## AIR CONTROL SERVICES classification

Fire performances are **principle configurations**, valid for services within range:

| | |
|---|---|
| fire dampers | up to 600 x 300 mm |
| air ducts | up to 1000 x 1000 mm |

always install services acc. manufacturer's instructions

**suitable Firetect products within classification:**

| service size | service specs | Graphite sealant (DoP CPR-14/0273) | Acrylic sealant or PA sealer (DoP CPR-14/0273) | PA coating (DoP CPR-14/0260) | PA board (DoP CPR-14/0260) | or FR Mortar | Air grill |
|---|---|---|---|---|---|---|---|
| fire dampers | **installation** in firewall, supported to floor<br>max. 600 x 300 mm<br>acc. EN 1366-3<br>acc. EN 1634-3 | | | | EI 90 in wall 1+2+3<br>2x 50mm 2S | 100mm | |
| | **upgrade** towards firewall, supported to floor<br>acc. EN 1366-2<br>acc. EN 1634-3 | | | | EI 60 in wall 1+2+3<br>cladding: 1x 50mm 2S | 100mm | |
| | **in spiral pipes**<br>max.Ø 160 mm<br>with or without valve<br>acc. EN 1366-3 | in PA board<br>with pipe insulation:<br>EI 60 in wall 1-n100 | in PA board<br>EI 60 in wall 1-n75<br>EI 60 in wall 1-n100 | EI 120 in wall 1+2+3<br>EI 120 in ceiling 4<br>EI 120 in floor 5 | | | |
| air ducts | **circular ducts**<br>max. Ø 300 mm<br>acc. EN 1366-3 | | EI 90 in floor 7 | | | | |
| | **duct cladding**<br>max. 1000 x 1000 mm<br>acc. EN 1366-3<br>acc. EN 1634-3 | | | | EI 60 in wall 1+2+3<br>cladding: 1x 50mm 1S | 100mm | |
| | | | | | EI 60 in floor 5<br>cladding: 1x 50mm 1S | 60mm | |
| air transfer grilles | **ventilation**<br>max. 600 x 600 mm<br>acc. EN 1364-5 | | | | | | EI 60 in wall 1+2+3<br>EI 120 in floor 5 |
| | | joint details: min. W x D, default:<br>floors: 10 x 25 mm<br>apply on 2 sides | joint details: min. W x D, default:<br>floors: 10 x 25 mm<br>apply on 2 sides | 0,8mm coat layer 200 LI<br>walls: apply on 2 sides<br>floors: apply on 1 side<br>apply smokeseal Acrylic | 'butter' cross cut edges of PA board + opening with PA coating<br>apply smokeseal Acrylic | default:<br>floors: 30 x 25 mm<br>apply flush with construction | mount with Acrylic sealant<br>walls: apply centrally in wall<br>floors: apply flush with floor |

**supporting construction**

**Constructive element** must be classified acc. EN 13501-2 for the required fire resistance period:

**1**: flexible wall ≥ 100 mm, insulated
**1-n**: flexible wall ≥ (xxx) mm, **non-insulated**
**1-sh**: shaft wall ≥ (xxx) mm, **non-insulated**
**1-sw** sandwich wall ≥ 100 mm
**2**: rigid wall ≥ 100 mm
**3**: rigid wall ≥ 150 mm
**4**: flexible ceiling ≥ 150 mm
**5**: rigid floor ≥ 150 mm
**6**: CLT wall ≥ 100 mm
**7**: CLT floor ≥ 140 mm

Max. **opening** in constructive element: see principle detail. Use PA board if opening is larger; see how-to-read.

Penetration services must be **supported.** Always install services acc. manufacturer's instructions.

# How-to-read

charts Field of Application Firetect® fire rated building products

## certification

Use FoA charts as *guideline* to quickly identify suitable Firetect products within classification.

**Always apply acc. details as stated per principle detail; click EI performance in chart.**

Product certification of CE marked building products is done by DoPs (Declaration of Performance), rather than test reports; more info at www.firetect.eu. Charts do not include all test data. Contact KLF for non-standard (EI) requirements: +31 345 63 97 97 or info@klf.nl.

