

# LOW PROFILE FIRE COLLARS



The low profile fire collars are designed to be installed in concrete, masonry fire rated walls and floors, and fire rated plasterboard walls. The Allproof fire collars consist of intumescent material encased in a steel surround with fixing tabs. The advanced intumescent technology allows Allproof to achieve a very low profile height of only 28mm.

When fire occurs the intumescent material expands against the steel surround as the flammable plastic pipe running through the collar

melts and burns away. The steel casing acts as an excellent heat sync ensuring fast activation of the intumescent, forming a stable fire resistant plug, maintaining both fire integrity and insulation.

Fire collars are designed to be exposed in a wall or floor application (i.e. face fixed). The collars should always be fixed to the underneath of the concrete floor. In wall situations one collar should be used on each exposed side of the fire rated wall.

## SUITABLE FOR FITTING TO:

- Concrete floors
- Hollow core construction floors
- Rib & timber / ply infill floors
- Composite floors
- Cross laminated timber floors
- Plasterboard ceilings
- Concrete, masonry walls
- Cross laminated timber walls
- Plasterboard walls
- Speedpanel walls
- Hebel Powerpanel walls

*Please contact us for further information for any results listed above but not available in this document.*

## INSTALLATION INSTRUCTIONS:

1. Ensure substrate around pipe is flat and free from obstructions.
2. Open fire collar and position around pipe.
3. Slide tab through slot in fire collar and fold back 180° to secure.
4. Secure fire collar by using suitable fixings as per testing. Do not use fixings which rely on plastic or nylon components for grip.
5. Install only from underside on floor penetrations. Install fire collar on both sides for wall penetrations.
6. Allproof recommends any thermal or acoustic lagging maintains a 50mm separation to the fire collar.

## FEATURES:

- Totally unaffected by water
- Unique low profile design
- Stainless or galvanized steel case
- Retro fitting - easy install slide tab
- For use on various penetrations

## CONCRETE SLAB TEST RESULTS:

| NOMINAL PIPE SIZE (MM)         | SLAB DEPTH (MM) | NOMINAL PIPE WALL THICKNESS (MM) | PRODUCT CODE | PENETRATION HOLE SIZE (MM) | FLOOR FRL | REPORT NUMBER | WALL FRL  | REPORT NUMBER |
|--------------------------------|-----------------|----------------------------------|--------------|----------------------------|-----------|---------------|-----------|---------------|
| PVC PLASTIC PIPE               |                 |                                  |              |                            |           |               |           |               |
| 40                             | 70              | 2.0                              | ALLFC40      | 47                         | -/90/60   | 6017          |           |               |
| 50                             | 70              | 2.2                              | ALLFC50      | 57                         | -/90/60   | 4831          |           |               |
| 65                             | 70              | 2.7                              | ALLFC65      | 72                         | -/90/60   | 4831          |           |               |
| 80                             | 70              | 2.9                              | ALLFC80      | 87                         | -/90/60   | 4831          |           |               |
| 100                            | 70              | 3.2                              | ALLFC100     | 112                        | -/90/60   | 6017          |           |               |
| 20                             | 120             | 1.8                              | ALLFC25      | 28                         | -/120/120 | 5125          |           |               |
| 40                             | 150             | 2.0                              | ALLFC40      | 47                         | -/120/120 | 3788          | -/120/120 | 5956          |
| 50                             | 150             | 2.2                              | ALLFC50      | 57                         | -/120/120 | 3788          | -/120/120 | 5957          |
| 65                             | 150             | 2.7                              | ALLFC65      | 72                         | -/120/120 | 4100          | -/180/180 | 4211          |
| 80                             | 150             | 2.9                              | ALLFC80      | 87                         | -/120/120 | 3808          | -/180/180 | 4211          |
| 100                            | 150             | 3.2                              | ALLFC100     | 112                        | -/120/120 | 3788          | -/120/120 | 3808          |
| 150                            | 150             | 4.5                              | ALLFC150     | 162                        | -/120/120 | 4100          | -/120/120 | 5957          |
| 225                            | 150             | 6.0                              | ALLFC250     | 262                        | -/180/180 | 145430        |           |               |
| PVC PLASTIC PIPE - WITH SOCKET |                 |                                  |              |                            |           |               |           |               |
| 40                             | 120             | Socket                           | ALLFC40      | 47                         | -/240/180 | 5573          |           |               |
| 50                             | 150             | Socket                           | ALLFC50      | 57                         | -/120/120 | 4465          |           |               |
| 65                             | 150             | Socket                           | ALLFC65      | 72                         | -/120/120 | 4465          |           |               |
| 80                             | 150             | Socket                           | ALLFC80      | 87                         | -/120/120 | 4465          |           |               |
| 100                            | 150             | Socket                           | ALLFC100     | 112                        | -/120/120 | 3974          |           |               |
| 150                            | 150             | Socket                           | ALLFC200     | 183                        | -/120/120 | 148721        |           |               |
| PVC PLASTIC STORMWATER PIPE    |                 |                                  |              |                            |           |               |           |               |
| 175                            | 150             | 5.5                              | ALLFC200     | 205                        | -/120/120 | 148721        |           |               |
| 225                            | 150             | 6.0                              | ALLFC250     | 262                        | -/240/180 | 143281-004    |           |               |
| HDPE PLASTIC PIPE              |                 |                                  |              |                            |           |               |           |               |
| 90                             | 120             | 3.5                              | ALLFC100     | 95                         | -/180/180 | 146150        |           |               |
| 125                            | 120             | 4.9                              | ALLFC150     | 130                        | -/45/45   | 146150        |           |               |
| 50                             | 150             | 3.0                              | ALLFC50      | 52                         | -/120/120 | 3974          | -/120/120 | 4466          |
| 56                             | 150             | 3.0                              | ALLFC50      | 58                         | -/120/120 | 4834          |           |               |
| 63                             | 150             | 3.0                              | ALLFC65      | 65                         | -/120/120 | 4834          |           |               |
| 75                             | 150             | 3.0                              | ALLFC80      | 77                         | -/120/120 | 3974          | -/120/120 | 4836          |
| 110                            | 150             | 4.3                              | ALLFC100     | 112                        | -/120/120 | 3974          | -/120/120 | 4836          |
| 150                            | 150             | 6.2                              | ALLFC150     | 162                        | -/120/120 | 4100          |           |               |
| PP-R PLASTIC PIPE (SDR 7.4)    |                 |                                  |              |                            |           |               |           |               |
| 20                             | 120             | 2.2                              | ALLFC25      | 28                         | -/120/120 | 5125          |           |               |
| 25                             | 120             | 3.5                              | ALLFC25      | 35                         | -/180/180 | 146150        |           |               |
| 40                             | 150             | 5.5                              | ALLFC40      | 42                         | -/120/120 | 4058          | -/120/120 | 4836          |
| 50                             | 150             | 7.2                              | ALLFC50      | 54                         | -/120/120 | 148721        |           |               |
| 63                             | 150             | 9.2                              | ALLFC65      | 67                         | -/60/45   | 148721        |           |               |
| 75                             | 150             | 10.3                             | ALLFC80      | 77                         | -/120/120 | 4058          |           |               |
| 110                            | 150             | 15.1                             | ALLFC100     | 112                        | -/90/90   | 4058          |           |               |

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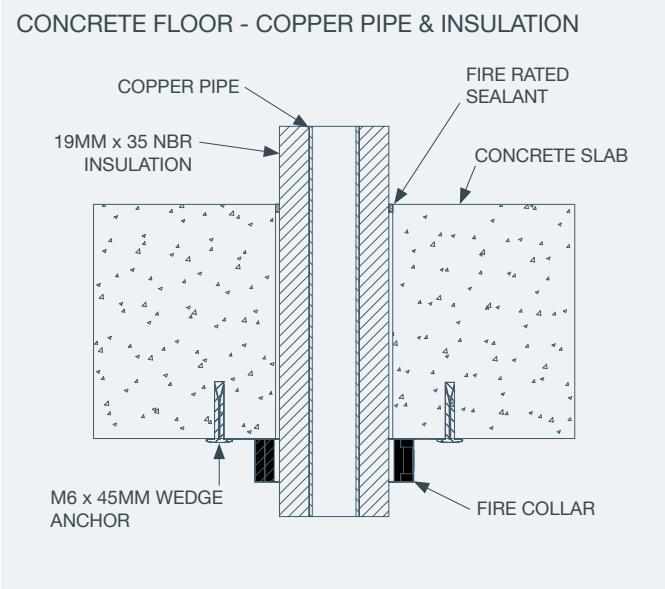
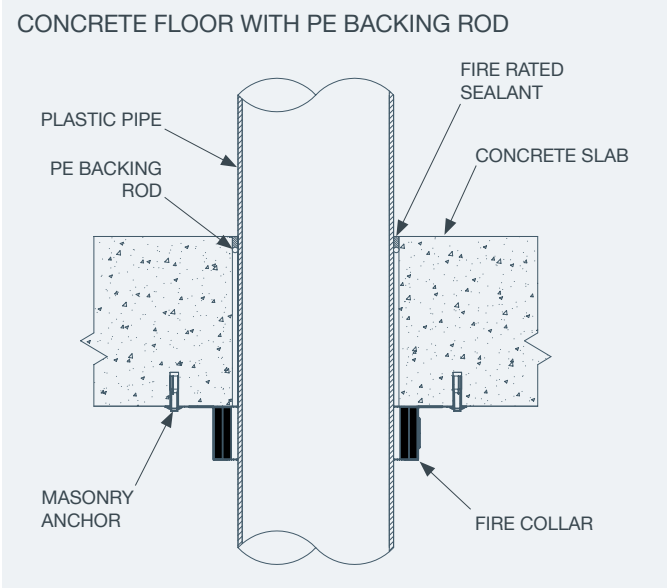
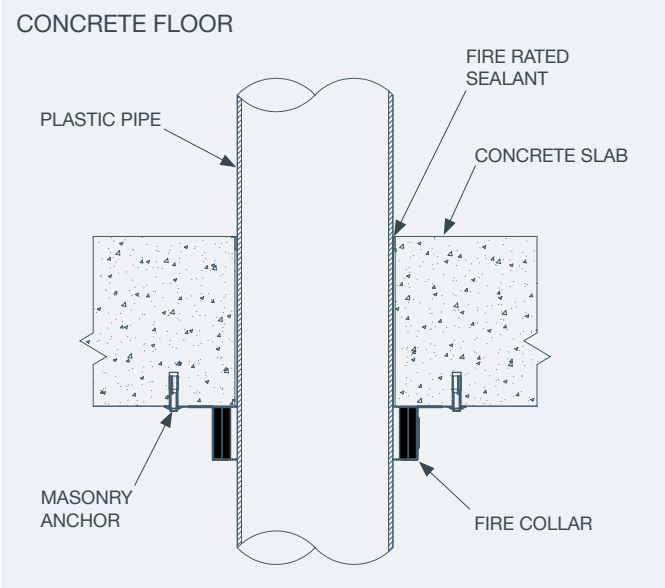
## CONCRETE SLAB TEST RESULTS (CONTINUED):

| NOMINAL PIPE SIZE (MM)         | SLAB DEPTH (MM) | NOMINAL PIPE WALL THICKNESS (MM) | PRODUCT CODE | PENETRATION HOLE SIZE (MM) | FLOOR FRL | REPORT NUMBER | WALL FRL | REPORT NUMBER |
|--------------------------------|-----------------|----------------------------------|--------------|----------------------------|-----------|---------------|----------|---------------|
| RAUPIANO PP-MD                 |                 |                                  |              |                            |           |               |          |               |
| 40                             | 120             | 1.8                              | ALLFC40      | 42                         | -/120/120 | 5169          |          |               |
| 50                             | 120             | 1.8                              | ALLFC50      | 52                         | -/120/120 | 5169          |          |               |
| 75                             | 120             | 1.9                              | ALLFC80      | 77                         | -/120/120 | 5169          |          |               |
| 110                            | 120             | 2.7                              | ALLFC100     | 112                        | -/120/120 | 5169          |          |               |
| D BLUE PP-MD                   |                 |                                  |              |                            |           |               |          |               |
| 40                             | 120             | 1.8                              | ALLFC40      | 42                         | -/120/120 | 4467          |          |               |
| 50                             | 120             | 1.8                              | ALLFC50      | 52                         | -/240/240 | 5573          |          |               |
| 75                             | 120             | 2.3                              | ALLFC80      | 77                         | -/120/120 | 4467          |          |               |
| 110                            | 120             | 3.4                              | ALLFC100     | 112                        | -/240/240 | 5573          |          |               |
| PEX                            |                 |                                  |              |                            |           |               |          |               |
| 16 PEX                         | 120             | 2.35                             | ALLFC25      | 28                         | -/120/120 | 5125          |          |               |
| 20 PEX                         | 120             | 2.95                             | ALLFC25      | 28                         | -/120/120 | 12424-001     |          |               |
| 25 PEX                         | 120             | 3.75                             | ALLFC25      | 28                         | -/120/120 | 5125          |          |               |
| 32 PEX                         | 120             | 2.8                              | ALLFC50      | 55                         | -/180/180 | 146150        |          |               |
| PB                             |                 |                                  |              |                            |           |               |          |               |
| 16 PB                          | 120             | 1.7                              | ALLFC25      | 28                         | -/120/120 | 5125          |          |               |
| 20 PB                          | 120             | 2.1                              | ALLFC25      | 28                         | -/120/120 | 12424-001     |          |               |
| 28 PB                          | 120             | 2.8                              | ALLFC25      | 32                         | -/120/120 | 5125          |          |               |
| PEX/AL/PEX                     |                 |                                  |              |                            |           |               |          |               |
| 16 PEX/AL/PEX                  | 120             | 2.0                              | ALLFC25      | 30                         | -/180/120 | 146150        |          |               |
| 20 PEX/AL/PEX                  | 120             | 2.0                              | ALLFC25      | 30                         | -/120/120 | 146150        |          |               |
| 25 PEX/AL/PEX                  | 120             | 2.8                              | ALLFC25      | 28                         | -/120/120 | 5125          |          |               |
| 40 PEX/AL/PEX                  | 120             | 4.0                              | ALLFC50      | 50                         | -/60/-    | 146150        |          |               |
| 19MM WALL NBR INSULATED COPPER |                 |                                  |              |                            |           |               |          |               |
| 32                             | 150             |                                  | ALLFC65      | 75                         | -/120/90  | 148721        |          |               |

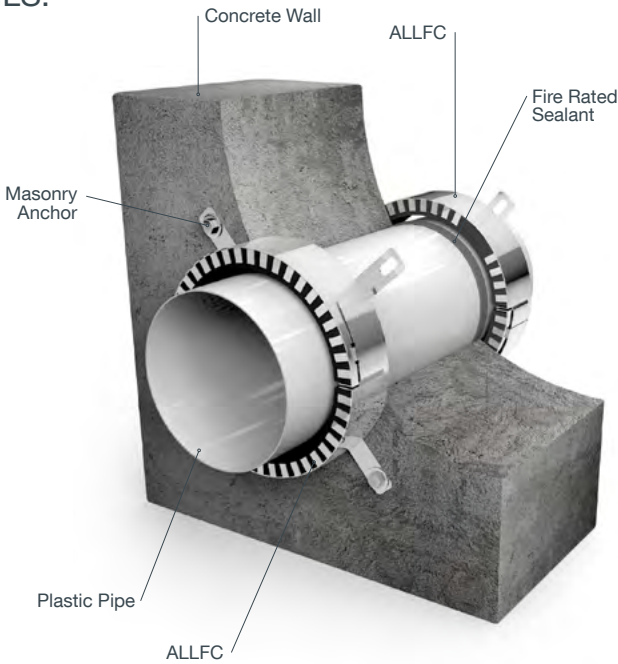
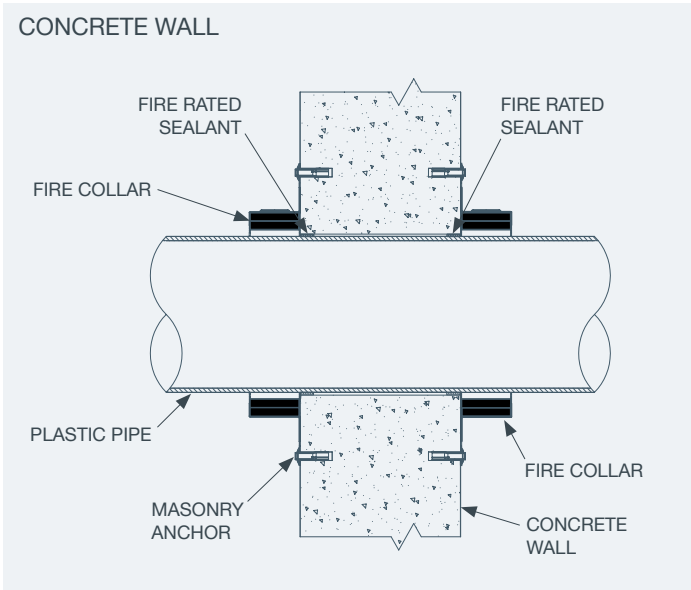
Fixing: Collars tested using M6x25 masonry anchors or M6x45mm Wedge Anchors.

