PEUTZ

Laboratory for Fire Safety

Summary of fire resistance:

4tecx Fire Retardant PU (Gun)Foam connecting stone to stone and stone to wood

On behalf of 4tecx, eight tests were performed for determination of the fire resistance of several linear joint seals with 4tecx Fire Retardant PU (Gun)Foam in walls and floors of aerated concrete and connection to wood. The tests were performed in accordance with the European test standard EN 1366-4:2006+A1:2010 and EN 1366-4:2021 using the standard heating curve.

4tecx Fire Retardant PU (Gun)Foam is available in a canister for a PU gun (4tecx Gun Grade).

This summary provides an outline of the product performance and the conclusions of the tests. For a complete description of the examined linear joint seals, please refer to the reports mentioned in the footnote.

Based on the tests performed in accordance with EN 1366-4:2006+A1:2010, EN 1366-4:2021 and the extended applications in accordance with EN 15882-4:2012, the system was classified in accordance with EN 13501-2:2007+A1:2009 and EN 13501-2:2016. Taking into account the possible classification times mentioned in the standard, a linear joint seal made out of 4tecx Fire Retardant PU (Gun)Foam, is classified according to the following combinations of performance parameters and classes.

This summary consists out of 5 pages. The classification reports that form the basis for this document are available for inspection at the client and are registered as YB 1567-3E-RA February 4, 2020, YW 1692-3E-RA July 8, 2021, 18565C dated September 28, 2017, YB 2088-1E-RA-001 dated November 18, 2019, YA 2500-2E-RA-003 dated October 5, 2022 and YA 2641-1E-RA-001 dated September 26, 2022.	**Reference** RO/RO//YG 2500-2E-RA-001 9 January 2024	**Page** 1/5	**Initials**

peutz bv, klopsteen 4a, nl-5443 pw haps, +31 85 8228 600, info@peutz.nl, www.peutz.nl
kvk 12028033, all orders according to DNR 2011, member NLingenieurs, btw NL.004933837B01, ISO-9001:2015

mook – haps – zoetermeer – groningen – eindhoven – düsseldorf – dortmund – berlijn – leuven – parijs – lyon

Fire resistance classification (vertical linear joint seals in a stone wall)		
4tecx Fire Retardant PU (Gun)Foam vertically orientated connecting stone to stone		
Wall thickness ≥ 70 mm EI 30 – V – X – F – W 8 to 10 EI 20 – V – X – F – W 10 to 20	**Wall thickness ≥ 100 mm** EI 90 – V – X – F – W 8 to 10 EI 45 – V – X – F – W 10 to 30	**Wall thickness ≥ 115 mm** EI 120 – V – X – F – W 8 EI 60 – V – X – F – W 8 to 20 EI 45 – V – X – F – W 20 to 30

E = Criterion integrity, I = Criterion insulation, V = Vertical application in a vertical wall, X = No movement applied, F = Splice applied in the field, W = Permitted width range in millimetres (fully filled joint seal)

The following conditions apply:

- the classifications are valid for linear joint seals in a wall with an orientation as mentioned (vertical). The classifications are valid in both directions;
- the linear joint seals may connect to any type of wall of aerated concrete (class G4/600 or heavier), concrete, block work, limestone or masonry with a minimal thickness as mentioned in the classifications (70, 100 or 115 mm);
- the surfaces of the material on which 4tecx Fire Retardant PU (Gun)Foam is applied are thoroughly cleaned and moistened with water when needed;
- the allowed movement capability in practice is maximized to 7.5 %;
- the linear joint seal must be fully filled with 4tecx Fire Retardant PU (Gun)Foam.

Fire resistance classification (vertical linear joint seals in a stone wall)		
4tecx Fire Retardant PU (Gun)Foam vertically orientated connecting stone to stone		**4tecx Fire Retardant PU (Gun)Foam vertically orientated connecting stone to wood**
Wall thickness ≥ 150 mm EI 45 – V – X – F – W 8 to 40	**Wall thickness ≥ 200 mm** EI 120 – V – X – F – W 8 to 30 EI 60 – V – X – F – W 30 to 40	**Wall thickness ≥ 100 mm** EI 120 – V – X – F – W 8 to 20

E = Criterion integrity, I = Criterion insulation, V = Vertical application in a vertical wall, X = No movement applied, F = Splice applied in the field, W = Permitted width range in millimetres (fully filled joint seal)

The following conditions apply:

- the classifications are valid for linear joint seals in a wall with an orientation as mentioned (vertical). The classifications are valid in both directions;
- the linear joint seals may connect to any type of wall of aerated concrete (class G4/600 or heavier), concrete, block work, limestone or masonry with a minimal thickness as mentioned in the classifications (100, 150 or 200 mm);

- if applicable, on the other side the linear joint seal connects to any type of wooden construction with a density of 500±50 kg/m^3 or more where the wooden construction is placed over the full thickness of the wall or minimal thickness as mentioned in the classifications (100 mm);
- the surfaces of the material on which 4tecx Fire Retardant PU (Gun)Foam is applied are thoroughly cleaned and moistened with water when needed;
- the allowed movement capability in practice is maximized to 7.5 %;
- the linear joint seal must be fully filled with 4tecx Fire Retardant PU (Gun)Foam.