## supporting construction

product has been tested in + certified for constructive element, default type:

| | |
|---|---|
| **1** | flexible wall ≥ 100 mm; metal or timber studs, plaster board type A + wall insulation |
| **1-n**(xxx) | flexible wall ≥ (xxx) mm; metal or timber studs, plaster board type F, **no** wall insulation |
| **1-sh**(xxx) | shaft wall ≥ (xxx) mm, **non**-insulated |
| | (xxx) = wall thickness in mm; see in charts with EI performance |
| **1-sw** | sandwich wall ≥ 100 mm |
| **2** | rigid wall ≥ 100 mm: blockwork/concrete/masonry, density ≥ 600 kg/m$^3$ |
| **3** | rigid wall ≥ 150 mm: blockwork/concrete/masonry, density ≥ 600 kg/m$^3$ |
| **4** | flexible ceiling ≥ 150 mm: metal studs, plaster board type F |
| **5** | rigid floor ≥ 150 mm: (aerated) concrete, density ≥ 600 kg/m$^3$ |
| **6** | CLT wall ≥ 100 mm |
| **7** | CLT floor ≥ 140 mm |

**Note** Constructive element must be classified acc. EN 13501-2 for the required fire resistance period.

| | |
|---|---|
| tested in construction type **1** | also applicable in constructive element type **2+3** if wall thickness + m$^3$ weight are either equal or increased |
| tested in construction type **2** | also application in constructive element type **3** if wall thickness + m$^3$ weight are either equal or increased |
| tested in PA board | also applicable in FR Mortar fireseal; contact KLF for more info |

***"you may always upgrade, but never downsize"***

## pipe penetrations

| | |
|---|---|
| type of plastic | all plastic pipe types acc. EN norms |
| type of metal | all copper or steel or pipes; also suitable for material with lower thermal conductivity + melting point at least equal to tested material |
| EI | fire resistance in minutes (integrity + insulation) |
| U/U + U/C + C/U + C/C | pipe end: U = uncapped and C = capped, at resp. exposed / unexposed side |
| 1S + 2S | PA board coated on 1 side (1S) or 2 sides (2S) |
| pipe insulation | - all synthetic rubber min. 60 kg/m$^3$ eg Armaflex |
| | - all glass wool or rock wool min. 75 kg/m$^3$ eg Climpipe or U Protect Pipe Section Alu2 |
| | - all polyolefin foam min. 28 kg/m$^3$ eg Uponor |
| | - all PIR min. 33 kg/m$^3$ |
| LS | local sustained = partly insulated pipe; total insulation length in mm through constructive element (symmetrically) |
| LI | local interrupted = partly insulated pipe; insulation length in mm on either side of constructive element |
| CS | continued sustained = fully insulated pipe |
| CI | continued interrupted = fully insulated pipe, yet interrupted in constructive element |
| max. opening | see principle detail, plus: |
| | - allowed oversize opening ≤ 15mm with collar + wrap; if larger, use PA board: |
| | walls: max. 600 x 1200 mm + 25%, floors: max. 1000 x 1200 mm up to 600 x 5000 mm |
| | - allowed 'oversized' collar ≤ 15mm, eg use Ø90 collar for Ø80 pipe |
| **Note** | Support pipes; support distance: see principle detail. |
| | Fasten glass wool or rock wool individually (not wrapped!) with steel wire; see principle detail. |

# How-to-read

charts Field of Application Firetect® fire rated building products

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## cable penetrations

type of service: all steel (galvanised) cable trays + ladders, non-perforated + perforated
all steel (galvanised) mesh wire cable trays

EI: fire resistance in minutes (integrity + insulation)

minimum working spaces

| | configuration | horizontal | vertical |
|---|---|---|---|
| Min. distances from opening edges | LARGE | 35mm | 30 mm |
| | MIXED | 30 mm | 0 mm |
| Min. distances between services | LARGE | 5mm | 100 mm |
| | MIXED | 20 mm | 20 mm |

cable groups

| | |
|---|---|
| group 1 - small sheathed | max. Ø 21mm |
| group 2 - medium sheathed | max. Ø 50mm |
| group 3 - large sheathed | max. Ø 80mm |
| group 4 - data + fibre optic | max. Ø 100mm bundle |
| group 5 - non-sheathed | max. Ø 23mm |
| conduit, steel or plastic | max. Ø 16mm |

max. opening: see principle detail

**Note**: Support cable services; support distance: see principle detail.

## blank seals

gaps + openings without any service penetrations

EI: fire resistance in minutes (integrity + insulation)

up to EI 120 for application in walls + floors

## disclaimer

Consult www.firetect.eu/download for updates; product development + fire tests are ongoing processes at KLF.
Mentioned brand names are for illustrative purpose only, to indicate type of material tested.