For installations resulting in an annular gap of 4mm or greater insert PE backing rod prior to fire rated sealant.

ALLFC25 - 250 CONCRETE INSTALLATION DETAILS:



ALLFC25 - 250 CONCRETE INSTALLATION DETAILS:

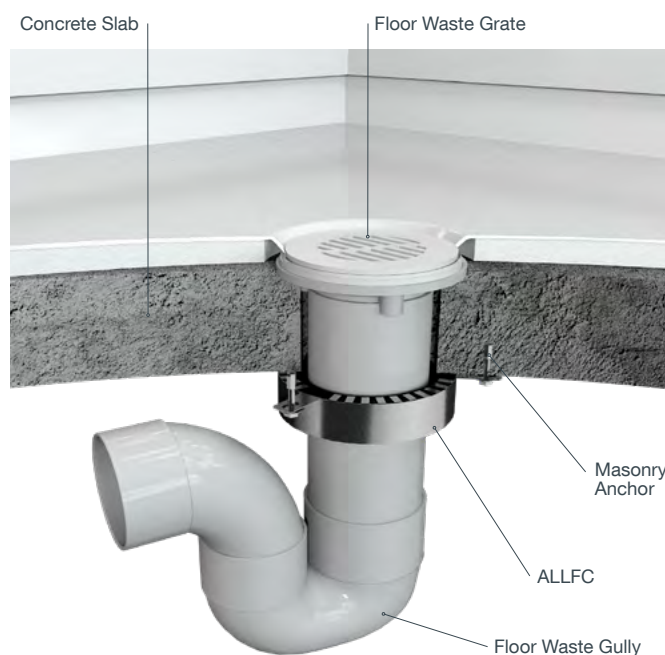
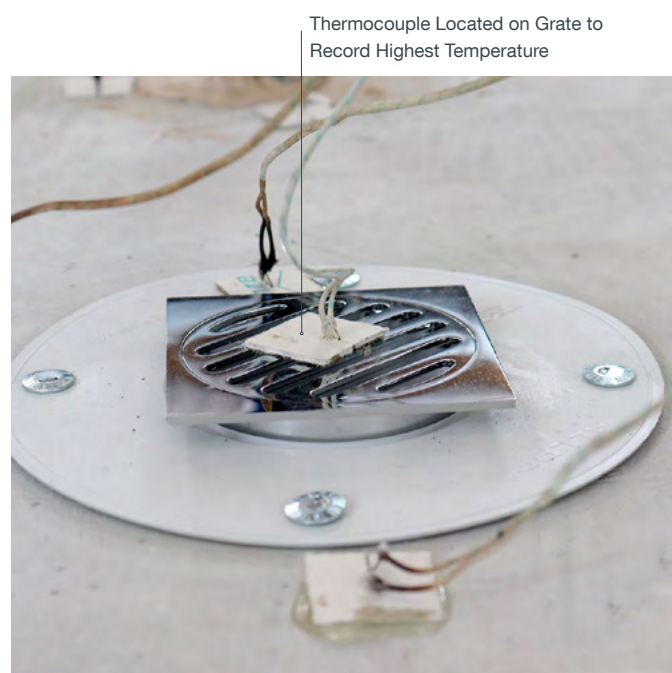
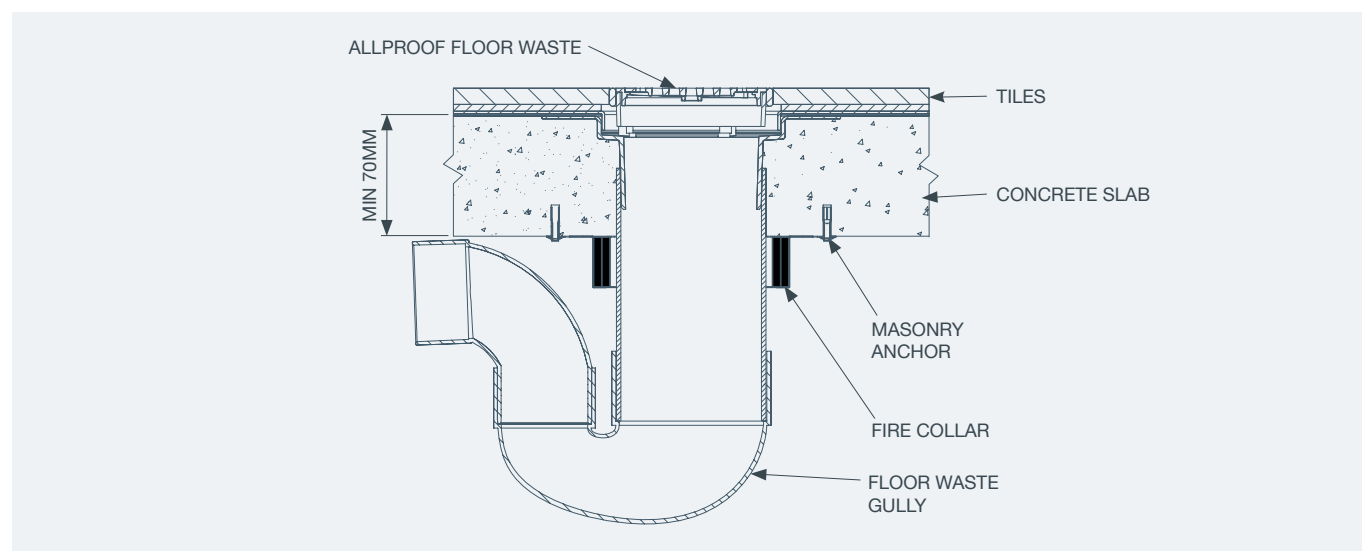


## CONCRETE SLAB FLOOR WASTE TEST RESULTS:

| NOMINAL PIPE SIZE (MM)         | SLAB DEPTH (MM) | NOMINAL PIPE WALL THICKNESS (MM) | PRODUCT CODE | PENETRATION HOLE SIZE (MM) | FLOOR FRL | REPORT NUMBER |
|--------------------------------|-----------------|----------------------------------|--------------|----------------------------|-----------|---------------|
| PVC PLASTIC PIPE               |                 |                                  |              |                            |           |               |
| 80                             | 70              | 2.9                              | ALLFC80      | 92                         | -/120/120 | 10471         |
| 100                            | 70              | 3.2                              | ALLFC100     | 117                        | -/120/-   | 10471         |
| 50                             | 120             | 2.2                              | ALLFC50      | 57                         | -/180/120 | 145535        |
| 100                            | 120             | 3.2                              | ALLFC100     | 112                        | -/120/120 | 5125          |
| PVC PLASTIC PIPE - WITH SOCKET |                 |                                  |              |                            |           |               |
| 50                             | 150             | Socket                           | ALLFC50      | 60                         | -/120/120 | 148721        |
| 80                             | 150             | Socket                           | ALLFC80      | 87                         | -/120/-   | 145430        |
| 100                            | 150             | Socket                           | ALLFC100     | 112                        | -/120/-   | 148721        |
| HDPE PLASTIC PIPE              |                 |                                  |              |                            |           |               |
| 110                            | 150             | 4.3                              | ALLFC100     | 112                        | -/120/120 | 145430        |

Fixing: Collars tested using M6x25 masonry anchors or M6x45mm Wedge Anchors.

### FLOOR WASTE INSTALLATION DETAILS:

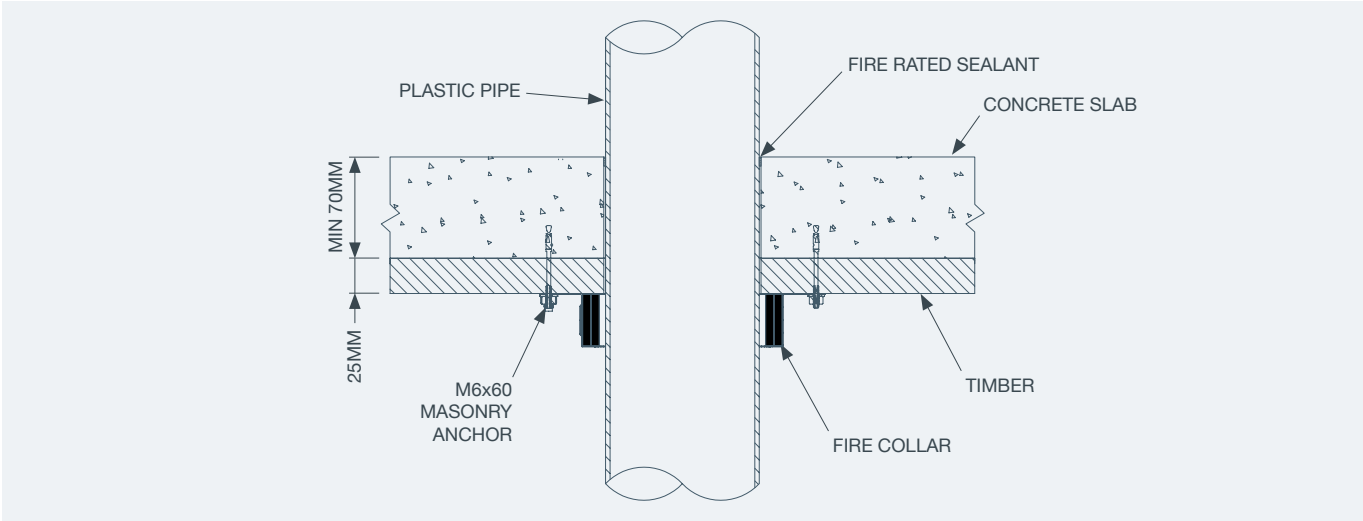


## RIB & TIMBER INFILL TEST RESULTS:

| NOMINAL PIPE SIZE (MM) | SLAB DEPTH (MM) | TIMBER DEPTH (MM) | NOMINAL PIPE WALL THICKNESS (MM) | PRODUCT CODE | PENETRATION HOLE SIZE (MM) | FLOOR FRL | REPORT NUMBER |
|------------------------|-----------------|-------------------|----------------------------------|--------------|----------------------------|-----------|---------------|
| PVC PLASTIC PIPE       |                 |                   |                                  |              |                            |           |               |
| 40                     | 70              | 25                | 2.0                              | ALLFC40      | 52                         | -/120/120 | 10471         |
| 50                     | 70              | 25                | 2.2                              | ALLFC50      | 67                         | -/120/120 | 10471         |
| 65                     | 70              | 25                | 2.7                              | ALLFC65      | 77                         | -/120/120 | 10471         |
| 80                     | 70              | 25                | 2.9                              | ALLFC80      | 92                         | -/120/120 | 10471         |
| 100                    | 70              | 25                | 3.2                              | ALLFC100     | 117                        | -/120/90  | 10471         |
| OTHER PLASTIC PIPE     |                 |                   |                                  |              |                            |           |               |
| 16 PEX                 | 70              | 25                | 2.2                              | ALLFC25      | 28                         | -/90/60   | 143281-003    |
| 25 PEX                 | 70              | 25                | 3.5                              | ALLFC25      | 28                         | -/60/30   | 143281-003    |
| 15 PB                  | 70              | 25                | 1.6                              | ALLFC25      | 28                         | -/90/90   | 143281-003    |
| 28 PB                  | 70              | 25                | 3.5                              | ALLFC25      | 32                         | -/90/90   | 143281-003    |
| 25 PEX/AL/PE           | 70              | 25                | 2.5                              | ALLFC25      | 28                         | -/90/60   | 143281-003    |
| 32 PP-R (SDR 11)       | 70              | 25                | 2.9                              | ALLFC40      | 40                         | -/90/90   | 143281-003    |

Fixing: Collars tested using M6x60 masonry anchors.  
For installations resulting in an annular gap of 4mm or greater insert PE backing rod prior to fire rated sealant.

