# PASSIVE FIRESTOP SOLUTIONS FOR KOROK® WALL SYSTEMS

09/2025

Version 01
September 2025

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# 1. INTRODUCTION

This technical guide provides a comprehensive overview of Hilti's passive fire protection systems tested and assessed for use with KOROK® intertenancy and fire-rated wall systems. Developed to support designers, engineers and contractors, this document consolidates key firestop solutions that tested in accordance with AS 1530.4 and assessed in accordance with AS 4072.1 and are compliant under the NZBC Clause C for service penetrations in KOROK® walls.

Hilti's firestop products are engineered for performance, tested for compliance, and supported by international approvals and local assessments. Each system outlined in this guide has been selected based on its compatibility with KOROK® wall (55mm and 78mm) configurations and its ability to maintain fire resistance ratings across a wide range of service types, including:

- Power and data cables
- PVC, PEX, and metal pipes
- Cable bundles and conduits
- HVAC services
- Structural steel and linear gaps

This guide includes:

- A system index for quick navigation
- Detailed tables of tested configurations
- Installation notes and performance ratings
- Reference to relevant test reports and approvals

For project-specific advice or further technical support, please contact the Hilti New Zealand Engineering Team at NZEngineers@hilti.com or call **0800 444 584**.

# 2. FEATURED PRODUCTS

**CP 606**
**Firestop Acrylic Sealant**

Click picture to go to website product page

**CP 611a / CFS-IS**
**Firestop Intumescent Sealant**

Click picture to go to website product page

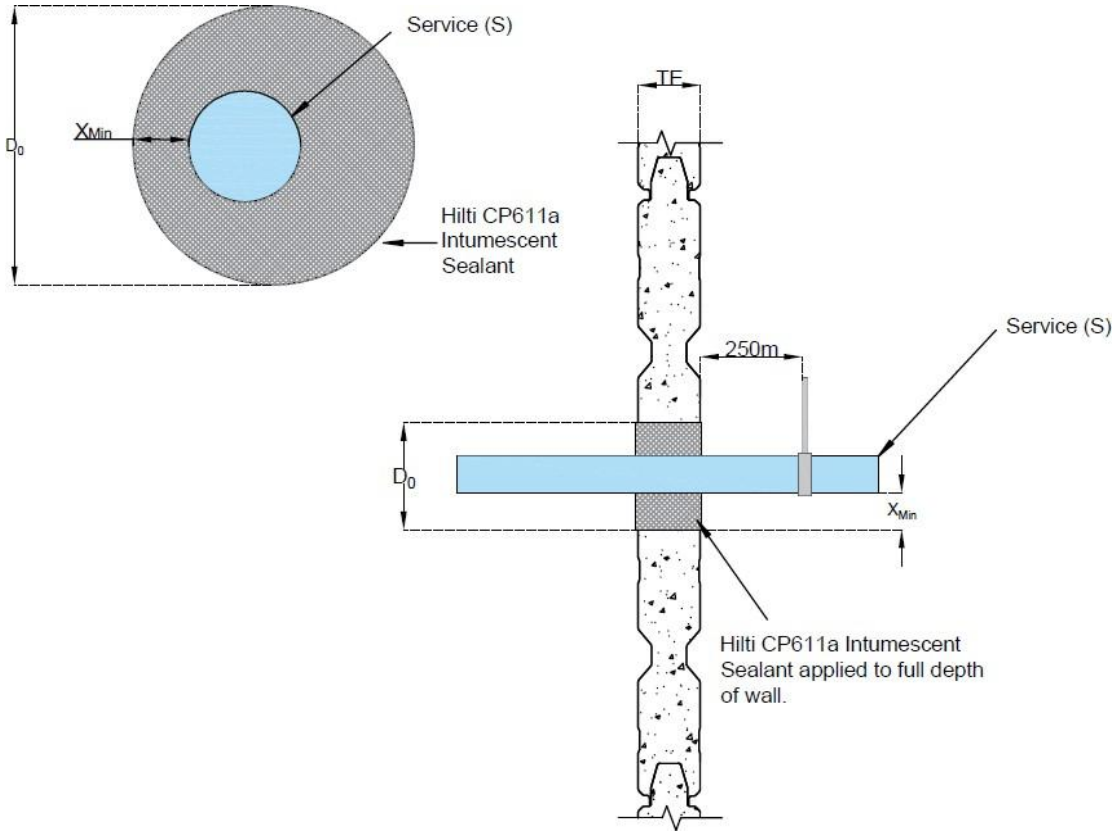
**CFS-C P**
**Premium Firestop Collar**

Click picture to go to website product page

# 3. 51MM KOROK® WALL SYSTEM

# 3.1 Single cables through minimum 51 mm Korok panel system

| KOROK Panel: | Approvals: | Report Number: | Rev: |
|---|---|---|---|
| 51 mm Korok wall panel | AS 1530.4:2014/AS 4072.1:2005(R2016) | FAS190143 | RIR1.5 |




| Services | Maximum cable dia. (mm) | Core Hole Size (mm) | Minimum annular gap (Xmin) (mm) | Sealant | ≥ 51 mm Korok Panel |
|---|---|---|---|---|---|
| Single core copper cables PVC/PVC & XLPE/PVC (sheath/insulation) circular cables up to 25 $mm^2$ | 10 | 35 | 5 | Hilti CP611a (to full depth of wall) | - /120/90 |
| Single Telecommunication cables, Cat5/6/7/8, RG6 Coax Cables & Fibre Optic cables | 10 | 28 | 5 | | - /120/90 |
| Multi-core copper PVC/PVC & XLPE/PVC (Sheath/Insulation) circular & Flat 2C&3C+E cables up to 25 $mm^2$ | 23 | 48 | 5 | | - /120/60 |

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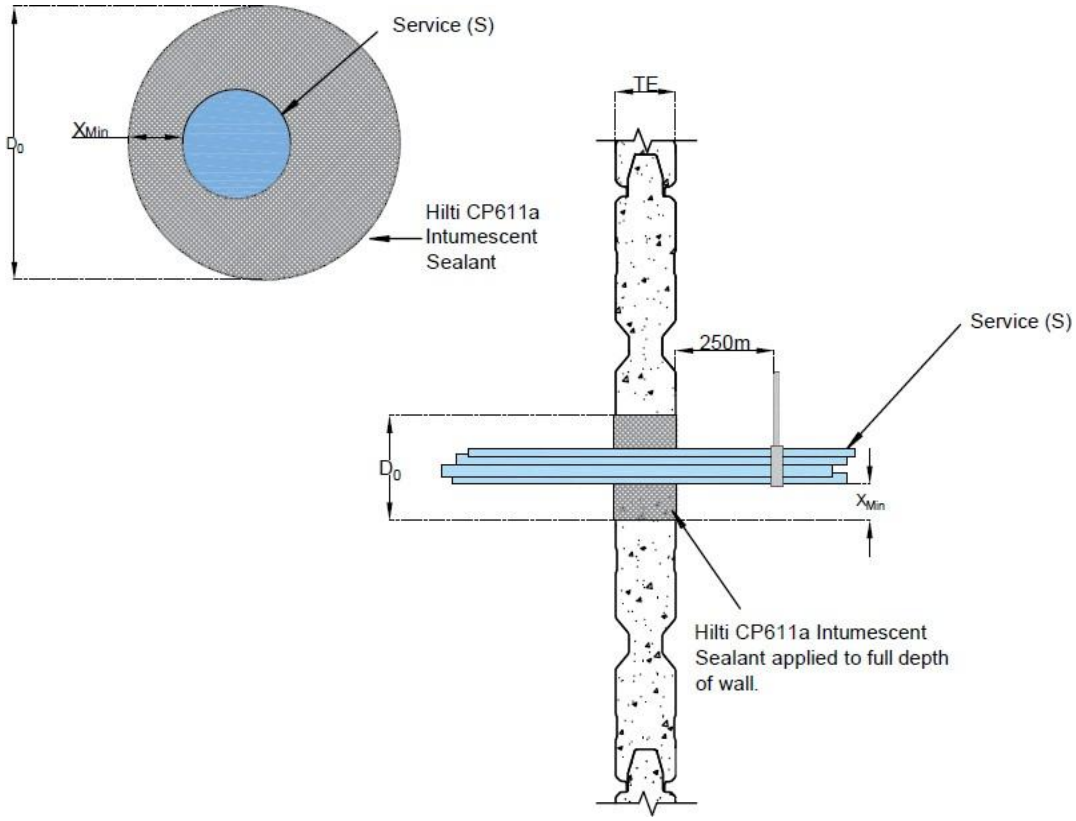
## 3.2 Cable Bundles < 36 mm diameter through minimum 51 mm Korok Wall panel

| KOROK Panel: | Approvals: | Report Number: | Rev: |
|---|---|---|---|
| 51 mm Korok wall panel | AS 1530.4:2014/AS 4072.1:2005(R2016) | FAS190143 | RIR1.5 |




| Services | Maximum No. of cables in bundle | Maximum Cable bundle Dia. (mm) | Core hole size (Do) mm | Minimum annular Seal ($X_{min}$) (mm) | Sealant | ≥ 51 mm Korok Wall Panel |
|---|---|---|---|---|---|---|
| TPS power cables PVC/PVC (Sheath/Insulation) flat & circular - 2C & E 1.0 mm2 to 2.5 mm2 | 8 | 23 | 54 | 5 | Hilti CP611a Intumescent Sealant (to full depth of wall) | -/120/60 |
| Telecommunication cables, Cat5/6/7/8, & Fibre optic cables | 16 | 25 | 48 | 5 | | -/120/90 |
| Quad Shield Coax cable | 10 | 23 | 48 | 5 | | -/120/60 |
| Any combination of the above- mentioned cables Bundled up to 36 mm in Dia. | - | 36 | 48 | 5 | | -/120/60 |

