars make it easier to insert them into ceiling formwork.

Integrated positioning aid for ceiling formwork



Fold out the positioning aids and insert the pipe collar into the hole in the formwork.

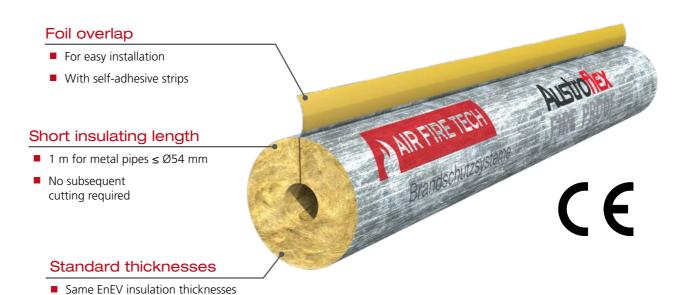


The pipe collar is optimally positioned in the formwork.

FIRE PROOF pipe section

Product description

FIRE PROOF is a precisely cut, non-combustible (melting point >1000 °C) rock wool pipe shell for use as a pipe penetration seal for metal pipes. The shell is wrapped in a scrim-reinforced aluminum foil and packaged in quantities suitable for the construction site. For easy installation, the shell is slit on one side and has a foil overlap so that it can be easily unfolded and installed.

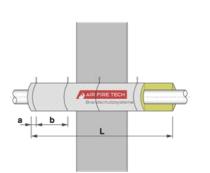


Processing

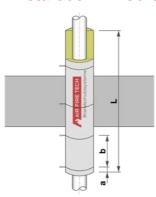
as standard pipe shells

For quick and easy installation, unfold FIRE PROOF, place it over the metal pipe and close the longitudinal seam by gently pressing it together. Remove the masking tape and press the overlap with adhesive tape firmly onto the surface. Use the squeegee to ensure secure adhesion. Each pipe shell must close tightly along the longitudinal joint. Push the subsequent pipe shells together at the ends and glue them with aluminum adhesive tape with an overlap of at least 25 mm. Finally, fix the pipe shells in place using binding wire (6 coils / running meter). **No spiral winding!**

Installation in walls



Installation in floors



Pipe diameter [mm]	Insulating length [mm]	Binding wire distances [mm]	
	L	a	b
≤Ø54	≥1000	≤ 10	≤ 200
>Ø54	≥2000	≤ 10	≤ 200

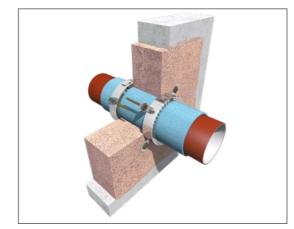
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Application examples

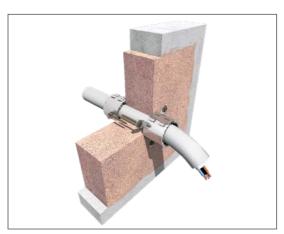
Rigid walls & rigid floors



Air condition pipes sealed off with RORCOL AV60



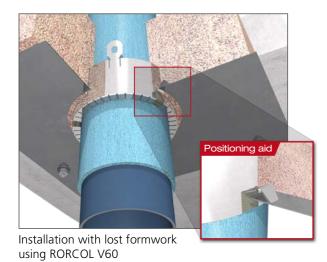
Sewage pipes sealed off with RORCOL V30



Conduits and cables sealed off with RORCOL AV60

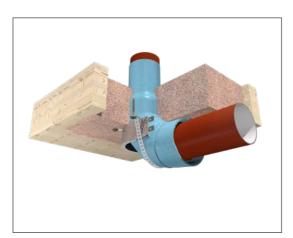


Flush-mounted installation of RORCOL V60

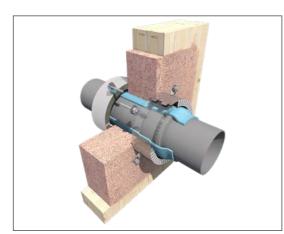


Air ducts sealed off with PRODEC fire damper air vents

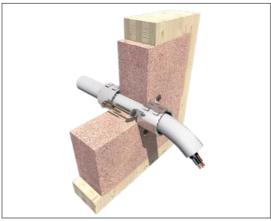
Cross laminated timber walls & cross laminated timber floors



Pipe bends sealed off with RORCOL V60 used as U-application



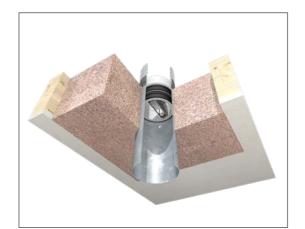
Plug-in sleeves sealed off with RORCOL V60



Electrical installation pipes and cables sealed off with RORCOL AV60



Metal pipes sealed off with FIRE PROOF



Air ducts sealed off with INLAP fire dampers or FSAeco fire damper air vents



Plastic air ducts sealed off with PRODEC fire damper air vents

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Fire protection systems

Hanuschgasse 1 / Top 4A 2540 Bad Vöslau Austria

T: +43 1 982 01 74-0 F: +43 1 982 01 74-930 E: office@airfiretech.at Fire protections knows no compromises





Penetration seals for pipes and cables AIR FIRE TECH System RORCOL





INLAP and INLAP-ST fire dampers





Fire protection in timber construction Sanitary - Heating - Ventilation - Electrical