## RIB & TIMBER INFILL STACK INSTALLATION DETAILS:

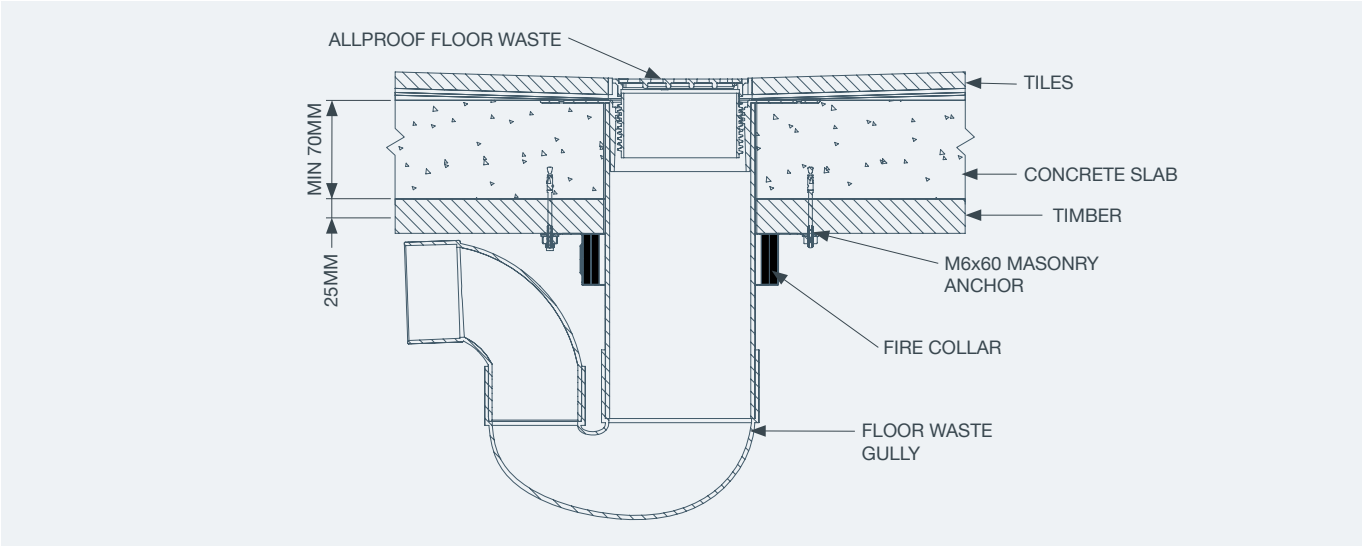


# RIB & TIMBER INFILL FLOOR WASTE TEST RESULTS:

| NOMINAL PIPE SIZE (MM) | SLAB DEPTH (MM) | TIMBER DEPTH (MM) | NOMINAL PIPE WALL THICKNESS (MM) | PRODUCT CODE | PENETRATION HOLE SIZE (MM) | FLOOR FRL | REPORT NUMBER |
|------------------------|-----------------|-------------------|----------------------------------|--------------|----------------------------|-----------|---------------|
| PVC PLASTIC PIPE       |                 |                   |                                  |              |                            |           |               |
| 80                     | 70              | 25                | 2.9                              | ALLFC80      | 92                         | -/120/120 | 10471         |
| 100                    | 70              | 25                | 3.1                              | ALLFC100     | 117                        | -/120/120 | 10471         |

Fixing: Collars tested using M6x60 masonry anchors.

# RIB & TIMBER INFILL FLOOR WASTE INSTALLATION DETAILS:



## HOLLOW CORE SLAB TEST RESULTS:

| NOMINAL PIPE SIZE (MM)              | SLAB DEPTH (MM) | NOMINAL PIPE WALL THICKNESS (MM) | PRODUCT CODE | PENETRATION HOLE SIZE (MM) | FLOOR FRL | REPORT NUMBER |
|-------------------------------------|-----------------|----------------------------------|--------------|----------------------------|-----------|---------------|
| PVC PLASTIC PIPE                    |                 |                                  |              |                            |           |               |
| 20                                  | 150             | 1.8                              | ALLFC25      | 28                         | -/60/60   | 4687          |
| 40                                  | 150             | 2.0                              | ALLFC40      | 47                         | -/60/60   | 4687          |
| 50                                  | 150             | 2.2                              | ALLFC50      | 57                         | -/60/60   | 4687          |
| 65                                  | 150             | 2.7                              | ALLFC65      | 72                         | -/60/60   | 4687          |
| 80                                  | 150             | 2.9                              | ALLFC80      | 87                         | -/60/60   | 4687          |
| 100                                 | 150             | 3.2                              | ALLFC100     | 112                        | -/60/60   | 4687          |
| 150                                 | 150             |                                  | ALLFC150     | 162                        | -/60/60   | 4687          |
| PVC PLASTIC PIPE - WITH PVC SOCKETS |                 |                                  |              |                            |           |               |
| 40                                  | 150             | 2.4                              | ALLFC40      | 47                         | -/60/60   | 4687          |
| 100                                 | 150             | 3.3                              | ALLFC100     | 112                        | -/60/60   | 4687          |
| HDPE PLASTIC PIPE                   |                 |                                  |              |                            |           |               |
| 50                                  | 150             | 3.0                              | ALLFC50      | 52                         | -/60/60   | 4687          |
| 80                                  | 150             | 3.0                              | ALLFC80      | 77                         | -/60/60   | 4687          |
| 100                                 | 150             | 4.3                              | ALLFC100     | 112                        | -/60/60   | 4687          |
| 160                                 | 150             | 6.2                              | ALLFC150     | 162                        | -/60/60   | 4687          |
| PP-R PLASTIC PIPE (SDR 7.4)         |                 |                                  |              |                            |           |               |
| 40                                  | 150             | 5.5                              | ALLFC40      | 55                         | -/60/60   | 4687          |
| 75                                  | 150             | 10.3                             | ALLFC80      | 85                         | -/60/60   | 4687          |
| 110                                 | 150             | 15.1                             | ALLFC100     | 112                        | -/60/60   | 4687          |
| RAUPIANO PP-MD                      |                 |                                  |              |                            |           |               |
| 40                                  | 150             | 1.8                              | ALLFC40      | 44                         | -/60/60   | 4687          |
| 50                                  | 150             | 1.8                              | ALLFC50      | 54                         | -/60/60   | 4687          |
| 75                                  | 150             | 1.9                              | ALLFC80      | 79                         | -/60/60   | 4687          |
| 110                                 | 150             | 2.7                              | ALLFC100     | 114                        | -/60/60   | 4687          |
| D BLUE PP-MD                        |                 |                                  |              |                            |           |               |
| 50                                  | 150             | 1.8                              | ALLFC50      | 52                         | -/60/60   | 4687          |
| 110                                 | 150             | 3.4                              | ALLFC100     | 112                        | -/60/60   | 4687          |
| OTHER PLASTIC PIPE                  |                 |                                  |              |                            |           |               |
| 16 PEX                              | 150             | 2.35                             | ALLFC25      | 28                         | -/60/60   | 4687          |
| 25 PEX                              | 150             | 3.75                             | ALLFC25      | 28                         | -/60/60   | 4687          |
| 25 PEX/AL/PEX                       | 150             | 2.8                              | ALLFC25      | 28                         | -/60/60   | 4687          |
| 16 PB                               | 150             | 1.7                              | ALLFC25      | 28                         | -/60/60   | 4687          |
| 28 PB                               | 150             | 2.8                              | ALLFC25      | 32                         | -/60/60   | 4687          |

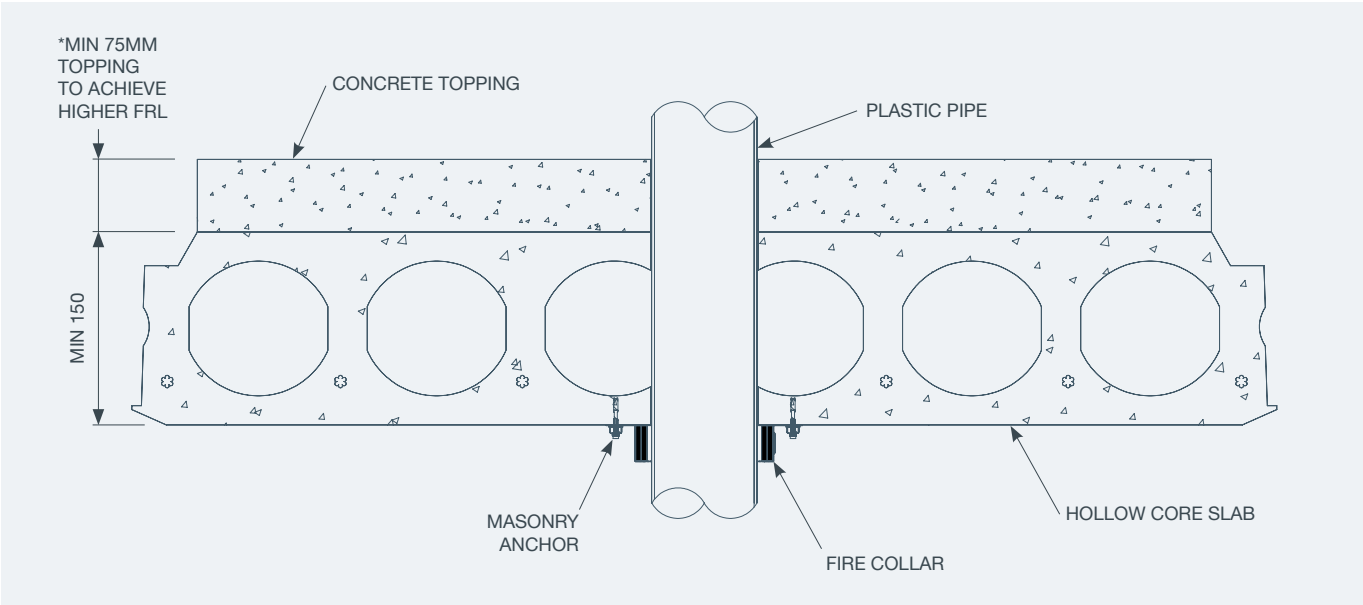
Fixing: Collars tested using M6x25 masonry anchors or M6x4.5 DBZ Wedge Anchors.

Note: FRL can be increased with the below floor depth specifications,

75mm concrete topping can be added to 150mm hollow core floor to achieve -/90/90 FRL.

Hollowcore floors with a minimum depth of 200mm will achieve -/90/90 FRL.

HOLLOW CORE SLAB INSTALLATION DETAILS:



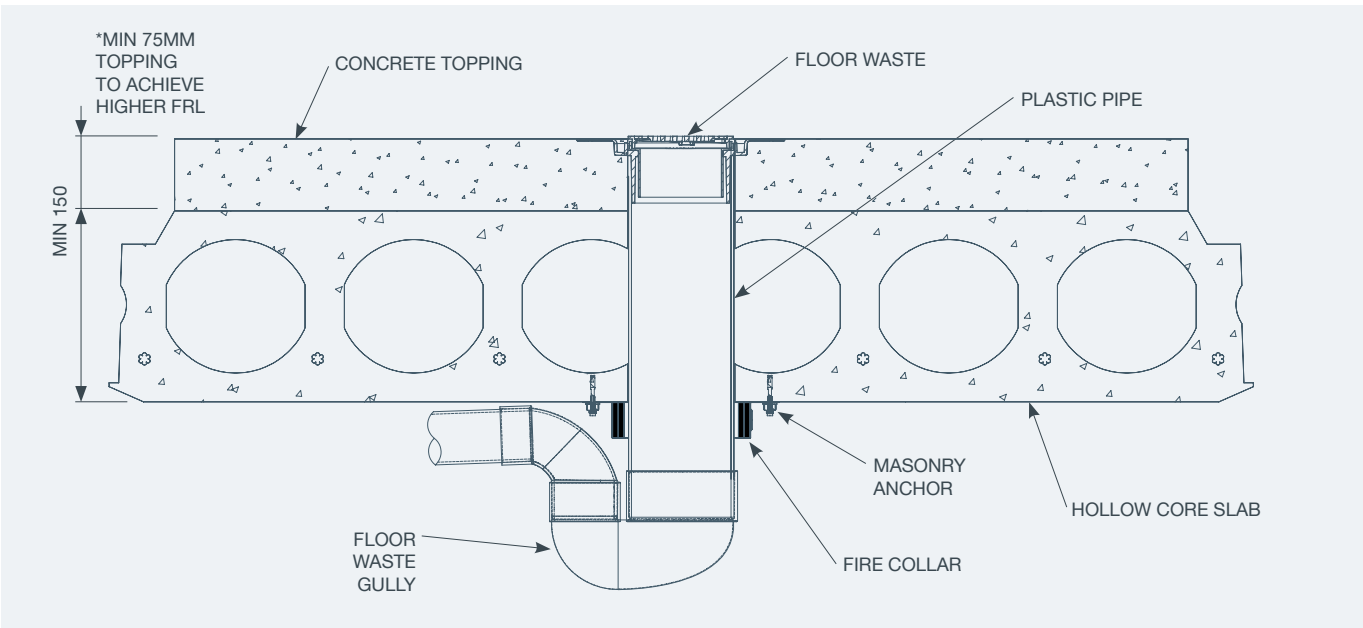
\*75mm concrete topping can be added to 150mm hollow core floor to achieve -/90/90 FRL.

HOLLOW CORE SLAB FLOOR WASTE TEST RESULTS:

| NOMINAL PIPE SIZE (MM) | SLAB DEPTH (MM) | NOMINAL PIPE WALL THICKNESS (MM) | PRODUCT CODE | PENETRATION HOLE SIZE (MM) | FLOOR FRL | REPORT NUMBER |
|------------------------|-----------------|----------------------------------|--------------|----------------------------|-----------|---------------|
| PVC PLASTIC PIPE       |                 |                                  |              |                            |           |               |
| 80                     | 150             |                                  | ALLFC80      | 87                         | -/60/60   | 4687          |
| 100                    | 150             |                                  | ALLFC100     | 112                        | -/60/60   | 4687          |
| 80                     | 200             |                                  | ALLFC80      | 87                         | -/90/90   | 4687          |
| 100                    | 200             |                                  | ALLFC100     | 112                        | -/90/90   | 4687          |

Fixing: Collars tested using M6x25 masonry anchors or M6x4.5 DBZ Wedge Anchors.  
Note: 75mm concrete topping can be added to 150mm hollow core floor to achieve -/90/90 FRL.

HOLLOW CORE SLAB FLOOR WASTE INSTALLATION DETAILS:



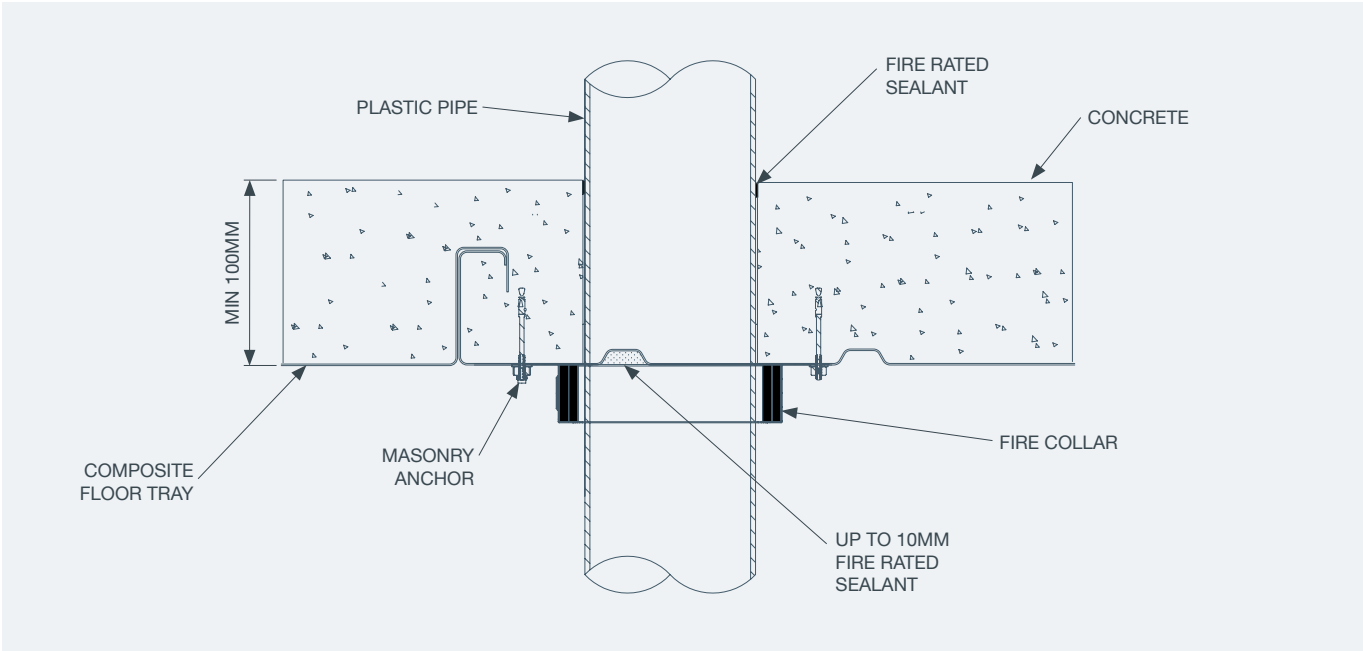
\*75mm concrete topping can be added to 150mm hollow core floor to achieve -/90/90 FRL.