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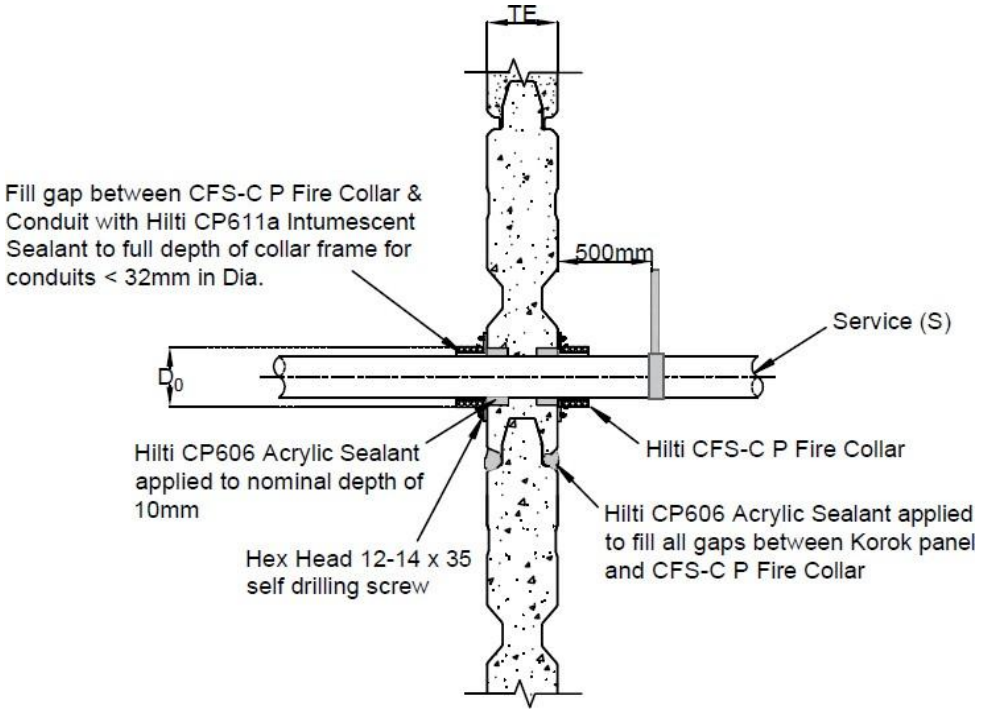
# 3.3 Rigid conduits < 50 mm in Dia. through minimum 51 mm Korok panel system

| KOROK Panel: | Approvals: | Report Number: | Rev: |
|---|---|---|---|
| 51 mm Korok wall panel | AS 1530.4:2014/AS 4072.1:2005(R2016) | FAS190143 | RIR1.5 |




| Services | Conduit Dia. (mm) | Minimum core hole size Dia. (mm) | Maximum core hole size Dia. (mm) | Maximum wall thickness (mm) | Fire Collar | Annular Sealant | Additional sealant inside collar | ≥ 51 mm Korok Wall Panel |
|---|---|---|---|---|---|---|---|---|
| Single Rigid uPVC conduit (Empty) | 16 | 28 | 54 | 5.0 | Hilti CFS-C P 50/1.5" Fire Collar | Hilti CP606 Acrylic Sealant, Installed to Nominal Depth of 10 mm on both sides of the wall | Hilti CP611a Intumescent sealant installed to full depth of collar frame | -/120/60 |
| | 20 | 30 | | | | | | |
| | 25 | 38 | | | | | | |
| | 32 | 48 | | | | | N/A | |
| | 50 | 51 | | | | | | |
| Single rigid uPVC conduit, filled with cables & or Fibre optics or mixture of both fibre optics & cables. | 16 | 28 | 54 | | | | Hilti CP611a Intumescent sealant installed to full depth of collar frame | -/120/60 |
| | 20 | 30 | | | | | | |
| | 25 | 38 | | | | | | |
| | 32 | 48 | | | | | N/A | |
| | 50 | 51 | | | | | | |

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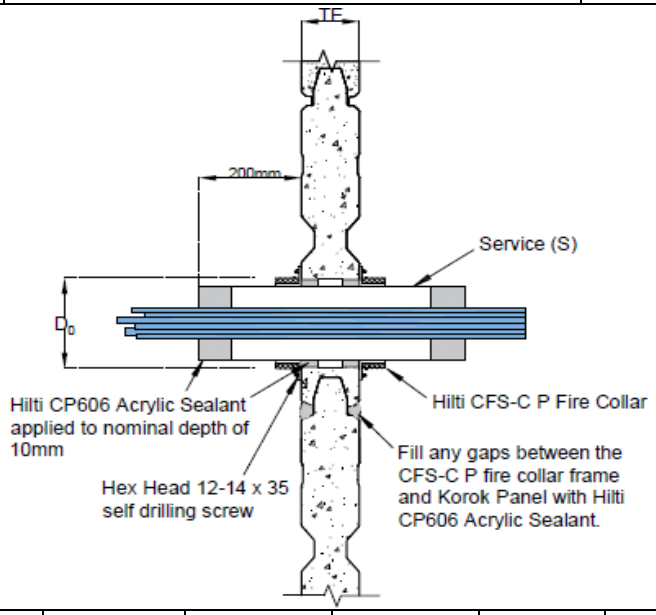
# 3.4 Flexible conduits < 50 mm in Dia. through minimum 51 mm Korok wall system

| KOROK Panel: | Approvals: | Report Number: | Rev: |
|---|---|---|---|
| 51 mm Korok wall panel | AS 1530.4:2014/AS 4072.1:2005(R2016) | FAS190143 | RIR1.5 |




| Services | Conduit Dia. (mm) | Minimum core hole size Dia. (mm) | Maximum core hole size Dia. (mm) | Wall thickness (mm) | Fire Collar | Annular seal, Sealant | Additional sealant inside collar | ≥ 51 mm Korok Wall Panel |
|---|---|---|---|---|---|---|---|---|
| Single Rigid uPVC conduit (Empty) | 20 | 27 | 54 | 0.5 - 5.0 | Hilti CFS-C P 50/1.5" Fire Collar | Hilti CP606 Acrylic Sealant, Installed to Nominal Depth of 10 mm on both sides of the wall | Hilti CP611a Intumescent sealant installed to full depth of collar frame | -/120/- |
| | 25 | 38 | | | | | | |
| | 32 | 48 | | | | | | |
| | 50 | 51 | | | | | N/A | |
| Single rigid uPVC conduit, filled with cables & or Fibre optics or mixture of both fibre optics & cables. | 20 | 27 | 54 | | | | Hilti CP611a Intumescent sealant installed to full depth of collar frame | -/120/90 |
| | 25 | 38 | | | | | | |
| | 32 | 48 | | | | | N/A | |
| | 50 | 51 | | | | | | |
| Single Flexible PP Conduit (Empty) | 20 | 27 | 54 | | | | Hilti CP611a Intumescent Sealant installed to full depth of collar frame | -/120/- |
| | 25 | | | | | | | |
| Single Flexible PP Conduit, filled with Cables & or Fibre Optics or mixture of both Fibre Optics & Cables | 20 | 27 | 54 | | | | | -/120/60 |
| | 25 | | | | | | | |

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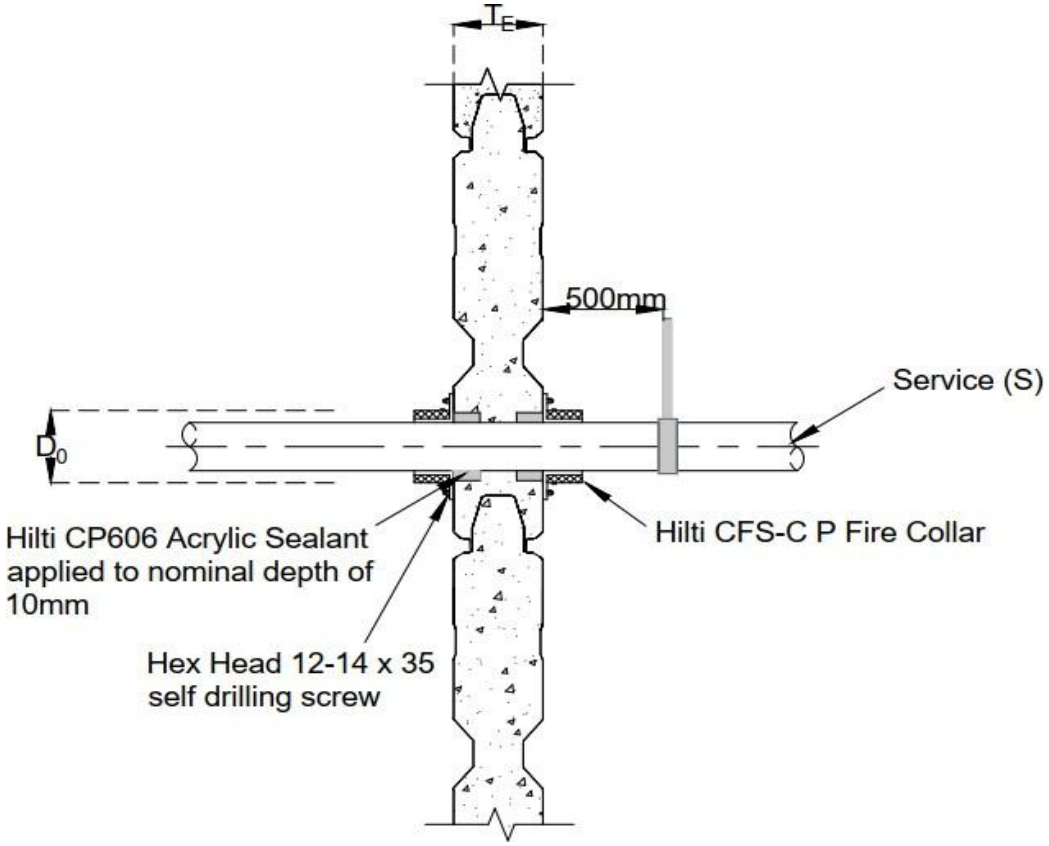
# 3.5 uPVC/uPVC-SC Plumbing Pipes < 150 mm Dia. through minimum 51 mm Korok wall system

| KOROK Panel: | Approvals: | Report Number: | Rev: |
|---|---|---|---|
| 51 mm Korok wall panel | AS 1530.4:2014/AS 4072.1:2005(R2016) | FAS190143 | RIR1.5 |




| Services | Primary Protection | No. of Collar Fixings | Wall thickness (mm) | Secondary Protection | Core Hole size (Do) mm Minimum Dia. | Core hole size (Do) mm Maximum Dia. | ≥ 51 mm Korok Wall Panel |
|---|---|---|---|---|---|---|---|
| 40 mm (ND) uPVC DWV | Hilti CFS-C P 50/1.5" Fire Collar | 2 | 2.4 | Hilti CP606 Acrylic Sealant Annular Seal to nominal depth 10 mm | 48 | 51 | -/120/60 |
| 50 mm (ND) uPVC DWV | Hilti CFS-C P 63/2.0" Fire Collar | 3 | 2.3 | | 58 | 64 | -/120/90 |
| 65 mm (ND) uPVC DWV | Hilti CFS-C P 75/2.5" Fire Collar | 3 | 2.5 | | 68 | 76 | -/120/90 |
| 80 mm (ND) uPVC DWV | Hilti CFS-C P 90/3" Fire Collar | 3 | 3.4 | | 84 | 95 | -/120/90 |
| 100 mm (ND) uPVC-SC | Hilti CFS-C P 110/4" Fire Collar | 4 | 4 | | 115 | 121 | -/120/60 |
| 150 mm (ND) uPVC-SC | Hilti CFS-C P 160/4" Fire Collar | 6 | 5 | | 165 | 170 | -/120/60 |