Fire resistance classification (horizontal linear joint seals in a stone wall)
4tecx Fire Retardant PU (Gun)Foam connecting stone to wood
Wall thickness ≥ 100 mm EI 90 – T – X – F – W 8 to 20

E = Criterion integrity, I = Criterion insulation, T = Horizontal application in a vertical wall, X = No movement applied, F = Splice applied in the field, W = Permitted width range in millimetres (fully filled joint seal)

The following conditions apply:

- the classifications are valid for linear joint seals in a wall with an orientation as mentioned (horizontal). The classifications are valid in both directions;
- the linear joint seal connects on one side to any type of wall of aerated concrete (class G4/600 or heavier), concrete, block work, limestone or masonry with a minimal thickness as mentioned in the classifications (100 mm);
- on the other side, the linear joint seal connects to any type of wooden construction with a density of 500±50 kg/m^3 or more where the wooden construction is placed over the full thickness of the wall or minimal thickness as mentioned in the classifications (100 mm);
- the surfaces of the material on which 4tecx Fire Retardant PU (Gun)Foam is applied are thoroughly cleaned and moistened with water when needed;
- the allowed movement capability in practice is maximized to 7.5 %;
- the linear joint seal must be fully filled with 4tecx Fire Retardant PU (Gun)Foam.

Fire resistance classification (linear joint seals in a floor)	
4tecx Fire Retardant PU (Gun)Foam connecting stone to stone	
Thickness floor ≥ 100 mm	**Thickness floor ≥ 150 mm**
EI 60 – H – X – F – W 8 EI 45 – H – X – F – W 8 to 20 EI 30 – H – X – F – W 20 to 30 EI 20 – H – X – F – W 30 to 40	EI 120 – H – X – F – W 8 to 20 EI 60 – H – X – F – W 20 to 30 EI 45 – H – X – F – W 30 to 40

E = Criterion integrity, I = Criterion insulation, H = Horizontal supporting construction, (floor) X = No movement applied,
F = Splice applied in the field, W = Permitted width range in millimetres (fully filled joint seal)

Fire resistance classification (linear joint seals in a wall abutting a floor)	
4tecx Fire Retardant PU (Gun)Foam connecting stone to stone	
Thickness both wall and floor ≥ 100 mm	**Thickness both wall and floor ≥ 150 mm**
EI 60 – T – X – F – W 8 EI 45 – T – X – F – W 8 to 20 EI 30 – T – X – F – W 20 to 30 EI 20 – T – X – F – W 30 to 40	EI 120 – T – X – F – W 8 to 20 EI 60 – T – X – F – W 20 to 30 EI 45 – T – X – F – W 30 to 40

E = Criterion integrity, I = Criterion insulation, T = Horizontal application in a wall abutting a floor, X = No movement applied,
F = Splice applied in the field, W = Permitted width range in millimetres (fully filled joint seal)

The following conditions apply:

- the linear joint seals may be applied at any type of floor and / or wall of aerated concrete (class G4/600 or heavier), concrete, block work, limestone or masonry with a minimal thickness as mentioned above. In a floor application, the fire resistance applies from below. In a wall abutting a floor application, the fire resistance applies from both directions;
- the classifications are *not* valid for horizontally orientated joints in a wall;
- the surfaces of the material on which the 4tecx Fire Retardant PU (Gun)Foam is applied are thoroughly cleaned and moistened with water when needed;
- the allowed movement capability in practice is maximized to 7.5 %;
- the linear joint seal must be fully filled with 4tecx Fire Retardant PU (Gun)Foam.

Fire resistance classification (linear joint seals in a wall abutting a floor)	
4tecx Fire Retardant PU (Gun)Foam connecting stone to stone	
Thickness wall ≥ 70 mm, thickness floor ≥ 150 mm	**Thickness wall ≥ 100 mm, thickness floor ≥ 150 mm**
EI 45 – T – X – F – W 8 to 15 EI 30 – T – X – F – W 15 to 19	EI 60 – T – X – F – W 8 to 20 EI 30 – T – X – F – W 20 to 30

E = Criterion integrity, I = Criterion insulation, T = Horizontal application in a wall (abutting a floor), X = No movement applied,
F = Splice applied in the field, W = Permitted width range in millimetres (fully filled joint seal)

The following conditions apply:

- the linear joint seals may be applied for a horizontal orientation in a vertical wall or a horizontal orientation in a vertical wall abutting a horizontal floor;
- the linear joint seals may be applied to any type of of aerated concrete (class G4/600 or heavier), concrete, block work, limestone or masonry with a minimal thickness as mentioned above;
- the classifications are *also* valid for horizontally orientated joints in a wall;
- the surfaces of the material on which the 4tecx Fire Retardant PU (Gun)Foam is applied are thoroughly cleaned and moistened with water when needed;
- the allowed movement capability in practice is maximized to 7.5 %;
- the linear joint seal must be fully filled with 4tecx Fire Retardant PU (Gun)Foam.