# COMPOSITE FLOOR TEST RESULTS:

| NOMINAL PIPE SIZE (MM)     | SLAB DEPTH (MM) | NOMINAL PIPE WALL THICKNESS (MM) | PRODUCT CODE | PENETRATION HOLE SIZE (MM) | FLOOR FRL | REPORT NUMBER |
|----------------------------|-----------------|----------------------------------|--------------|----------------------------|-----------|---------------|
| PVC PLASTIC PIPE           |                 |                                  |              |                            |           |               |
| 40                         | 70              | 2.5                              | ALLFC40      | 52                         | -/60/60   | 13920-01      |
| 50                         | 70              | 2.2                              | ALLFC50      | 57                         | -/60/60   | 13920-01      |
| 65                         | 70              | 2.7                              | ALLFC65      | 72                         | -/60/60   | 13920-01      |
| 80                         | 70              | 2.9                              | ALLFC80      | 87                         | -/60/60   | 13920-01      |
| 100                        | 70              | 3.2                              | ALLFC100     | 118                        | -/60/60   | 13920-01      |
| 40                         | 100             | 2.0                              | ALLFC40      | 47                         | -/120/120 | 13920-01      |
| 50                         | 100             | 2.2                              | ALLFC50      | 57                         | -/120/120 | 13920-01      |
| 65                         | 100             | 2.7                              | ALLFC65      | 72                         | -/120/120 | 13920-01      |
| 80                         | 100             | 2.9                              | ALLFC80      | 87                         | -/120/120 | 13920-01      |
| 100                        | 100             | 3.2                              | ALLFC100     | 112                        | -/120/120 | 13920-01      |
| PP-R PLASTIC PIPE (SDR 11) |                 |                                  |              |                            |           |               |
| 32                         | 70              | 3.5                              | ALLFC40      | 37                         | -/60/60   | 13920-01      |
| 32                         | 100             | 3.5                              | ALLFC40      | 37                         | -/120/120 | 13920-01      |
| PEX PIPE                   |                 |                                  |              |                            |           |               |
| 16                         | 70              | 2.7                              | ALLFC25      | 28                         | -/60/60   | 11267         |

Fixing: Collars tested using M6x26 masonry anchors.

# COMPOSITE FLOOR INSTALLATION DETAILS:



Note: Collars can be installed on flat surfaces between the trough profiles in composite floors. Additionally fire rated sealant can be installed between tray and collar where profile changes up to 10mm. For any profile change greater than 10mm please refer to DIFC product selections.

## CROSS LAMINATED TIMBER (CLT) FLOOR TEST RESULTS:

| NOMINAL PIPE SIZE (MM) | TIMBER DEPTH (MM) | NOMINAL PIPE WALL THICKNESS (MM) | PRODUCT CODE | PENETRATION HOLE SIZE (MM) | FLOOR FRL | REPORT NUMBER |
|------------------------|-------------------|----------------------------------|--------------|----------------------------|-----------|---------------|
| PVC PLASTIC PIPE       |                   |                                  |              |                            |           |               |
| 40                     | 105               | 2.0                              | ALLFC40      | 53                         | -/60/60   | 145432        |
| 50                     | 105               | 2.2                              | ALLFC50      | 66                         | -/60/60   | 145432        |
| 65                     | 110               | 2.7                              | ALLFC65      | 72                         | -/60/60   | 148131        |
| 80                     | 110               | 2.9                              | ALLFC80      | 87                         | -/60/60   | 148131        |
| 100                    | 105               | 3.2                              | ALLFC100     | 120                        | -/60/60   | 145432        |
| PEX PIPE               |                   |                                  |              |                            |           |               |
| 16                     | 105               | 2.1                              | ALLFC25      | 26                         | -/45/45   | 145432        |
| 20                     | 105               | 2.4                              | ALLFC25      | 30                         | -/30/30   | 145432        |
| 25                     | 105               | 2.9                              | ALLFC25      | 35                         | -/30/30   | 145432        |

Fixing: Collars tested using Tek Screw 12G x 50mm.

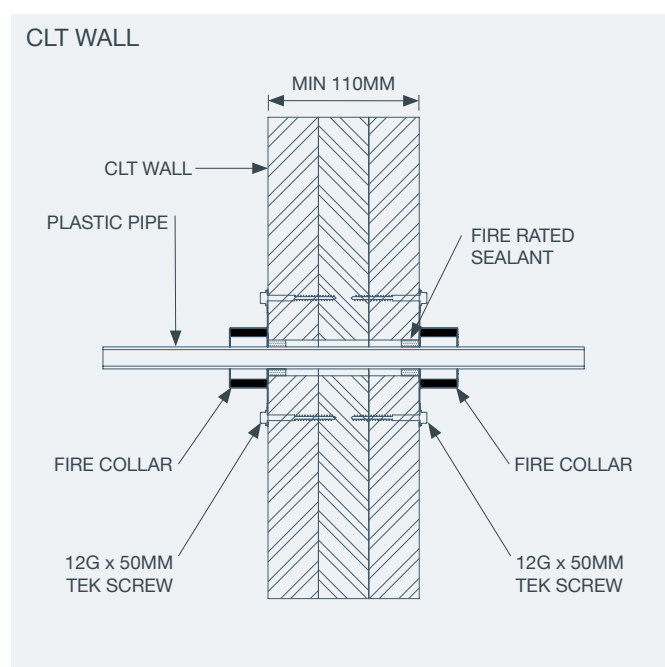
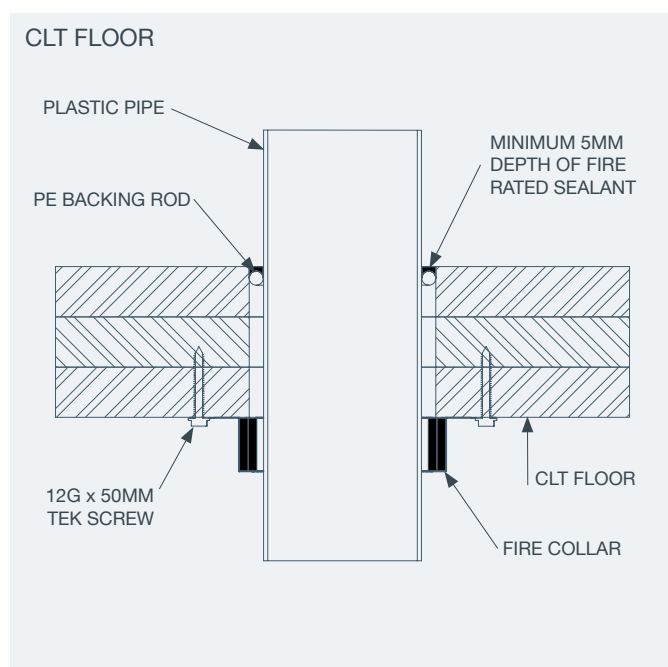
For installations resulting in an annular gap of 4mm or greater insert PE backing rod prior to fire rated sealant.

## CROSS LAMINATED TIMBER (CLT) WALL TEST RESULTS:

| NOMINAL PIPE SIZE (MM) | TIMBER DEPTH (MM) | NOMINAL PIPE WALL THICKNESS (MM) | PRODUCT CODE | PENETRATION HOLE SIZE (MM) | WALL FRL | REPORT NUMBER |
|------------------------|-------------------|----------------------------------|--------------|----------------------------|----------|---------------|
| PVC PLASTIC PIPE       |                   |                                  |              |                            |          |               |
| 40                     | 110               | 2.0                              | ALLFC40      | 53                         | -/60/60  | 148132        |
| 50                     | 110               | 2.2                              | ALLFC50      | 66                         | -/60/60  | 148132        |
| 65                     | 110               | 2.7                              | ALLFC65      | 78                         | -/60/60  | 148132        |
| PEX PIPE               |                   |                                  |              |                            |          |               |
| 16                     | 110               | 2.3                              | ALLFC25      | 26                         | -/60/45  | 148132        |
| 20                     | 110               | 2.7                              | ALLFC25      | 30                         | -/60/45  | 148132        |
| 25                     | 110               | 3.2                              | ALLFC25      | 35                         | -/60/30  | 148132        |

Fixing: Collars tested using Tek Screw 12G x 50mm.

## CROSS LAMINATED TIMBER INSTALLATION DETAILS:

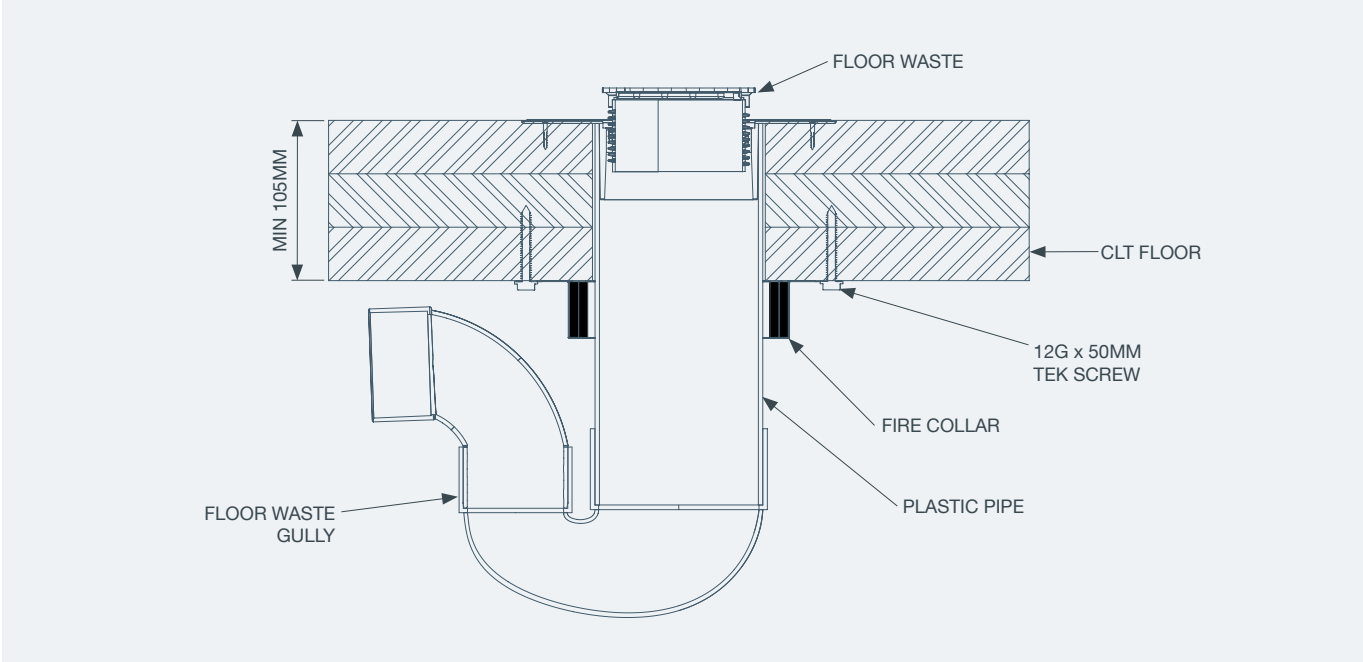


# CROSS LAMINATED TIMBER (CLT) FLOOR WASTE TEST RESULTS:

| NOMINAL PIPE SIZE (MM) | TIMBER DEPTH (MM) | NOMINAL PIPE WALL THICKNESS (MM) | PRODUCT CODE | PENETRATION HOLE SIZE (MM) | FLOOR FRL | REPORT NUMBER |
|------------------------|-------------------|----------------------------------|--------------|----------------------------|-----------|---------------|
| PVC PLASTIC PIPE       |                   |                                  |              |                            |           |               |
| 100                    | 105               | 3.2                              | ALLFC100     | 120                        | -/60/-    | 145432        |

Fixing: Collars tested using Tek Screw 12G x 50mm.