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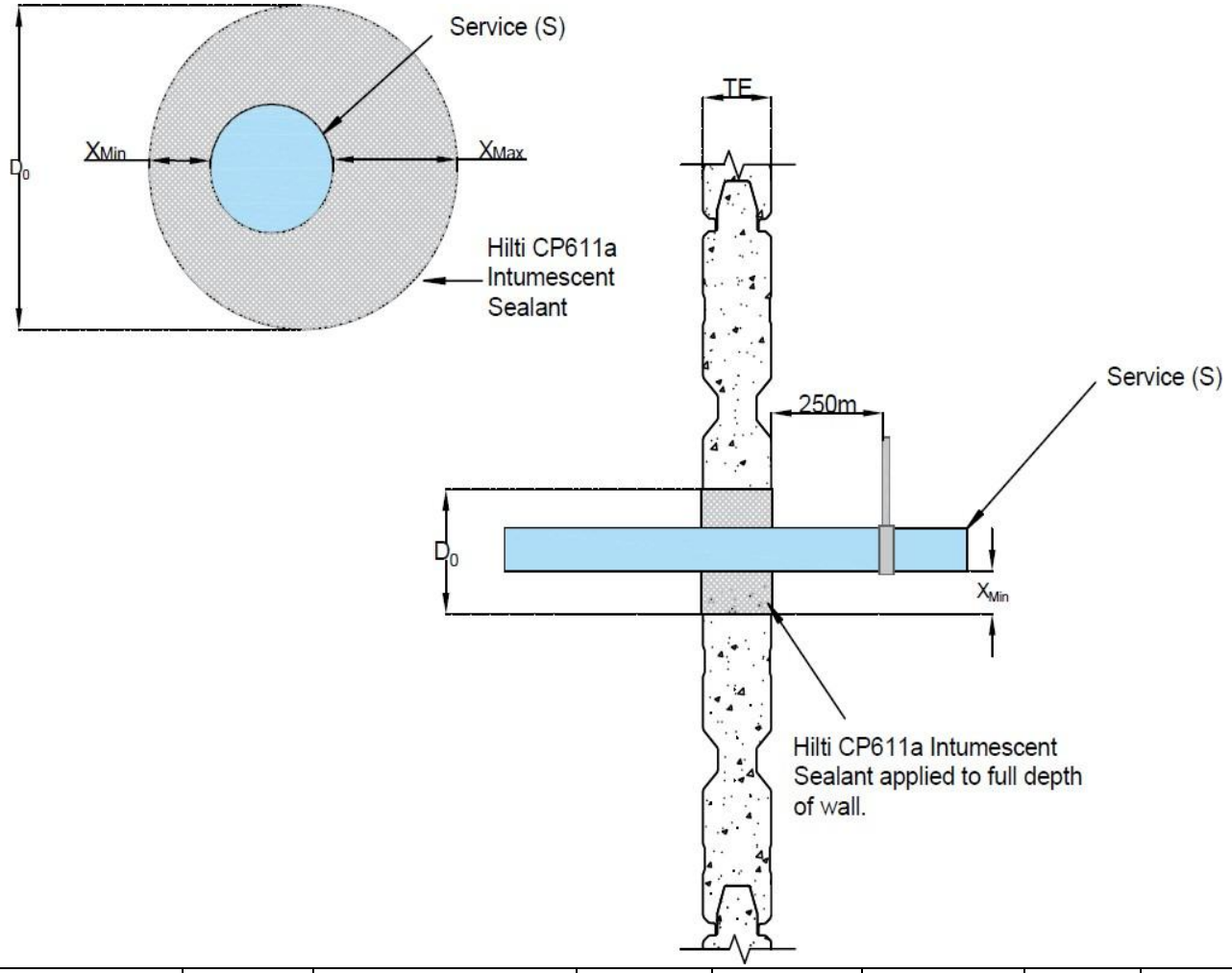
## 3.6 Gas and water supply pipes through 51 mm and 78 mm Korok wall system

| KOROK Panel: | Approvals: | Report Number: | Rev: |
|---|---|---|---|
| 51 mm and 78 mm Korok wall panel | AS 1530.4:2014/AS 4072.1:2005(R2016) | FAS190143 | RIR1.5 |




| Services | Pipe Dia. (mm) | Pipe Wall thickness Range (mm) | Core hole size (Do) mm | Minimum annular Seal (Xmin)(mm) | Annular seal, Sealant | 51 mm Korok Wall Panel | 78 mm Korok Wall Panel |
|---|---|---|---|---|---|---|---|
| PE-Xa | 16 | 1.2 – 2.4 | 38 | 5 | Hilti CP611a Intumescent Sealant | -/120/90 | -/120/90 |
| | 20 | 2.3 – 3.4 | 40 | 5 | | -/120/90 | -/120/90 |
| | 25 | 2.8 – 3.9 | 48 | 5 | | -/120/90 | -/120/90 |
| PE-X/AL/PE | 16 | 2.0 – 2.6 | 38 | 5 | | -/120/60 | -/120/60 |
| | 20 | 2.3 – 2.9 | 40 | 5 | | -/120/60 | -/120/60 |
| | 25 | 3.5 – 3.7 | 48 | 5 | | -/120/60 | -/120/60 |
| | 32 | 3.5 – 3.7 | 54 | 5 | | -/120/60 | -/120/60 |

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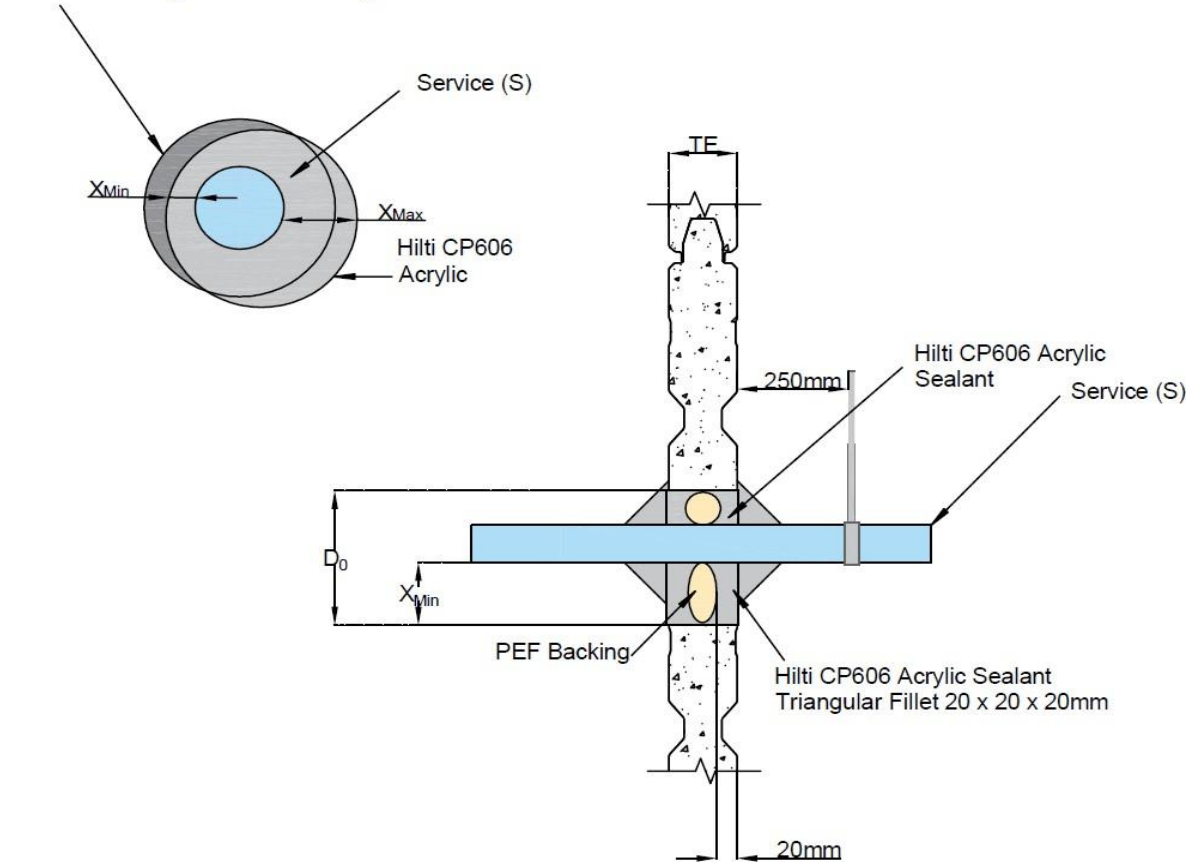
# 3.7 Uninsulated various metal Pipes through minimum 51 mm Korok wall system

| KOROK Panel: | Approvals: | Report Number: | Rev: |
|---|---|---|---|
| 51 mm Korok wall panel | AS 1530.4:2014/AS 4072.1:2005(R2016) | FAS190143 | RIR1.5 |

**Hilti CP606 Acrylic Sealant Triangular Fillet 20 x 20 x 20mm**




| Services | Minimum Nominal Pipe Dia. (mm) | Maximum Nominal Pipe Dia. (mm) | Minimum Pipe Wall Thickness (mm) | Minimum edge distance (Xmin) (mm) | Maximum annular gap (Xmax) (mm) | Annular Seal, Sealant | Additional Protection | ≥ 51 mm Korok Wall Panel |
|---|---|---|---|---|---|---|---|---|
| Copper, Ferrous (Steel, SS, Iron) or Brass Pipes | 16 | 32 | 0.91 | 5 | 20 | Hilti CP606 Acrylic Sealant to depth of 20 mm supported by PEF Backing Rod | Hilti CP606 Acrylic Sealant 20 mm × 20 mm fillet of sealant | -/120/- |
| | 32 | 65 | 0.91 | | | | | |
| | 80 | 100 | 1.22 | | | | | |
| Copper, Ferrous (Steel, SS, Iron) or Brass Pipes | 125 | | 1.42 | | | | | |
| | 150 | | 1.63 | | | | | |
| | 200 | | 1.63 | | | | | |