## CROSS LAMINATED TIMBER FLOOR WASTE INSTALLATION DETAILS:



## 2 X 13MM PLASTERBOARD CEILING TEST RESULTS:

| NOMINAL PIPE SIZE (MM)              | NOMINAL PIPE WALL THICKNESS (MM) | PRODUCT CODE | PENETRATION HOLE SIZE (MM) | PLASTERBOARD CEILING FRL* | REPORT NUMBER |
|-------------------------------------|----------------------------------|--------------|----------------------------|---------------------------|---------------|
| PVC PLASTIC PIPE                    |                                  |              |                            |                           |               |
| 40                                  | 2.0                              | ALLFC40      | 55                         | -/90/90                   | 190268.1      |
| 50                                  | 2.5                              | ALLFC50      | 70                         | -/90/90                   | 190268.1      |
| 65                                  | 2.7                              | ALLFC65      | 76                         | -/90/90                   | 210371        |
| 80                                  | 2.9                              | ALLFC80      | 89                         | -/90/90                   | 210371        |
| 100                                 | 3.5                              | ALLFC100     | 110                        | -/90/90                   | 190268.1      |
| 150                                 | 4.5                              | ALLFC150     | 162                        | -/90/90                   | 146206        |
| PVC PLASTIC PIPE - WITH PVC SOCKETS |                                  |              |                            |                           |               |
| 40                                  | Socket                           | ALLFC40      | 51                         | -/90/90                   | 142100        |
| 50                                  | Socket                           | ALLFC50      | 70                         | -/90/90                   | 210371        |
| 65                                  | Socket                           | ALLFC65      | 76                         | -/90/90                   | 210371        |
| 80                                  | Socket                           | ALLFC80      | 89                         | -/90/90                   | 210371        |
| 100                                 | Socket                           | ALLFC100     | 114                        | -/90/90                   | 142100        |
| POLYBUTE                            |                                  |              |                            |                           |               |
| 15                                  | 1.9                              | ALLFC25      | 19                         | -/90/90                   | 142100        |
| 20                                  | 2.1                              | ALLFC25      | 25                         | -/90/90                   | 142100        |
| 28                                  | 3.0                              | ALLFC25      | 32                         | -/90/90                   | 142100        |
| PP-R PLASTIC PIPE (SDR 7.4)         |                                  |              |                            |                           |               |
| 20                                  | 2.8                              | ALLFC25      | 25                         | -/90/90                   | 142100        |
| 25                                  | 3.5                              | ALLFC25      | 29                         | -/90/90                   | 146206        |
| PP-R PLASTIC PIPE (SDR 11)          |                                  |              |                            |                           |               |
| 32                                  | 3.2                              | ALLFC40      | 40                         | -/90/90                   | 190268.1      |
| PEX PIPE                            |                                  |              |                            |                           |               |
| 16                                  | 2.4                              | ALLFC25      | 24                         | -/90/90                   | 190268.1      |
| 20                                  | 2.8                              | ALLFC25      | 25                         | -/90/90                   | 142100        |
| 25                                  | 3.5                              | ALLFC25      | 28                         | -/90/90                   | 142100        |
| 32                                  | 4.4                              | ALLFC50      | 37                         | -/90/90                   | 146206        |

Fixing: Collars tested using hollow wall anchors

Tested using a 190mm deep timber framing with two layers of 13mm fire rated plasterboard on the exposed side of the frame and 19mm particleboard flooring on the unexposed side of the frame. A total floor-ceiling thickness of 235mm. Fire collars are fixed using hollow wall anchors directly into plasterboard - not fixed into framing or studs. Fire rated sealant is applied in the space between the pipe and plasterboard on the exposed face and silicone sealant between the pipe and particleboard flooring on the unexposed face.

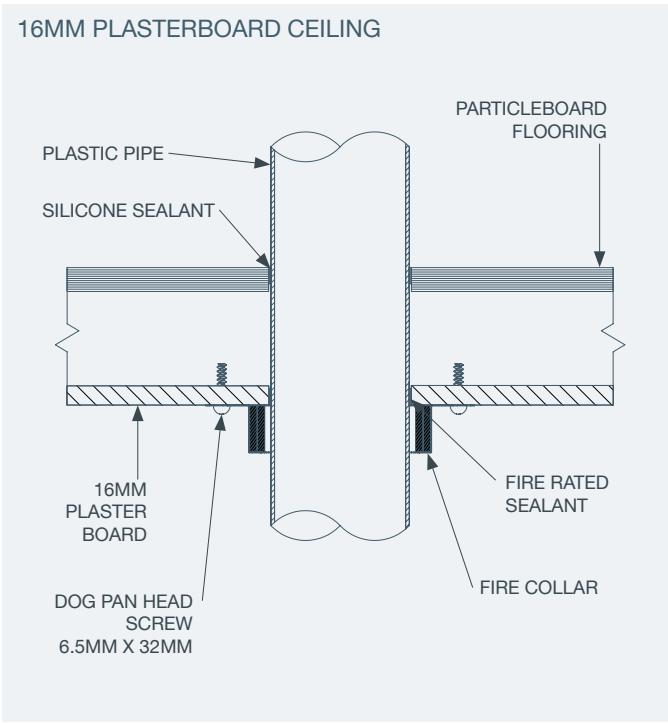
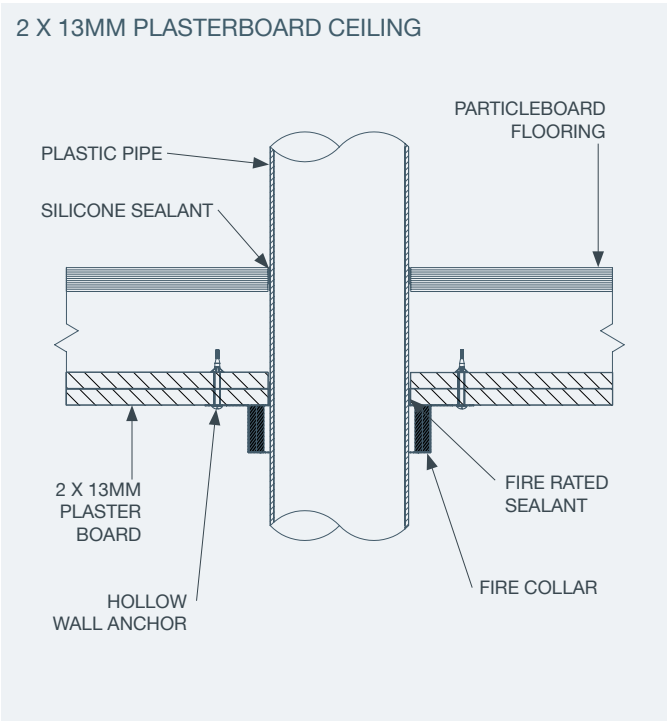
# 16MM PLASTERBOARD CEILING TEST RESULTS:

| NOMINAL PIPE SIZE (MM) | NOMINAL PIPE WALL THICKNESS (MM) | PRODUCT CODE | PENETRATION HOLE SIZE (MM) | PLASTERBOARD CEILING FRL* | REPORT NUMBER |
|------------------------|----------------------------------|--------------|----------------------------|---------------------------|---------------|
| PVC PLASTIC PIPE       |                                  |              |                            |                           |               |
| 40                     | 2.0                              | ALLFC40      | 55                         | -/60/60                   | 148449        |
| 50                     | 2.5                              | ALLFC50      | 70                         | -/60/60                   | 148449        |
| 65                     | 2.7                              | ALLFC65      | 76                         | -/60/60                   | 148449        |
| 80                     | 2.9                              | ALLFC80      | 89                         | -/60/60                   | 148449        |
| 100                    | 3.5                              | ALLFC100     | 110                        | -/60/60                   | 148449        |
| PEX PIPE               |                                  |              |                            |                           |               |
| 16                     | 2.3                              | ALLFC25      | 24                         | -/60/60                   | 148449        |
| 20                     | 2.7                              | ALLFC25      | 25                         | -/60/60                   | 148449        |
| 25                     | 3.2                              | ALLFC25      | 28                         | -/60/60                   | 148449        |

Fixing: Collars tested using 6.5mm x 32mm dog pan head screw anchors

Tested using a 190mm deep timber framing with one layer of 16mm fire rated plasterboard on the exposed side of the frame and 19mm particleboard flooring on the unexposed side of the frame. A total floor-ceiling thickness of 225mm. Fire collars are fixed using 6.5mm x 32mm Dog Pan Head Screws directly into plasterboard - not fixed into framing or studs. Fire rated sealant is applied in the space between the pipe and plasterboard on the exposed face and silicone sealant between the pipe and particleboard flooring on the unexposed face.

## PLASTERBOARD CEILING INSTALLATION DETAILS:



## 2 X 13MM PLASTERBOARD CEILING FLOOR WASTE TEST RESULTS:

| NOMINAL PIPE SIZE (MM) | NOMINAL PIPE WALL THICKNESS (MM) | PRODUCT CODE | PENETRATION HOLE SIZE (MM) | PLASTERBOARD CEILING FRL* | REPORT NUMBER |
|------------------------|----------------------------------|--------------|----------------------------|---------------------------|---------------|
| PVC PLASTIC PIPE       |                                  |              |                            |                           |               |
| 80                     | 2.9                              | ALLFC80      | 87                         | -/90/60                   | 146206        |
| 100                    | 3.5                              | ALLFC100     | 110                        | -/90/-                    | 190268.1      |

Fixing: Collars tested using M4x8mm hollow wall anchors

Tested using a 190mm deep timber framing with two layers of 13mm fire rated plasterboard on the exposed side of the frame and 19mm particleboard flooring on the unexposed side of the frame. A total floor-ceiling thickness of 235mm. Fire collars are fixed using hollow wall anchors directly into plasterboard - not fixed into framing or studs. Fire rated sealant is applied in the space between the pipe and plasterboard on the exposed face and silicone sealant between the flange and particleboard flooring on the unexposed face.

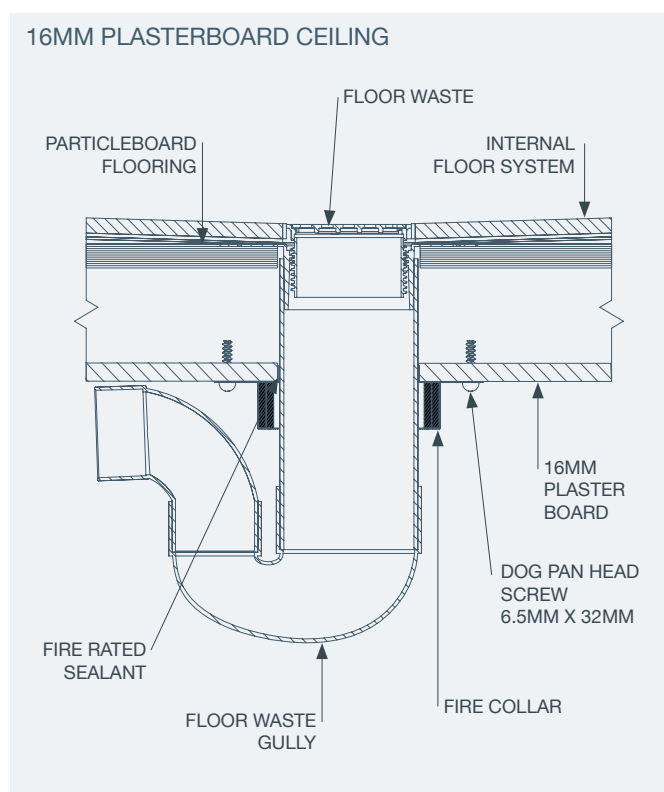
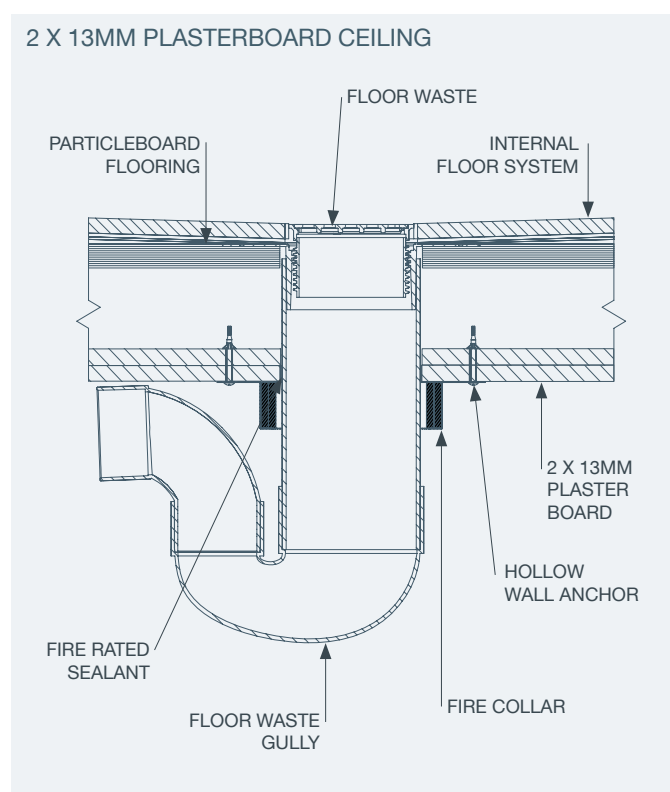
## 16MM PLASTERBOARD CEILING FLOOR WASTE TEST RESULTS:

| NOMINAL PIPE SIZE (MM) | NOMINAL PIPE WALL THICKNESS (MM) | PRODUCT CODE | PENETRATION HOLE SIZE (MM) | PLASTERBOARD CEILING FRL* | REPORT NUMBER |
|------------------------|----------------------------------|--------------|----------------------------|---------------------------|---------------|
| PVC PLASTIC PIPE       |                                  |              |                            |                           |               |
| 80                     | 2.9                              | ALLFC80      | 87                         | -/60/60                   | 148449        |
| 100                    | 3.5                              | ALLFC100     | 110                        | -/60/45                   | 148449        |

Fixing: Collars tested using 6.5mm x 32mm Dog Pan Head Screw

Tested using a 190mm deep timber framing with one layer of 16mm fire rated plasterboard on the exposed side of the frame and 19mm particleboard flooring on the unexposed side of the frame. A total floor-ceiling thickness of 225mm. Fire collars are fixed using hollow wall anchors directly into plasterboard - not fixed into framing or studs. Fire rated sealant is applied in the space between the pipe and plasterboard on the exposed face and silicone sealant between the flange and particleboard flooring on the unexposed face.

## PLASTERBOARD CEILING INSTALLATION DETAILS:



# 13MM PLASTERBOARD WALL TEST RESULTS:

| NOMINAL PIPE SIZE (MM)         | NOMINAL PIPE WALL THICKNESS (MM) | PRODUCT CODE | PENETRATION HOLE SIZE (MM) | PLASTERBOARD WALL FRL* | REPORT NUMBER |
|--------------------------------|----------------------------------|--------------|----------------------------|------------------------|---------------|
| PVC PLASTIC PIPE               |                                  |              |                            |                        |               |
| 20*                            | 1.9                              | ALLFC25      | 28                         | -/60/60                | 147932        |
| 25*                            | 2.1                              | ALLFC25      | 30                         | -/60/60                | 13509         |
| 32*                            | 2.9                              | ALLFC40      | 44                         | -/60/60                | 147932        |
| 40*                            | 2.0                              | ALLFC40      | 47                         | -/60/45                | 143281-001    |
| 50*                            | 2.2                              | ALLFC50      | 57                         | -/60/60                | 5572          |
| 65*                            | 2.7                              | ALLFC65      | 72                         | -/60/60                | 5810          |
| 80*                            | 2.9                              | ALLFC80      | 87                         | -/60/60                | 5572          |
| 100*                           | 3.2                              | ALLFC100     | 112                        | -/60/60                | 5810          |
| 150*                           | 4.5                              | ALLFC150     | 162                        | -/60/60                | 147932        |
| PVC PLASTIC PIPE - WITH SOCKET |                                  |              |                            |                        |               |
| 40*                            | Socket                           | ALLFC40      | 48                         | -/60/45                | 180434.3      |
| 50*                            | Socket                           | ALLFC50      | 62                         | -/60/45                | 180434.3      |
| 65*                            | Socket                           | ALLFC65      | 72                         | -/60/60                | 146207        |
| 80*                            | Socket                           | ALLFC80      | 87                         | -/60/60                | 146207        |
| 100*                           | Socket                           | ALLFC100     | 117                        | -/60/60                | 180434.3      |
| POLYBUTE                       |                                  |              |                            |                        |               |
| 12**                           | 1.3                              | ALLFC25      | 16                         | -/60/60                | 148459        |
| 16**                           | 2.1                              | ALLFC25      | 20                         | -/60/60                | 148459        |
| 20**                           | 2.2                              | ALLFC25      | 25                         | -/60/60                | 148459        |
| 25**                           | 2.8                              | ALLFC25      | 28                         | -/60/60                | 148459        |
| 32**                           | 3.6                              | ALLFC50      | 37                         | -/60/60                | 148459        |
| PEX PIPE                       |                                  |              |                            |                        |               |
| 16**                           | 1.8                              | ALLFC25      | 20                         | -/60/60                | 148459        |
| 20**                           | 2.2                              | ALLFC25      | 25                         | -/60/60                | 148459        |
| 25**                           | 2.8                              | ALLFC25      | 28                         | -/60/60                | 148459        |
| 32*                            | 4.4                              | ALLFC50      | 37                         | -/60/60                | 146207        |
| RAUPIANO PP-MD                 |                                  |              |                            |                        |               |
| 40*                            | 1.8                              | ALLFC40      | 47                         | -/60/45                | 143281-001    |
| 50*                            | 1.8                              | ALLFC50      | 57                         | -/60/45                | 143281-001    |
| 75*                            | 1.9                              | ALLFC80      | 77                         | -/60/60                | 147932        |
| 100*                           | 2.7                              | ALLFC100     | 117                        | -/60/60                | 143281-001    |
| D BLUE PP-MD                   |                                  |              |                            |                        |               |
| 50*                            | 1.3                              | ALLFC50      | 57                         | -/90/60                | 180355.1      |
| 75*                            | 1.3                              | ALLFC80      | 86                         | -/90/60                | 180355.1      |
| 110*                           | 2.2                              | ALLFC100     | 121                        | -/90/60                | 180355.1      |
| PE-RT/AL/PE-RT                 |                                  |              |                            |                        |               |
| 16*                            | 2.2                              | ALLFC25      | 20                         | -/60/45                | 190083        |
| 20*                            | 2.2                              | ALLFC25      | 25                         | -/60/45                | 190083        |
| 25*                            | 2.7                              | ALLFC25      | 29                         | -/60/45                | 190083        |
| 32*                            | 3.1                              | ALLFC40      | 38                         | -/60/45                | 190083        |
| 40*                            | 4.3                              | ALLFC40      | 44                         | -/60/-                 | 190083        |