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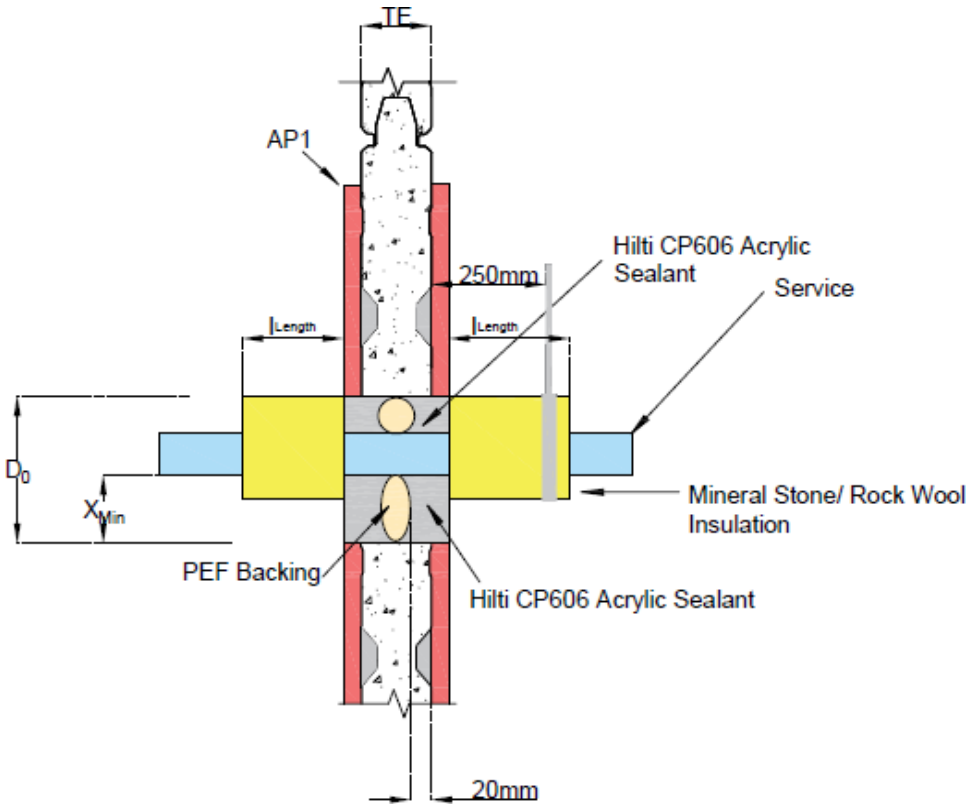
## 3.8 Insulated metal Pipes through 51 mm and 78 mm Korok wall system with AP1 and AP3 additional protection.

| KOROK Panel: | Approvals: | Report Number: | Rev: |
|---|---|---|---|
| 51 mm and 78 mm Korok wall panel | AS 1530.4:2014/AS 4072.1:2005(R2016) | FAS190143 | RIR1.5 |




**AP1**: To achieve a minimum seal thickness >= 104 mm

Layers of 13 mm or 16 mm fire rated plasterboard board, at least 100 mm wide square board added to both sides of the wall, fixed in place with a maximum spacing of 150 mm apart. The outside perimeter edge of AP1 must be sealed with Hilti Firestop Acrylic sealant CP606
* The first layer of AP1 (1 × layer of 13 mm or 16 mm fire rated plasterboard) used for additional protection must be installed with 6g × 32 mm Course Thread Plaster Board Screw. Maximum spacing between screws is 150 mm.
* When second layer of AP1 are used, the second layer of AP1 (1 × layer of 13 mm or 16 mm fire rated plasterboard) must be installed with 6g × 50 mm Course Thread Plaster Board Screw. Maximum spacing between screws 150 mm.

**AP3:**
50 mm thick Mineral pipe sleeve (Fibertex 450) or equivalent with minimum density of 80 kg/m3 wrapped around metal pipes on each side of the wall with minimum 600 mm length.

| Services | Minimum Nominal Pipe Dia. (mm) | Maximum Nominal Pipe Dia. (mm) | Minimum Pipe Wall Thickness (mm) | Minimum edge distance (Xmin) (mm) | Maximum annular gap (Xmax) (mm) | Annular Seal, Sealant | Additional Protection | 51 mm Korok Wall Panel | 78 mm Korok Wall Panel |
|---|---|---|---|---|---|---|---|---|---|
| Copper, Ferrous (Steel, SS, Iron) or Brass Pipes | 16 | 32 | 0.91 | 5 | 20 | Hilti CP606 Acrylic Sealant to depth of 20 mm from edge of Korok wall plus plasterboard patch thickness supported by PEF Backing Rod | 1 × (AP1) layer of 13 mm fire rated plasterboard patch on each side of the wall, with Mineral Pipe Sleeve (Fibretex 450) 600 mm long each side of wall | - /120/30 | - /120/60 |
| | 32 | 65 | 0.91 | | | | | | |
| | 80 | 100 | 1.22 | | | | | | |
| Copper, Ferrous (Steel, SS, Iron) or Brass Pipes | 125 | | 1.42 | | | | | | |
| | 150 | | 1.63 | | | | | | |
| | 200 | | 1.63 | | | | | | |

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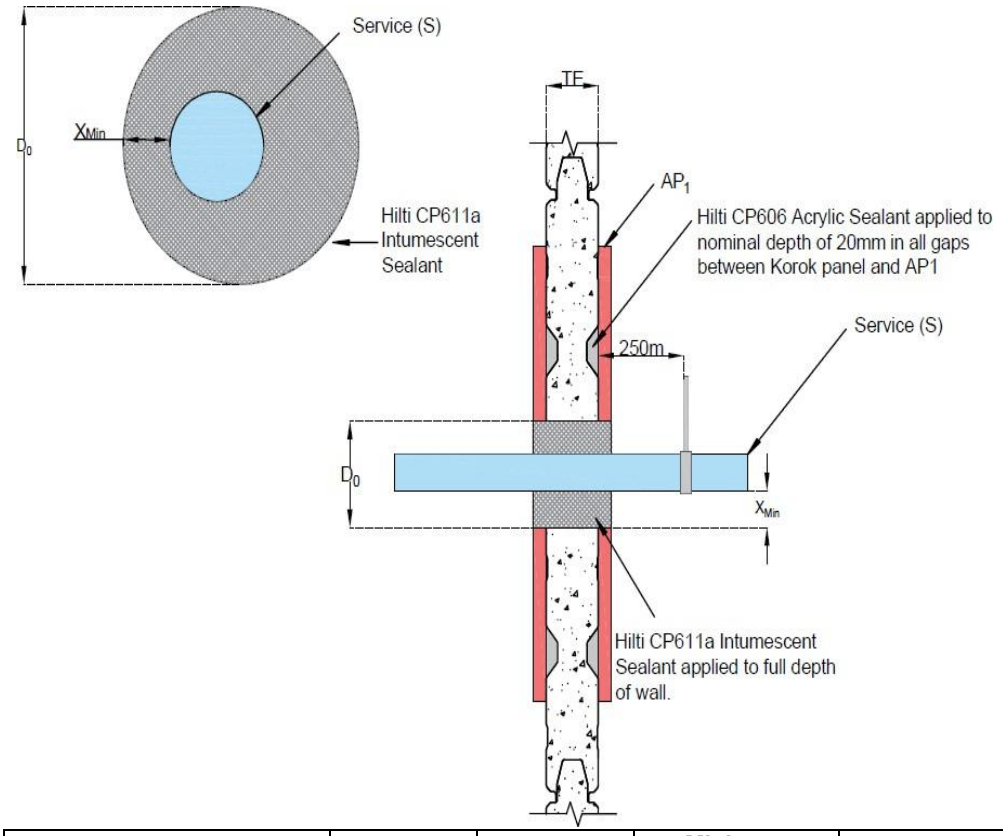
These web-based drawings are for illustrative purposes only. The fire performance of any system depends on several factors, including—but not limited to—the size of the opening, the type of substrate, the presence and nature of any penetrations, and the type, size, and quantity of services passing through. For detailed and project-specific fire performance information, please consult the Hilti Technical Team.

# 4. 78MM KOROK® WALL SYSTEM

## 4.1 Single cables through 78 mm Korok wall system with additional AP1 protection

| KOROK Panel: | Approvals: | Report Number: | Rev: |
|---|---|---|---|
| 78 mm Korok wall panel | AS 1530.4:2014/AS 4072.1:2005(R2016) | FAS190143 | RIR1.5 |




**AP1**: To achieve a minimum seal thickness >= 104 mm

Layers of 13 mm or 16 mm fire rated plasterboard board, at least 100 mm wide square board added to both sides of the wall, fixed in place with a maximum spacing of 150 mm apart. The outside perimeter edge of AP1 must be sealed with Hilti Firestop Acrylic sealant CP606

* The first layer of AP1 (1 × layer of 13 mm or 16 mm fire rated plasterboard) used for additional protection must be installed with 6g × 32 mm Course Thread Plaster Board Screw. Maximum spacing between screws is 150 mm.