Continued on next page.

| NOMINAL PIPE SIZE (MM) | NOMINAL PIPE WALL THICKNESS (MM) | PRODUCT CODE | PENETRATION HOLE SIZE (MM) | PLASTERBOARD WALL FRL* | REPORT NUMBER |
|------------------------|----------------------------------|--------------|----------------------------|------------------------|---------------|
| OTHER PLASTIC PIPE     |                                  |              |                            |                        |               |
| 20 PP-R (SDR 7.4)*     | 2.8                              | ALLFC25      | 25                         | -/60/60                | 148954        |
| 25 PP-R (SDR 11)*      | 2.3                              | ALLFC25      | 29                         | -/60/45                | 143281-001    |
| 32 PP-R (SDR 11)*      | 2.9                              | ALLFC40      | 38                         | -/60/60                | 13509         |
| 40 PP-R (SDR 11)*      | 3.7                              | ALLFC40      | 45                         | -/60/60                | 148954        |
| 16 PEX/AL/PEX*         | 2.0                              | ALLFC25      | 19                         | -/60/45                | 5810          |
| 20 PEX/AL/PEX*         | 3.1                              | ALLFC25      | 25                         | -/60/45                | 5810          |
| 20 PEX/AL/PE*          | 2.9                              | ALLFC25      | 30                         | -/60/60                | 13509         |
| 25 PEX/AL/PEX*         | 2.5                              | ALLFC25      | 28                         | -/60/60                | 147932        |
| 32 PEX/AL/PEX*         | 3.0                              | ALLFC40      | 37                         | -/60/-                 | 147932        |
| PLASTIC PIPE - IN WALL |                                  |              |                            |                        |               |
| 40 PVC*                | 2.0                              | ALLFC40      | 70                         | -/60/45                | 143281-001    |
| 40 PVC*                | Socket                           | ALLFC40      | 70                         | -/60/60                | 147932        |
| 20 PB**                | 2.2                              | ALLFC25      | 45                         | -/60/60                | 148459        |
| 20 PEX**               | 2.2                              | ALLFC25      | 45                         | -/60/60                | 148459        |
| 25 PEX**               | 2.8                              | ALLFC25      | 45                         | -/60/-                 | 148459        |
| 25 PP-R*               | 4.0                              | ALLFC25      | 45                         | -/60/45                | 5572          |

\* Fixing: Hollow wall anchors

\*\* Fixing: 6.5mm x 32mm dog pan head screw anchors

Tested using a 64mm wide steel stud with a single layer of 13mm fire rated plasterboard on each side of the frame. A total wall thickness of 90mm. Fire collars are fixed directly into plasterboard - not fixed into framing or studs in wall. Fire rated sealant is applied in the space between the pipe and plasterboard on both the exposed and unexposed face.

## 13MM PLASTERBOARD WALL WITH PATCH TEST RESULTS:

| NOMINAL PIPE SIZE (MM)      | NOMINAL PIPE WALL THICKNESS (MM) | PRODUCT CODE | PATCH SIZE (MM) | PENETRATION HOLE SIZE (MM) | PLASTERBOARD WALL FRL* | REPORT NUMBER |
|-----------------------------|----------------------------------|--------------|-----------------|----------------------------|------------------------|---------------|
| PVC PLASTIC STORMWATER PIPE |                                  |              |                 |                            |                        |               |
| 175                         |                                  | ALLFC200     | 400x400         | 202                        | -/60/60                | 148954        |
| 225                         |                                  | ALLFC250     | 450x450         | 252                        | -/60/60                | 148954        |

Fixing: Collars tested using 6.5mm x 32mm dog pan head screws

Tested using a 64mm wide steel stud with a single layer of 13mm fire rated plasterboard on each side of the frame and a 13mm fire rated plasterboard patch. A total wall thickness of 90mm. Fire collars are fixed using dog pan head screws 6.5mm x 32mm directly into plasterboard - not fixed into framing or studs in wall. Fire rated sealant is applied in the space between the pipe and plasterboard on both the exposed and unexposed face.

## STANDARD NON-FIRE RATED 13MM PLASTERBOARD WALL TEST RESULTS:

| NOMINAL PIPE SIZE (MM)     | NOMINAL PIPE WALL THICKNESS (MM) | PRODUCT CODE | PENETRATION HOLE SIZE (MM) | PLASTERBOARD WALL FRL* | REPORT NUMBER |
|----------------------------|----------------------------------|--------------|----------------------------|------------------------|---------------|
| PVC PLASTIC PIPE           |                                  |              |                            |                        |               |
| 40                         | 2.5                              | ALLFC40      | 52                         | -/30/30                | 13088         |
| 50                         | 2.5                              | ALLFC50      | 67                         | -/30/30                | 13088         |
| 80                         | 3.1                              | ALLFC80      | 92                         | -/30/30                | 13088         |
| 100                        | 3.5                              | ALLFC100     | 117                        | -/30/30                | 13088         |
| PVC PLASTIC PIPE - IN-WALL |                                  |              |                            |                        |               |
| 40                         | 2.4                              | ALLFC40      | 70                         | -/30/30                | 13088         |
| OTHER PLASTIC PIPE         |                                  |              |                            |                        |               |
| 20 PEX                     | 3.2                              | ALLFC25      | 25                         | -/30/30                | 13088         |
| 20 PB                      | 2.4                              | ALLFC25      | 25                         | -/30/30                | 13088         |
| 32 PP-R (SDR 11)           | 3.7                              | ALLFC40      | 38                         | -/30/30                | 13088         |

Tested using a 92mm wide steel stud with a single layer of 13mm standard non-fire rated plasterboard on each side of the frame. A total wall thickness of 118mm. Fire collars are fixed using hollow wall anchors directly into plasterboard - not fixed into framing or studs in wall. Fire rated sealant is applied in the space between the pipe and plasterboard on both the exposed and unexposed face.

| NOMINAL PIPE SIZE (MM) | NOMINAL PIPE WALL THICKNESS (MM) | PRODUCT CODE | PENETRATION HOLE SIZE (MM) | PLASTERBOARD WALL FRL* | REPORT NUMBER |
|------------------------|----------------------------------|--------------|----------------------------|------------------------|---------------|
| PVC PLASTIC PIPE       |                                  |              |                            |                        |               |
| 65                     | 2.7                              | ALLFC65      | 72                         | -/30/30                | 148639        |
| OTHER PLASTIC PIPE     |                                  |              |                            |                        |               |
| 16 PEX                 | 2.0                              | ALLFC25      | 19                         | -/30/30                | 148639        |
| 25 PEX                 | 2.9                              | ALLFC25      | 30                         | -/30/30                | 148639        |
| 16 PB                  | 2.0                              | ALLFC25      | 20                         | -/30/30                | 148639        |
| 25 PB                  | 2.3                              | ALLFC25      | 32                         | -/30/30                | 148639        |

Tested using a 64mm wide steel stud with a single layer of 13mm standard non-fire rated plasterboard on each side of the frame. A total wall thickness of 90mm. Fire collars are fixed using 6.5mm x 32mm dog pan head screw anchors directly into plasterboard - not fixed into framing or studs in wall. Intumescent sealant is applied in the space between the pipe and plasterboard on both the exposed and unexposed face.

## 16MM PLASTERBOARD WALL TEST RESULTS:

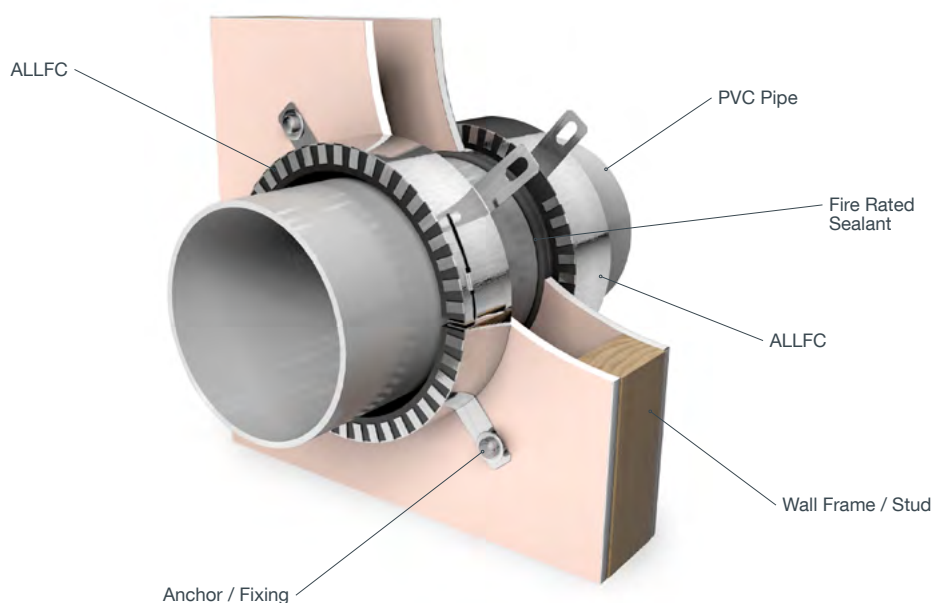
| NOMINAL PIPE SIZE (MM)       | NOMINAL PIPE WALL THICKNESS (MM) | PRODUCT CODE | PENETRATION HOLE SIZE (MM) | PLASTERBOARD WALL FRL* | REPORT NUMBER |
|------------------------------|----------------------------------|--------------|----------------------------|------------------------|---------------|
| PVC PLASTIC PIPE             |                                  |              |                            |                        |               |
| 40                           | 2                                | ALLFC40      | 47                         | -/90/60                | 200379        |
| PEX PIPE                     |                                  |              |                            |                        |               |
| 16                           | 2                                | ALLFC25      | 19                         | -/90/60                | 200379        |
| 20                           | 3                                | ALLFC25      | 25                         | -/90/60                | 200379        |
| 25                           | 4                                | ALLFC25      | 30                         | -/90/60                | 200379        |
| PEX PIPE - IN WALL           |                                  |              |                            |                        |               |
| 16                           | 2                                | ALLFC25      | 45                         | -/90/90                | 200379        |
| 20                           | 3                                | ALLFC25      | 45                         | -/90/60                | 200379        |
| 25                           | 4                                | ALLFC25      | 45                         | -/90/90                | 200379        |
| OTHER PLASTIC PIPE - IN WALL |                                  |              |                            |                        |               |
| 25 PEX/AL/PE                 | 4                                | ALLFC25      | 30                         | -/90/60                | 200379        |

Tested using a 64mm wide steel stud with a single layer of 16mm fire rated plasterboard on each side of the frame. A total wall thickness of 96mm. Fire collars are fixed using M8 hollow wall anchors to suit 10-16mm plasterboard- not fixed into framing or studs in wall. Fire rated sealant is applied in the space between the pipe and plasterboard on both the exposed and unexposed face.