* When second layer of AP1 are used, the second layer of AP1 (1 × layer of 13 mm or 16 mm fire rated plasterboard) must be installed with 6g × 50 mm Course Thread Plaster Board Screw. Maximum spacing between screws 150 mm.

| Services | Maximum cable dia. (mm) | Core Hole Size (mm) | Minimum annular gap (Xmin) (mm) | Sealant | Additional Protection | 78 mm Korok Panel |
|---|---|---|---|---|---|---|
| Single core copper cables PVC/PVC & XLPE/PVC (Sheath/Insulation) circular cables up to 25 mm2 | 10 | 35 | 5 | Hilti CP611a (to full depth of wall) | AP1 plasterboard build up | -/120/120 |
| Single Telecommunication Cables, Cat5/6/7/8, RG6 Coax Cables & Fibre Optic Cables | 10 | 28 | 5 | | | -/120/120 |
| Multi-Core Copper PVC/PVC & XLPE/PVC (Sheath/Insulation) Circular & Flat 2C&3C+E Cables up to 25mm2 | 23 | 48 | 5 | | | -/120/90 |

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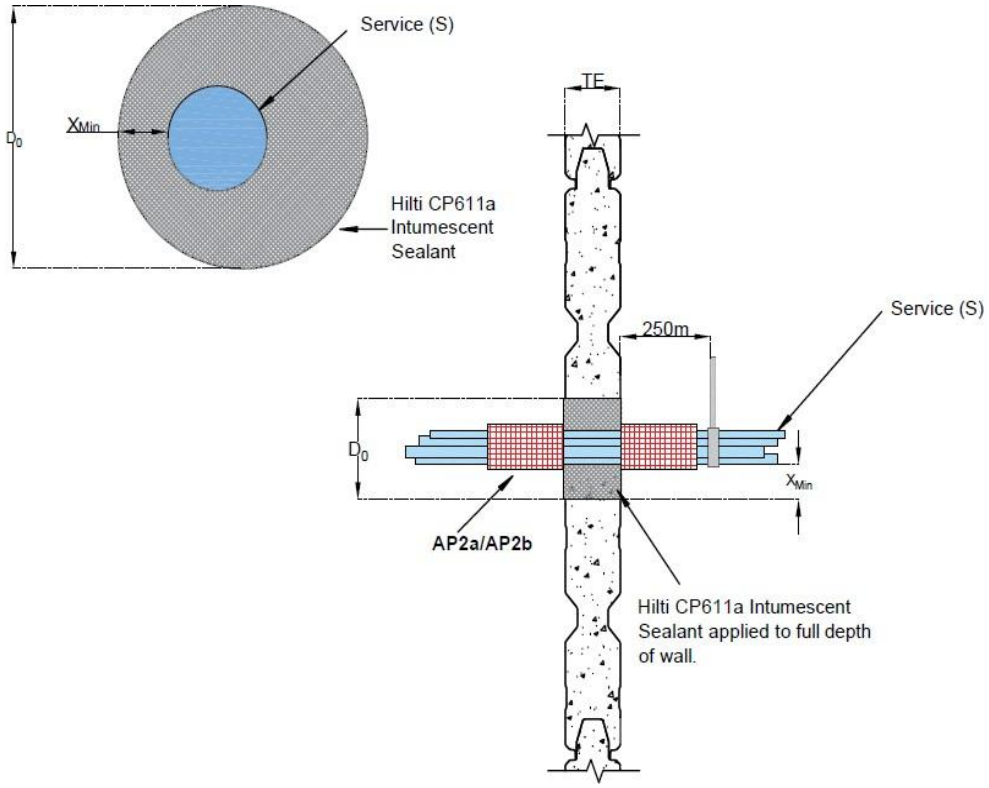
# 4.2 Cables bundles < 36 mm through 78 mm Korok panels with additional AP2 protection

| KOROK Panel: | Approvals: | Report Number: | Rev: |
|---|---|---|---|
| 78 mm Korok wall panel | AS 1530.4:2014/AS 4072.1:2005(R2016) | FAS190143 | RIR1.5 |




**AP2**: To achieve a minimum seal thickness >= 104 mm (refer page 9-10 RIR)

* **AP2a** - 1 × layer of Hilti CFS-P BA Putty Bandage covering the cables on the topside of the cable tray only. Note: White mesh should be visible, and the CFS-P BA Putty Bandage should overlap into the cable tray at each end by 20 mm when installed with a minimum width of 300 mm. Firmly press the CFS-P BA onto the services to ensure good adhesion.
* **AP2b** - 1 × layer of Hilti CFS-P BA Putty Bandage wrapped over the top of AP2a and around the entire cable tray, ensuring the mesh side of the CFS-P BA is visible. The putty bandage joint should overlap 20 mm. Firmly press the CFS-P BA onto to the services to ensure good adhesion. Note: Stainless Steel cables may be optionally used to secure the putty bandage around the underside of the cable tray.

| Services | No. of cables in bundle | Maximum Cable bundle Dia. (mm) | Core hole size (Do) mm | Minimum annular Seal ($X_{min}$) (mm) | Sealant | Additional Protection | 78 mm Korok Wall Panel |
|---|---|---|---|---|---|---|---|
| TPS power cables PVC/PVC (Sheath/Insulation) flat & circular - 2C & E 1.0 mm2 to 2.5 mm2 | 8 | 23 | 54 | 5 | Hilti CP611a Intumescent Sealant (to full depth of wall) | 2 × Layers of Hilti CFS- P BA Putty Bandage wrap around the cables on each side of wall (AP2a +AP2b) | -/120/90 |
| Telecommunication cables, Cat5/6/7/8, & Fibre optic cables | 16 | 10 | 48 | 5 | | | -/120/120 |
| Quad Shield Coax cable | 10 | 23 | 48 | 5 | | | -/120/90 |
| Any combination of the above- mentioned cables Bundled up to 36 mm in Dia. | - | 36 | 48 | 5 | | | -/120/90 |

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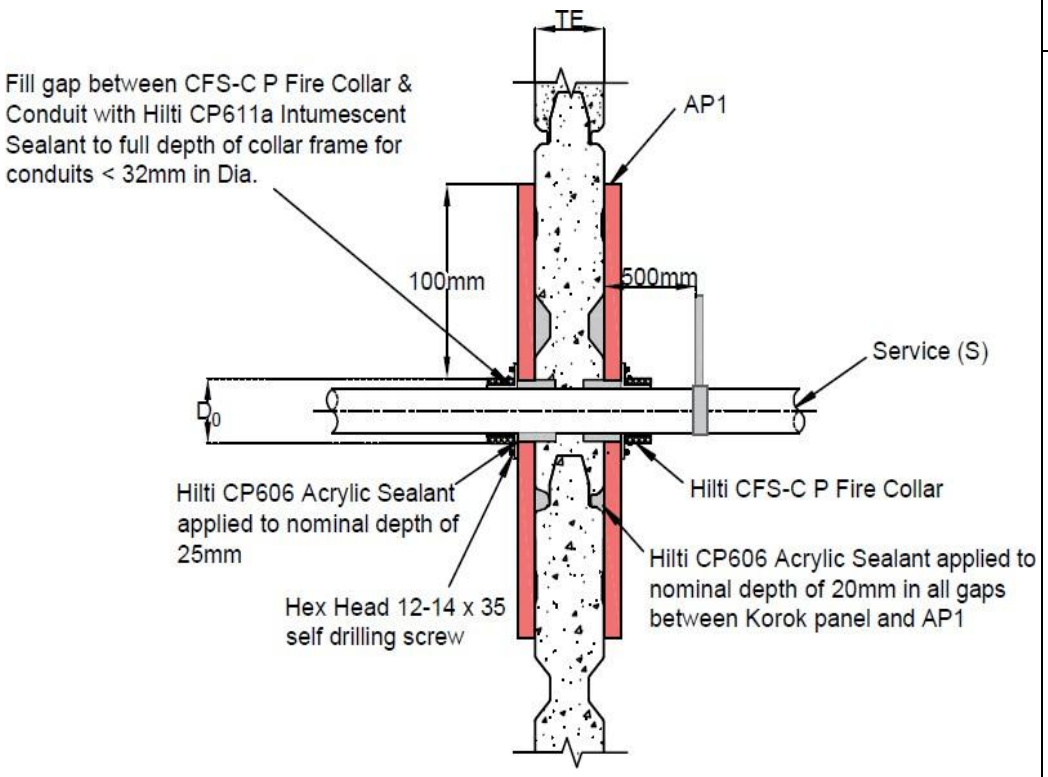
## 4.3 Rigid conduits < 50 mm Dia. through 78 mm Korok panel system with AP1 Additional protection

| KOROK Panel: | Approvals: | Report Number: | Rev: |
|---|---|---|---|
| 78 mm Korok wall panel | AS 1530.4:2014/AS 4072.1:2005(R2016) | FAS190143 | RIR1.5 |




**AP1**: To achieve a minimum seal thickness >= 104 mm

Layers of 13 mm or 16 mm fire rated plasterboard board, at least 100 mm wide square board added to both sides of the wall, fixed in place with a maximum spacing of 150 mm apart. The outside perimeter edge of AP1 must be sealed with Hilti Firestop Acrylic sealant CP606

* The first layer of AP1 (1 × layer of 13 mm or 16 mm fire rated plasterboard) used for additional protection must be installed with 6g × 32 mm Course Thread Plaster Board Screw. Maximum spacing between screws is 150 mm.
* When second layer of AP1 are used, the second layer of AP1 (1 × layer of 13 mm or 16 mm fire rated plasterboard) must be installed with 6g × 50 mm Course Thread Plaster Board Screw. Maximum spacing between screws 150 mm.

| Services | Conduit Dia. (mm) | Minimum core hole size Dia. (mm) | Maximum core hole size Dia. (mm) | Maximum wall thickness (mm) | Fire Collar | Annular Sealant | Additional sealant inside collar | 78 mm Korok Wall Panel |
|---|---|---|---|---|---|---|---|---|
| Single Rigid uPVC conduit (Empty) | 16 | 28 | 54 | 5.0 | Hilti CFS-C P 50/1.5" Fire Collar | Hilti CP606 Acrylic Sealant, Installed to Nominal Depth of 25 mm on both sides of the wall | Hilti CP611a Intumescent sealant installed to full depth of collar frame in addition to AP1 plasterboard build up | -/120/90 |
| | 20 | 30 | | | | | | |
| | 25 | 38 | | | | | | |
| | 32 | 48 | | | | | AP1 plasterboard build up | |
| | 50 | 51 | | | | | | |
| Single rigid uPVC conduit, filled with cables & or Fibre optics or mixture of both fibre optics & cables. | 16 | 28 | 54 | | | | Hilti CP611a Intumescent sealant installed to full depth of collar frame in addition to AP1 plasterboard build up | -/120/90 |
| | 20 | 30 | | | | | | |
| | 25 | 38 | | | | | | |
| | 32 | 48 | | | | | AP1 plasterboard build up | |
| | 50 | 51 | | | | | | |

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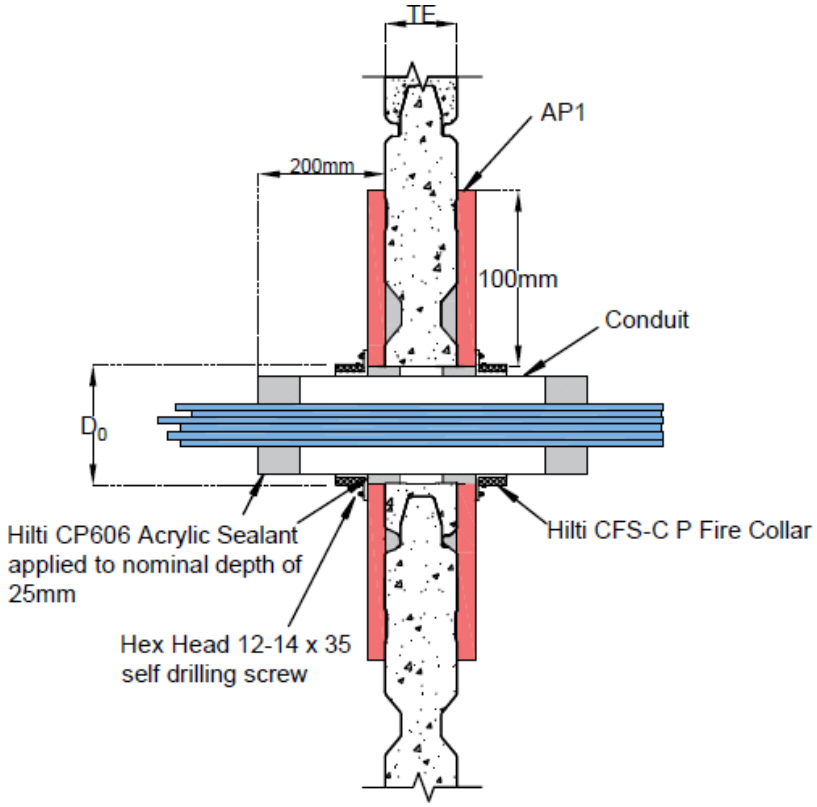
## 4.4 Flexible conduits < 50 mm in Dia. through 78 mm Korok wall system with AP1 additional protection

| KOROK Panel: | Approvals: | Report Number: | Rev: |
|---|---|---|---|
| 78 mm Korok wall panel | AS 1530.4:2014/AS 4072.1:2005(R2016) | FAS190143 | RIR1.5 |




**AP1**: To achieve a minimum seal thickness >= 104 mm

Layers of 13 mm or 16 mm fire rated plasterboard board, at least 100 mm wide square board added to both sides of the wall, fixed in place with a maximum spacing of 150 mm apart. The outside perimeter edge of AP1 must be sealed with Hilti Firestop Acrylic sealant CP606
* The first layer of AP1 (1 × layer of 13 mm or 16 mm fire rated plasterboard) used for additional protection must be installed with 6g × 32 mm Course Thread Plaster Board Screw. Maximum spacing between screws is 150 mm.
* When second layer of AP1 are used, the second layer of AP1 (1 × layer of 13 mm or 16 mm fire rated plasterboard) must be installed with 6g × 50 mm Course Thread Plaster Board Screw. Maximum spacing between screws 150 mm.

Note: The stated length of the conduits can be greater than or equal to 200 mm in length. The sealant applied in the ends of the conduits is only required when the conduit is not continuous.

| Services | Conduit Dia. (mm) | Minimum core hole size Dia. (mm) | Maximum core hole size Dia. (mm) | Wall thickness (mm) | Fire Collar | Annular seal, Sealant | Additional sealant inside collar | 78 mm Korok Wall Panel |
|---|---|---|---|---|---|---|---|---|
| Single Rigid uPVC conduit (Empty) | 20 | 27 | 54 | 0.5-0.55 | Hilti CFS-C P 50/1.5" Fire Collar | Hilti CP606 Acrylic Sealant, Installed to Nominal Depth of 25 mm on both sides of the wall | Hilti CP611a Intumescent sealant installed to full depth of collar frame in addition to AP1 plasterboard build up | -/120/120 |
| | 25 | 38 | | | | | | |
| | 32 | 48 | | | | | | |
| | 50 | 51 | | | | | AP1 plasterboard build up | |
| Single rigid uPVC conduit, filled with cables & or Fibre optics or mixture of both fibre optics & cables. | 20 | 27 | 54 | | | | Hilti CP611a Intumescent sealant installed to full depth of collar frame in addition to AP1 plasterboard build up | -/120/90 |
| | 25 | | | | | | | |

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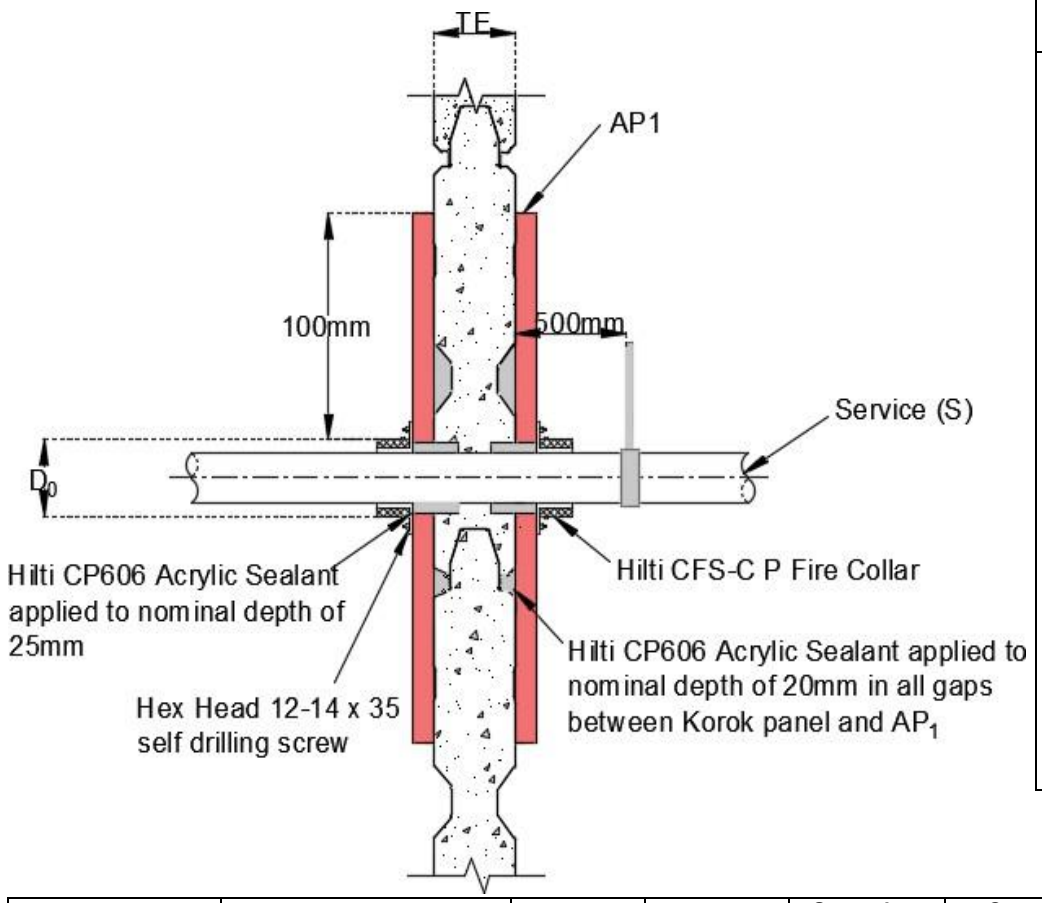
# 4.5 uPVC/uPVC-SC Plumbing Pipes < 150 mm Dia. through 78 mm Korok wall system with additional AP1 protection

| KOROK Panel: | Approvals: | Report Number: | Rev: |
|---|---|---|---|
| 78 mm Korok wall panel | AS 1530.4:2014/AS 4072.1:2005(R2016) | FAS190143 | RIR1.5 |




**AP1**: To achieve a minimum seal thickness >= 104 mm

Layers of 13 mm or 16 mm fire rated plasterboard board, at least 100 mm wide square board added to both sides of the wall, fixed in place with a maximum spacing of 150 mm apart. The outside perimeter edge of AP1 must be sealed with Hilti Firestop Acrylic sealant CP606

* The first layer of AP1 (1 × layer of 13 mm or 16 mm fire rated plasterboard) used for additional protection must be installed with 6g × 32 mm Course Thread Plaster Board Screw. Maximum spacing between screws is 150 mm.
* When second layer of AP1 are used, the second layer of AP1 (1 × layer of 13 mm or 16 mm fire rated plasterboard) must be installed with 6g × 50 mm Course Thread Plaster Board Screw. Maximum spacing between screws 150 mm.

| Services | Primary Protection | No. of Collar Fixings | Pipe Wall thickness (mm) | Secondary Protection | Core Hole size (Do) mm Minimum Dia. | Core hole size (Do) mm Maximum Dia. | 78 mm Korok Wall Panel |
|---|---|---|---|---|---|---|---|
| 40 mm (ND) uPVC DWV | Hilti CFS-C P 50/1.5" Fire Collar | 2 | 2.4 | Hilti CP606 Acrylic Sealant Annular Seal to Nominal depth 25 mm with plasterboard build up (AP1) - Figure 16 | 48 | 51 | -/120/90 |
| 50 mm (ND) uPVC DWV | Hilti CFS-C P 63/2.0" Fire Collar | 3 | 2.3 | | 58 | 64 | **-/120/120** |
| 65 mm (ND) uPVC DWV | Hilti CFS-C P 75/2.5" Fire Collar | 3 | 2.5 | | 68 | 76 | **-/120/120** |
| 80 mm (ND) uPVC DWV | Hilti CFS-C P 90/3" Fire Collar | 3 | 3.4 | | 84 | 95 | **-/120/120** |
| 100 mm (ND) uPVC-SC | Hilti CFS-C P 110/4" Fire Collar | 4 | 4 | | 115 | 121 | -/120/90 |
| 150 mm (ND) uPVC-SC | Hilti CFS-C P 160/4" Fire Collar | 6 | 5 | | 165 | 170 | -/120/90 |