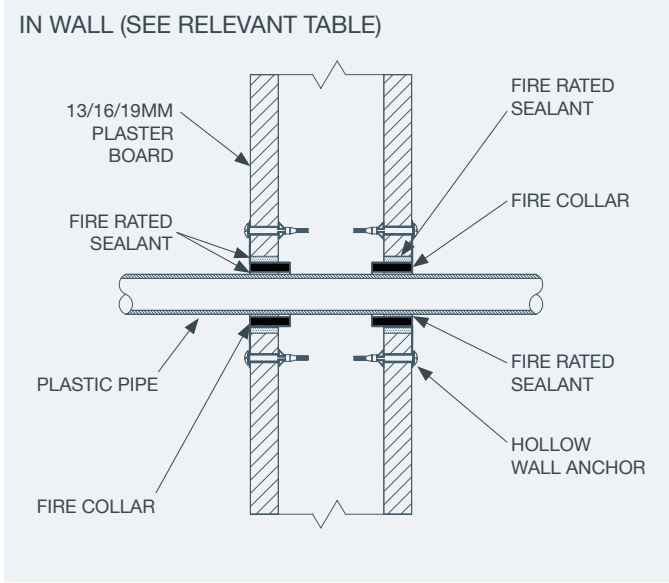
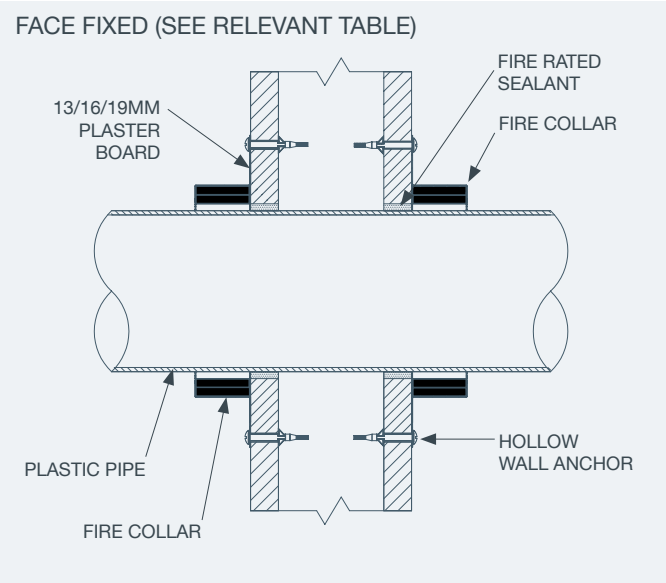
## 19MM PLASTERBOARD WALL TEST RESULTS:

| NOMINAL PIPE SIZE (MM)      | NOMINAL PIPE WALL THICKNESS (MM) | PRODUCT CODE | PENETRATION HOLE SIZE (MM) | PLASTERBOARD WALL FRL* | REPORT NUMBER |
|-----------------------------|----------------------------------|--------------|----------------------------|------------------------|---------------|
| PVC PLASTIC PIPE            |                                  |              |                            |                        |               |
| 40                          | 2.0                              | ALLFC40      | 47                         | -/120/90               | 4041          |
| 50                          | 2.2                              | ALLFC50      | 57                         | -/120/90               | 3808          |
| 65                          | 2.7                              | ALLFC65      | 72                         | -/120/90               | 4373          |
| 80                          | 2.9                              | ALLFC80      | 87                         | -/120/90               | 4041          |
| 100                         | 3.2                              | ALLFC100     | 112                        | -/120/90               | 4466          |
| 150                         | 4.5                              | ALLFC150     | 162                        | -/90/60                | 4289          |
| HDPE PLASTIC PIPE           |                                  |              |                            |                        |               |
| 50                          | 3.0                              | ALLFC50      | 52                         | -/120/120              | 4466          |
| 75                          | 3.0                              | ALLFC80      | 77                         | -/120/90               | 4373          |
| 110                         | 4.3                              | ALLFC100     | 112                        | -/120/90               | 4466          |
| PP-R PLASTIC PIPE (SDR 7.4) |                                  |              |                            |                        |               |
| 40                          | 5.5                              | ALLFC40      | 42                         | -/120/90               | 4373          |
| 50                          | 6.9                              | ALLFC50      | 52                         | -/120/90               | 4373          |
| 63                          | 8.6                              | ALLFC65      | 65                         | -/90/90                | 4584          |
| 75                          | 10.3                             | ALLFC80      | 77                         | -/90/30                | 4584          |
| 110                         | 15.1                             | ALLFC100     | 112                        | -/30/30                | 4584          |
| PLASTIC PIPE - IN WALL      |                                  |              |                            |                        |               |
| 40 PVC                      | 2.2                              | ALLFC40      | 70                         | -/120/90               | 4101          |
| 100 PVC                     | 3.3                              | ALLFC100     | 150                        | -/45/45                | 4101          |
| 25 PP-R (SDR 7.4)           | 3.7                              | ALLFC25      | 45                         | -/120/90               | 4101          |
| 25 PEX                      | 3.7                              | ALLFC25      | 45                         | -/120/90               | 4101          |
| 22 PB                       | 2.2                              | ALLFC25      | 45                         | -/120/90               | 4101          |

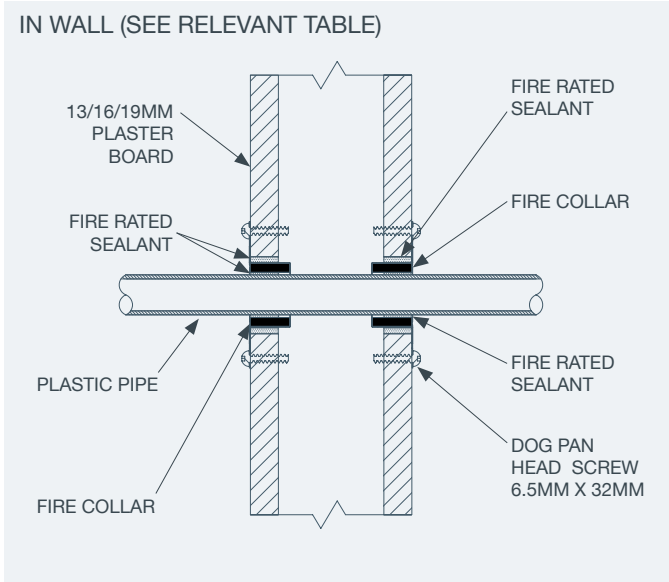
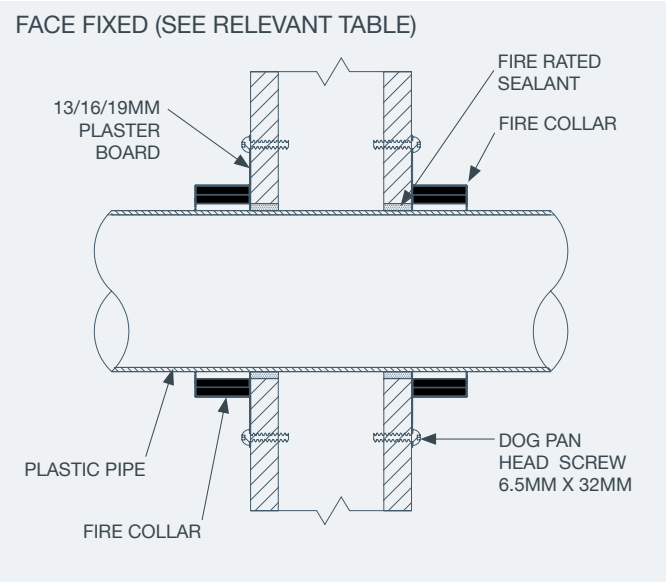
Tested using a 92mm wide steel stud with a single layer of 19mm fire rated plasterboard on each side of the frame. A total wall thickness of 130mm. Fire collars are fixed using hollow wall anchors directly into plasterboard - not fixed into framing or studs in wall. 25mm fire collars tested in the wall penetration not exposed outside of wall.



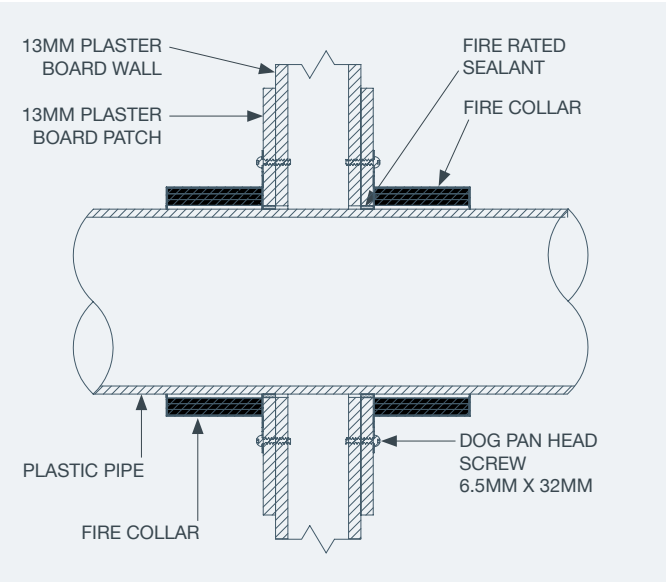
13/16/19MM PLASTERBOARD INSTALLATION DETAILS:



13MM PLASTERBOARD DOG PAN SCREW INSTALLATION DETAILS:



13MM PLASTERBOARD PATCH INSTALLATION DETAILS:



## 2 X 13MM PLASTERBOARD WALL TEST RESULTS:

| NOMINAL PIPE SIZE (MM) | NOMINAL PIPE WALL THICKNESS (MM) | PRODUCT CODE | PENETRATION HOLE SIZE (MM) | PLASTERBOARD WALL FRL* | REPORT NUMBER |
|------------------------|----------------------------------|--------------|----------------------------|------------------------|---------------|
| PEX PIPE               |                                  |              |                            |                        |               |
| 16                     | 2.6                              | ALLFC25      | 19                         | -/120/120              | 44185300.1    |
| 20                     | 2.9                              | ALLFC25      | 25                         | -/120/120              | 44185300.1    |
| 25                     | 3.7                              | ALLFC25      | 28                         | -/120/120              | 44185300.1    |

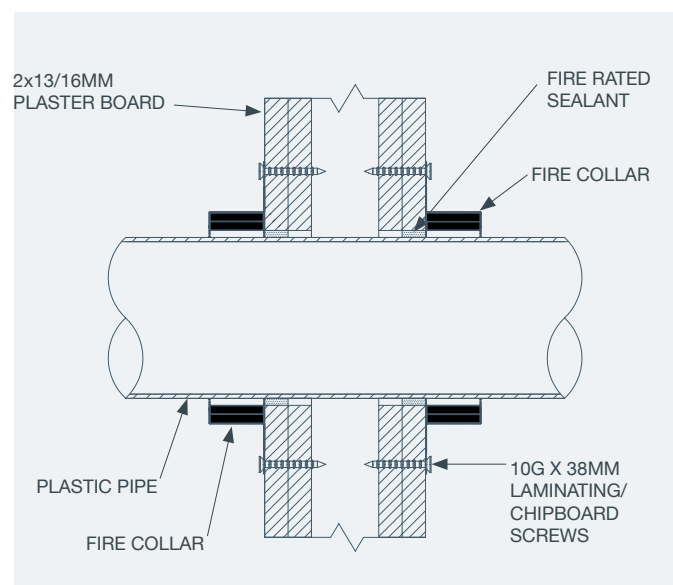
Tested using a 64mm wide steel stud with a single layer of 2 x 13mm fire rated plasterboard on each side of the frame. A total wall thickness of 116mm. Fire collars are fixed using 2 x 10G x 38mm laminating or chipboard screws directly into plasterboard - not fixed into framing or studs in wall. Fire rated sealant is applied in the space between the pipe and plasterboard on both the exposed and unexposed face.

## 2 X 16MM PLASTERBOARD WALL TEST RESULTS:

| NOMINAL PIPE SIZE (MM) | NOMINAL PIPE WALL THICKNESS (MM) | PRODUCT CODE | PENETRATION HOLE SIZE (MM) | PLASTERBOARD WALL FRL* | REPORT NUMBER |
|------------------------|----------------------------------|--------------|----------------------------|------------------------|---------------|
| PVC PLASTIC PIPE       |                                  |              |                            |                        |               |
| 40                     | 2.0                              | ALLFC40      | 47                         | -/120/120              | 5680          |
| 50                     | 2.2                              | ALLFC50      | 57                         | -/120/120              | 5680          |
| 65                     | 2.7                              | ALLFC65      | 72                         | -/120/120              | 5680          |
| 80                     | 2.9                              | ALLFC80      | 87                         | -/120/120              | 5680          |
| 100                    | 3.2                              | ALLFC100     | 112                        | -/120/120              | 5680          |
| PEX PIPE               |                                  |              |                            |                        |               |
| 16                     | 2.6                              | ALLFC25      | 19                         | -/120/120              | 5680          |
| OTHER PLASTIC PIPE     |                                  |              |                            |                        |               |
| 20 PEX/AL/PEX          | 3.1                              | ALLFC25      | 25                         | -/120/120              | 5680          |

Tested using a 64mm wide steel stud with a single layer of 2 x 16mm fire rated plasterboard on each side of the frame. A total wall thickness of 128mm. Fire collars are fixed using 10G x 40mm laminating or chipboard screws directly into plasterboard - not fixed into framing or studs in wall. Fire rated sealant is applied in the space between the pipe and plasterboard on both the exposed and unexposed face.

## 2 X 13/16MM PLASTERBOARD INSTALLATION DETAILS:



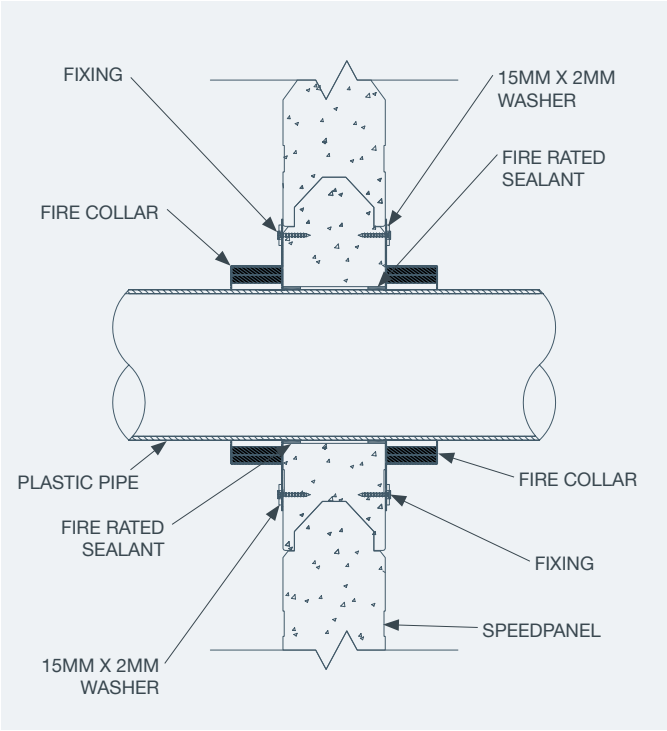
# SPEEDPANEL TEST RESULTS:

| NOMINAL PIPE SIZE (MM) | PANEL DEPTH (MM) | NOMINAL PIPE WALL THICKNESS (MM) | PRODUCT CODE | PENETRATION HOLE SIZE (MM) | WALL FRL  | REPORT NUMBER |
|------------------------|------------------|----------------------------------|--------------|----------------------------|-----------|---------------|
| PVC PLASTIC PIPE       |                  |                                  |              |                            |           |               |
| 50                     | 78               | 2.3                              | ALLFC50      | 63                         | -/120/120 | 190283.1      |
| 65                     | 78               | 2.3                              | ALLFC65      | 63                         | -/120/120 | 180434.5      |
| 80                     | 78               | 3                                | ALLFC80      | 70                         | -/120/120 | 180434.5      |
| 100                    | 78               | 3.0                              | ALLFC100     | 114                        | -/120/120 | 190283.1      |
| 150                    | 78               | 4.2                              | ALLFC150     | 165                        | -/120/90  | 190283.1      |
| HDPE PLASTIC PIPE      |                  |                                  |              |                            |           |               |
| 50                     | 78               | 3.0                              | ALLFC50      | 60                         | -/120/90  | 190283.1      |
| 110                    | 78               | 4.3                              | ALLFC100     | 114                        | -/120/90  | 190283.1      |

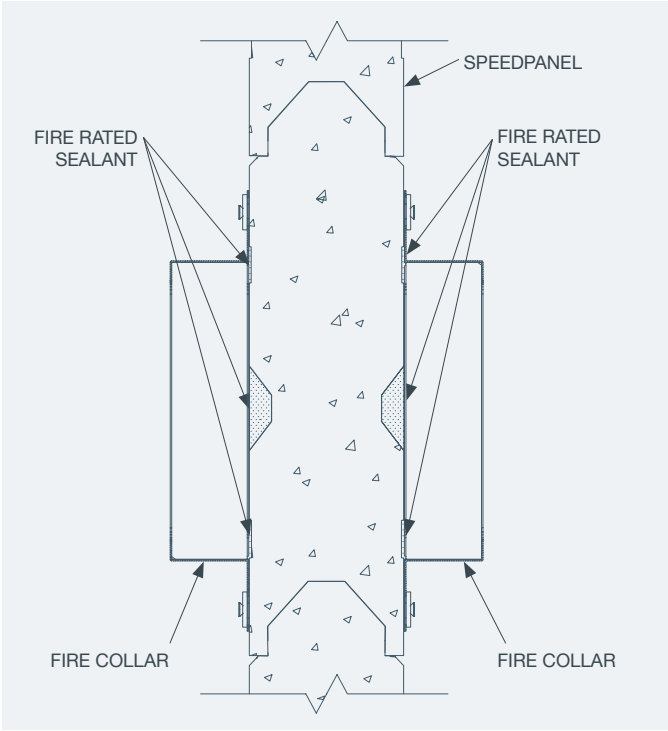
Fixing: Collars tested using 10G x 38mm needle point screws with Ø15mm x 2mm thick washers.