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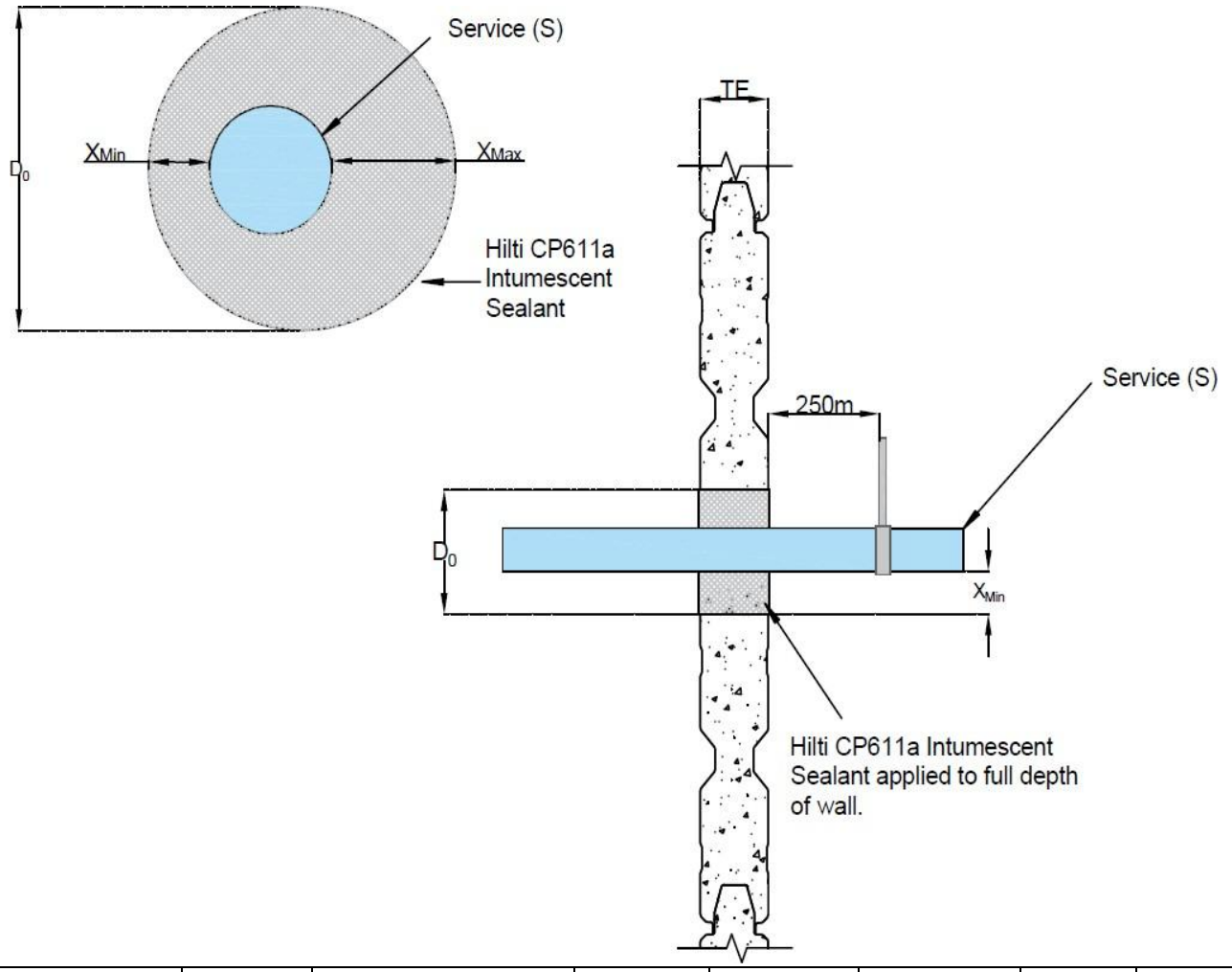
These web-based drawings are for illustrative purposes only. The fire performance of any system depends on several factors, including—but not limited to—the size of the opening, the type of substrate, the presence and nature of any penetrations, and the type, size, and quantity of services passing through. For detailed and project-specific fire performance information, please consult the Hilti Technical Team.

# 4.6 Gas and water supply pipes through 51 mm and 78 mm Korok wall system

| KOROK Panel: | Approvals: | Report Number: | Rev: |
|---|---|---|---|
| 51 mm and 78 mm Korok wall panel | AS 1530.4:2014/AS 4072.1:2005(R2016) | FAS190143 | RIR1.5 |




| Services | Pipe Dia. (mm) | Pipe Wall thickness Range (mm) | Core hole size (Do) mm | Minimum annular Seal (Xmin)(mm) | Annular seal, Sealant | 51 mm Korok Wall Panel | 78 mm Korok Wall Panel |
|---|---|---|---|---|---|---|---|
| PE-Xa | 16 | 1.2 – 2.4 | 38 | 5 | Hilti CP611a Intumescent Sealant | -/120/90 | -/120/90 |
| | 20 | 2.3 – 3.4 | 40 | 5 | | -/120/90 | -/120/90 |
| | 25 | 2.8 – 3.9 | 48 | 5 | | -/120/90 | -/120/90 |
| PE-X/AL/PE | 16 | 2.0 – 2.6 | 38 | 5 | | -/120/60 | -/120/60 |
| | 20 | 2.3 – 2.9 | 40 | 5 | | -/120/60 | -/120/60 |
| | 25 | 3.5 – 3.7 | 48 | 5 | | -/120/60 | -/120/60 |
| | 32 | 3.5 – 3.7 | 54 | 5 | | -/120/60 | -/120/60 |

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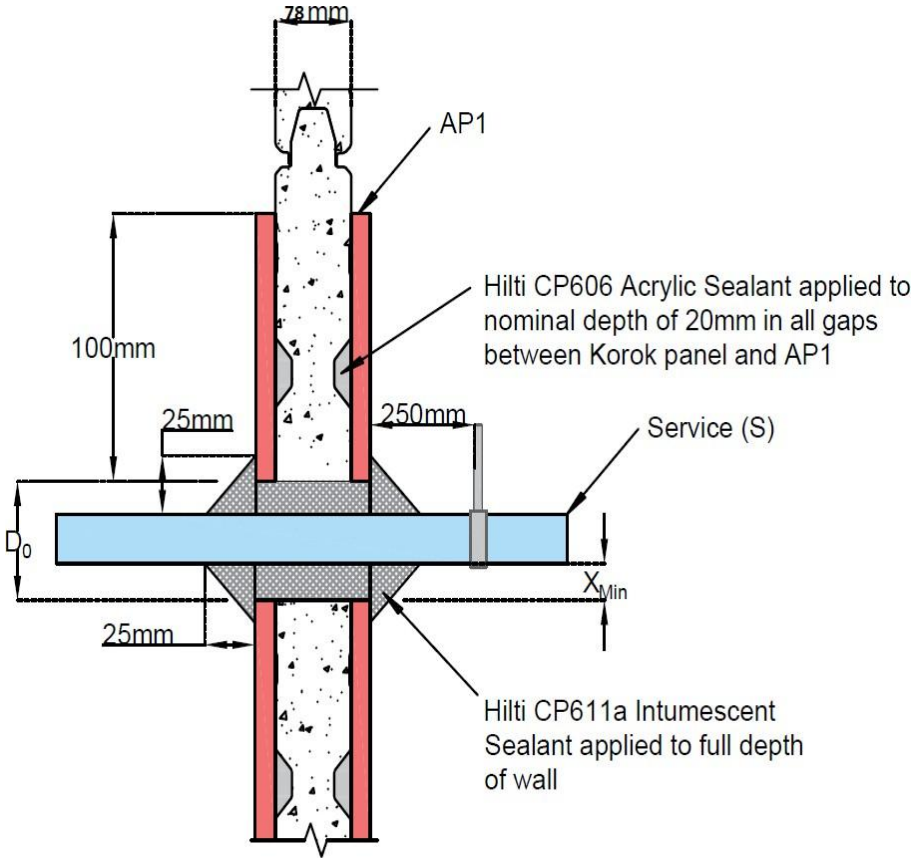
# 4.7 Gas and water supply Pipes through 78 mm Korok wall system with AP1 and cone additional protection

| KOROK Panel: | Approvals: | Report Number: | Rev: |
|---|---|---|---|
| 78 mm Korok wall panel | AS 1530.4:2014/AS 4072.1:2005(R2016) | FAS190143 | RIR1.5 |




**AP1**: To achieve a minimum seal thickness >= 104 mm

Layers of 13 mm or 16 mm fire rated plasterboard board, at least 100 mm wide square board added to both sides of the wall, fixed in place with a maximum spacing of 150 mm apart. The outside perimeter edge of AP1 must be sealed with Hilti Firestop Acrylic sealant CP606

* The first layer of AP1 (1 × layer of 13 mm or 16 mm fire rated plasterboard) used for additional protection must be installed with 6g × 32 mm Course Thread Plaster Board Screw. Maximum spacing between screws is 150 mm.

* When second layer of AP1 are used, the second layer of AP1 (1 × layer of 13 mm or 16 mm fire rated plasterboard) must be installed with 6g × 50 mm Course Thread Plaster Board Screw. Maximum spacing between screws 150 mm.

| Services | Pipe Dia. (mm) | Pipe Wall thickness Range (mm) | Core hole size (Do) mm | Minimum annular Seal (Xmin)(mm) | Annular seal, Sealant | Additional Protection | 78 mm Korok Wall Panel |
|---|---|---|---|---|---|---|---|
| PE-Xa | 16 | 1.2 – 2.4 | 38 | 5 | Hilti CP611a Intumescent Sealant | 1 × layer of 13 mm fire rated plasterboard patch on each side of the wall (AP1), with 25 mm × 25 mm Cone of CP611a Intumescent Sealant | -/120/120 |
| | 20 | 2.3 – 3.4 | 40 | 5 | | | -/120/120 |
| | 25 | 2.8 – 3.9 | 48 | 5 | | | -/120/120 |
| PE-Xb | 16 | 1.2 – 2.4 | 38 | 5 | | | -/120/120 |
| | 20 | 1.9 – 2.4 | 40 | 5 | | | -/120/120 |
| | 25 | 2.3 – 2.9 | 48 | 5 | | | -/120/120 |
| PE-X/AL/PE | 16 | 2.0 – 2.6 | 28 | 5 | | | -/120/90 |
| | 20 | 2.3 – 2.9 | 40 | 5 | | | -/120/90 |
| | 25 | 3.5 – 3.7 | 48 | 5 | | | -/120/90 |
| | 32 | 3.7 – 4.7 | 54 | 5 | | | -/120/90 |
| PE-Xb/AL/PE-Xb | 16 | 2.0 – 2.6 | 38 | 5 | | | -/120/90 |
| | 20 | 2.0 – 2.9 | 40 | 5 | | | -/120/90 |
| | 25 | 2.4 – 3.7 | 48 | 5 | | | -/120/90 |

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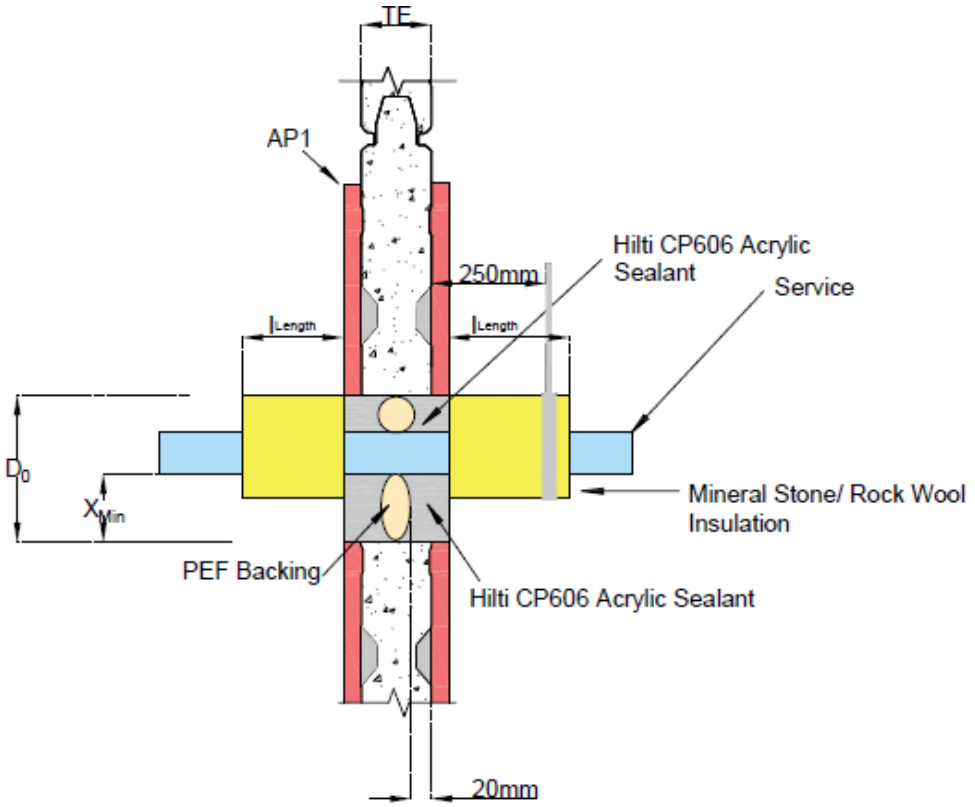
These web-based drawings are for illustrative purposes only. The fire performance of any system depends on several factors, including—but not limited to—the size of the opening, the type of substrate, the presence and nature of any penetrations, and the type, size, and quantity of services passing through. For detailed and project-specific fire performance information, please consult the Hilti Technical Team.

# 4.8 Insulated metal Pipes through 51 mm and 78 mm Korok wall system with AP1 and AP3 additional protection.

| KOROK Panel: | Approvals: | Report Number: | Rev: |
|---|---|---|---|
| 51 mm and 78 mm Korok wall panel | AS 1530.4:2014/AS 4072.1:2005(R2016) | FAS190143 | RIR1.5 |




**AP1**: To achieve a minimum seal thickness >= 104 mm

Layers of 13 mm or 16 mm fire rated plasterboard board, at least 100 mm wide square board added to both sides of the wall, fixed in place with a maximum spacing of 150 mm apart. The outside perimeter edge of AP1 must be sealed with Hilti Firestop Acrylic sealant CP606
* The first layer of AP1 (1 × layer of 13 mm or 16 mm fire rated plasterboard) used for additional protection must be installed with 6g × 32 mm Course Thread Plaster Board Screw. Maximum spacing between screws is 150 mm.
* When second layer of AP1 are used, the second layer of AP1 (1 × layer of 13 mm or 16 mm fire rated plasterboard) must be installed with 6g × 50 mm Course Thread Plaster Board Screw. Maximum spacing between screws 150 mm.

**AP3:**
50 mm thick Mineral pipe sleeve (Fibertex 450) or equivalent with minimum density of 80 kg/m3 wrapped around metal pipes on each side of the wall with minimum 600 mm length.

| Services | Minimum Nominal Pipe Dia. (mm) | Maximum Nominal Pipe Dia. (mm) | Minimum Pipe Wall Thickness (mm) | Minimum edge distance (Xmin) (mm) | Maximum annular gap (Xmax) (mm) | Annular Seal, Sealant | Additional Protection | 51 mm Korok Wall Panel | 78 mm Korok Wall Panel |
|---|---|---|---|---|---|---|---|---|---|
| Copper, Ferrous (Steel, SS, Iron) or Brass Pipes | 16 | 32 | 0.91 | 5 | 20 | Hilti CP606 Acrylic Sealant to depth of 20 mm from edge of Korok wall plus plasterboard patch thickness supported by PEF Backing Rod | 1 × (AP1) layer of 13 mm fire rated plasterboard patch on each side of the wall, with Mineral Pipe Sleeve (Fibretex 450) 600 mm long each side of wall | -/120/30 | -/120/60 |
| | 32 | 65 | 0.91 | | | | | | |
| | 80 | 100 | 1.22 | | | | | | |
| Copper, Ferrous (Steel, SS, Iron) or Brass Pipes | 125 | | 1.42 | | | | | | |
| | 150 | | 1.63 | | | | | | |
| | 200 | | 1.63 | | | | | | |

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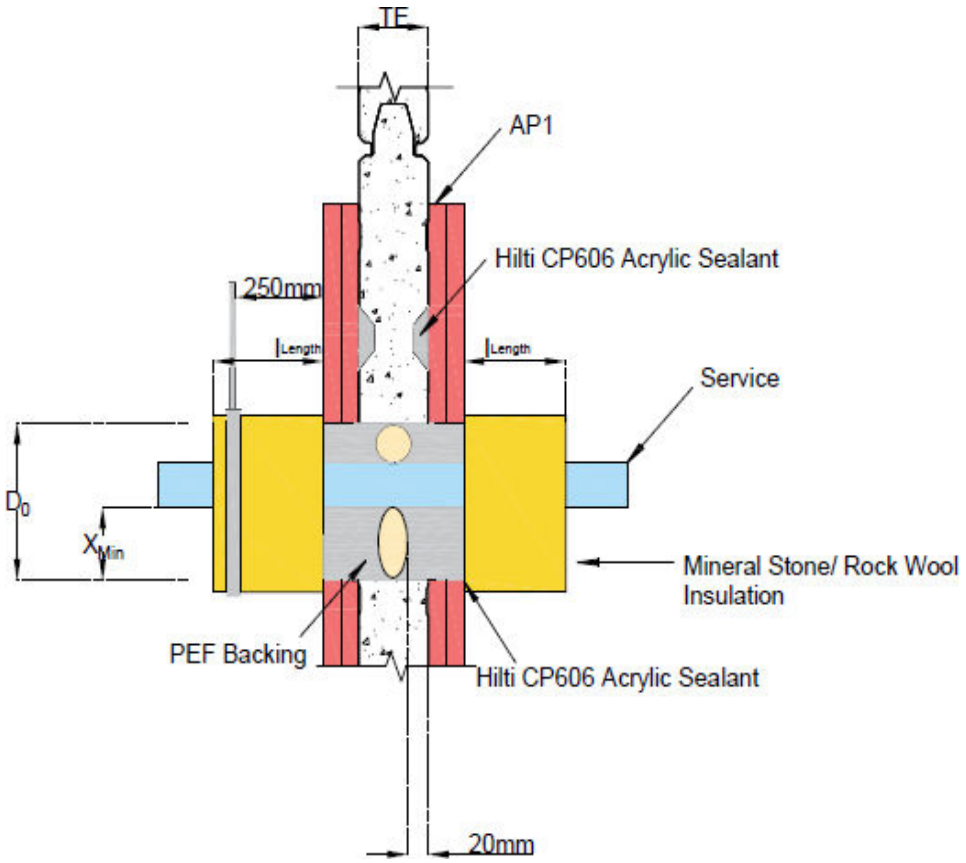
# 4.9 Metal Pipes through 78 mm Korok wall system with addition 2 × AP1 and AP3 protection

| KOROK Panel: | Approvals: | Report Number: | Rev: |
|---|---|---|---|
| 78 mm Korok wall panel | AS 1530.4:2014/AS 4072.1:2005(R2016) | FAS190143 | RIR1.5 |




**AP1**: To achieve a minimum seal thickness >= 104 mm

Layers of 13 mm or 16 mm fire rated plasterboard board, at least 100 mm wide square board added to both sides of the wall, fixed in place with a maximum spacing of 150 mm apart. The outside perimeter edge of AP1 must be sealed with Hilti Firestop Acrylic sealant CP606

* The first layer of AP1 (1 × layer of 13 mm or 16 mm fire rated plasterboard) used for additional protection must be installed with 6g × 32 mm Course Thread Plaster Board Screw. Maximum spacing between screws is 150 mm.
* When second layer of AP1 are used, the second layer of AP1 (1 × layer of 13 mm or 16 mm fire rated plasterboard) must be installed with 6g × 50 mm Course Thread Plaster Board Screw. Maximum spacing between screws 150 mm.

**AP3:**
50 mm thick Mineral pipe sleeve (Fibertex 450) or equivalent with minimum density of 80 kg/m3 wrapped around metal pipes on each side of the wall with minimum 600 mm length.

| Services | Minimum Nominal Pipe Dia. (mm) | Maximum Nominal Pipe Dia. (mm) | Minimum Pipe Wall Thickness (mm) | Minimum edge distance (Xmin) (mm) | Maximum annular gap (Xmax) (mm) | Annular Seal, Sealant | Additional Protection | 78 mm Korok Wall Panel |
|---|---|---|---|---|---|---|---|---|
| Copper, Ferrous (Steel, SS, Iron) or Brass Pipes | 16 | 32 | 0.91 | 5 | 20 | Hilti CP606 Acrylic Sealant to depth of 20 mm from edge of Korok wall plus plasterboard patch thickness supported by PEF Backing Rod | 2 × (AP1) layer of 13 mm fire rated plasterboard patch on each side of the wall, with Mineral Pipe Sleeve (Fibretex 450) 600 mm long each side of wall | -/120/90 |
| | 32 | 65 | 0.91 | | | | | |
| | 80 | 100 | 1.22 | | | | | |
| Copper, Ferrous (Steel, SS, Iron) or Brass Pipes | 125 | | 1.42 | | | | | |
| | 150 | | 1.63 | | | | | |
| | 200 | | 1.63 | | | | | |

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