Note: Fire rated sealant installed between Speedpanel and collar where profile changes (see 'Profile Detail').

## SPEEDPANEL INSTALLATION DETAILS:



## SPEEDPANEL PROFILE DETAIL:



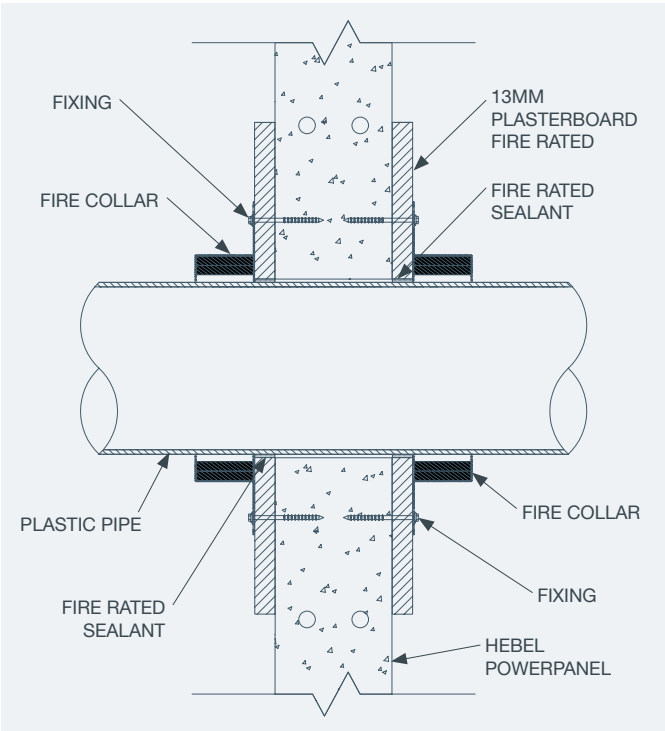
# HEBEL POWERPANEL WITH PLASTERBOARD PATCH TEST RESULTS:

| NOMINAL PIPE SIZE (MM) | PANEL DEPTH (MM) | PLASTER-BOARD (MM) | NOMINAL PIPE WALL THICKNESS (MM) | PRODUCT CODE | PENETRATION HOLE SIZE (MM) | WALL FRL  | REPORT NUMBER |
|------------------------|------------------|--------------------|----------------------------------|--------------|----------------------------|-----------|---------------|
| PVC PLASTIC PIPE       |                  |                    |                                  |              |                            |           |               |
| 40                     | 75               | 13                 | 2.0                              | ALLFC40      | 47                         | -/120/120 | 180434.5      |
| 50                     | 75               | 13                 | 2.2                              | ALLFC50      | 57                         | -/120/120 | 180434.5      |
| 65                     | 75               | 13                 | 2.7                              | ALLFC65      | 72                         | -/120/120 | 180434.5      |
| 80                     | 75               | 13                 | 2.9                              | ALLFC80      | 87                         | -/120/120 | 180434.5      |
| 100                    | 75               | 13                 | 3.2                              | ALLFC100     | 112                        | -/120/120 | 180434.5      |
| PEX PIPE               |                  |                    |                                  |              |                            |           |               |
| 16                     | 75               | 13                 | 2.6                              | ALLFC25      | 19                         | -/120/120 | 180434.5      |
| 20                     | 75               | 13                 | 2.9                              | ALLFC25      | 25                         | -/120/120 | 180434.5      |
| 25                     | 75               | 13                 | 3.7                              | ALLFC25      | 28                         | -/120/120 | 180434.5      |
| OTHER PLASTIC PIPE     |                  |                    |                                  |              |                            |           |               |
| 20 PEX/AL/PEX          | 75               | 13                 | 3.1                              | ALLFC25      | 25                         | -/120/120 | 180434.5      |

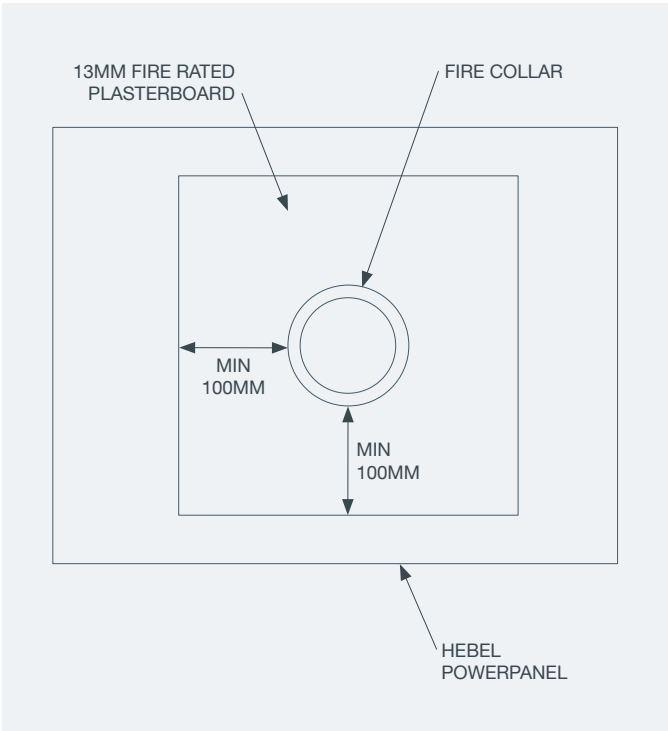
Fixing: 14-10 x 65mm hex head type 17 screws.

Note: Fire rated plasterboard patch to be a minimum 100mm length in each direction from the edge of the collar.

## HEBEL POWERPANEL WITH FIRE RATED PLASTERBOARD PATCH INSTALLATION DETAILS:

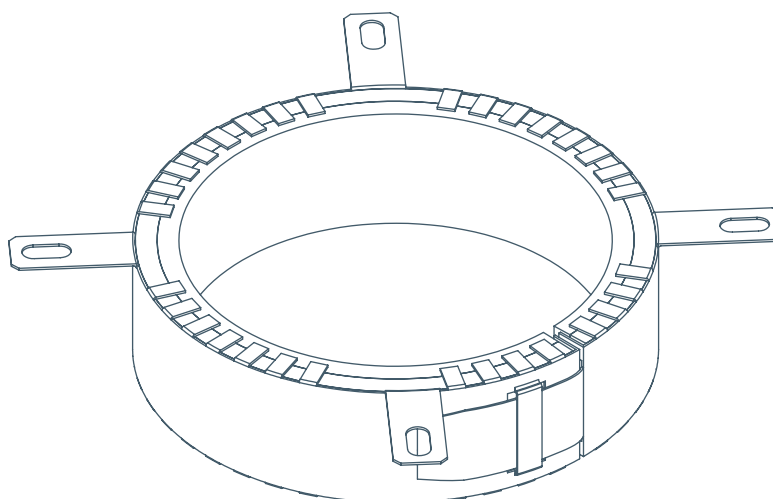
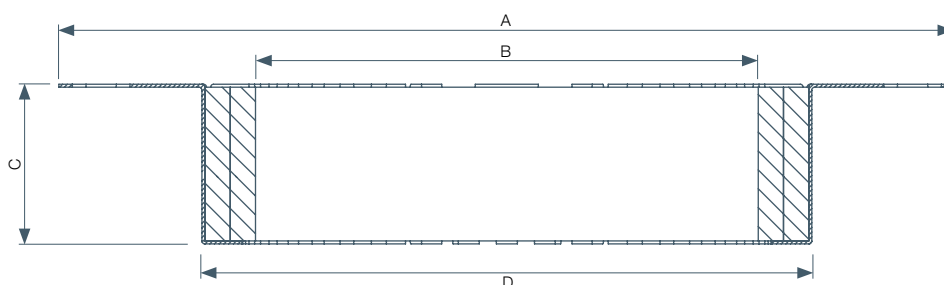


## HEBEL POWERPANEL WITH FIRE RATED PLASTERBOARD PATCH FRONT DETAIL:

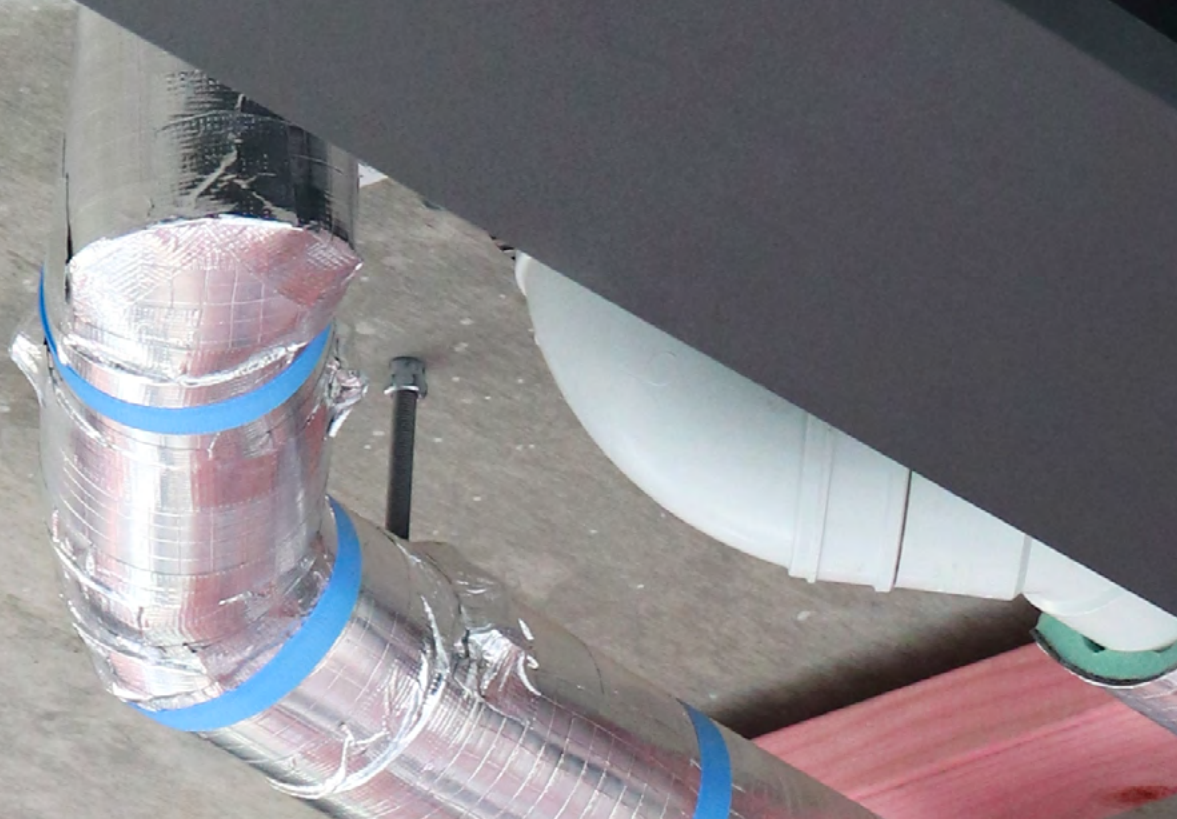


## PIPE COLLAR DIMENSIONS

| CODE                       | NOM. PIPE DIAMETER | OUTSIDE DIAMETER (A) | INSIDE DIAMETER (B) | COLLAR HEIGHT (C) | COLLAR DIAMETER (D) | # OF FIXING TABS |
|----------------------------|--------------------|----------------------|---------------------|-------------------|---------------------|------------------|
| ALLFC25GALV                | 25mm               | 100mm                | 31mm                | 28mm              | 44mm                | 2                |
| ALLFC40SS<br>ALLFC40GALV   | 40mm               | 121mm                | 50mm                | 28mm              | 63mm                | 2                |
| ALLFC50SS<br>ALLFC50GALV   | 50mm               | 122mm                | 63mm                | 28mm              | 88mm                | 3                |
| ALLFC65SS<br>ALLFC65GALV   | 65mm               | 136mm                | 77mm                | 28mm              | 102mm               | 3                |
| ALLFC80SS<br>ALLFC80GALV   | 80mm               | 154mm                | 95mm                | 28mm              | 120mm               | 3                |
| ALLFC100SS<br>ALLFC100GALV | 100mm              | 213mm                | 120mm               | 38mm              | 145mm               | 4                |
| ALLFC150SS<br>ALLFC150GALV | 150mm              | 258mm                | 165mm               | 54mm              | 190mm               | 6                |
| ALLFC200SS                 | 200mm              | 319mm                | 203mm               | 102mm             | 242mm               | 6                |
| ALLFC250SS                 | 225mm              | 370mm                | 253mm               | 102mm             | 292mm               | 6                |



# **SOLUTION FOCUSED PASSIVE FIRE SYSTEMS**





# LOW PROFILE COLLARS



Low profile collars are designed to be installed in concrete, masonry fire rated walls and floors, and fire rated plasterboard walls and ceilings. The Allproof fire collars consist of intumescent material encased in a steel surround with fixing tabs. The advanced intumescent technology allows Allproof to achieve a very low profile height of only 28mm for the 25-80mm fire collars.

When fire occurs the intumescent material expands against the steel surround as the flammable service

running through the collar melts and burns away. The steel casing acts as an excellent heat sync ensuring fast activation of the intumescent, forming a stable fire resistant plug, maintaining both fire integrity and insulation.

Fire collars are designed to be exposed in a wall or floor application (i.e. face fixed). The collars should always be fixed to the underneath of the concrete floor. In wall situations one collar should be used on each exposed side of the fire rated wall.

## SUITABLE FOR FITTING TO:

- > Concrete floor
- > Rib & timber infill floor
- > Cross Laminated timber floor
- > Cross laminated timber walls
- > Plasterboard ceilings
- > Plasterboard walls

## FEATURES:

- > Totally unaffected by water
- > Unique low profile design (25-80mm)
- > Stainless or galvanized steel case
- > Retro fitting - easy install slide tab
- > For use on various penetrations

## INSTALLATION INSTRUCTIONS:

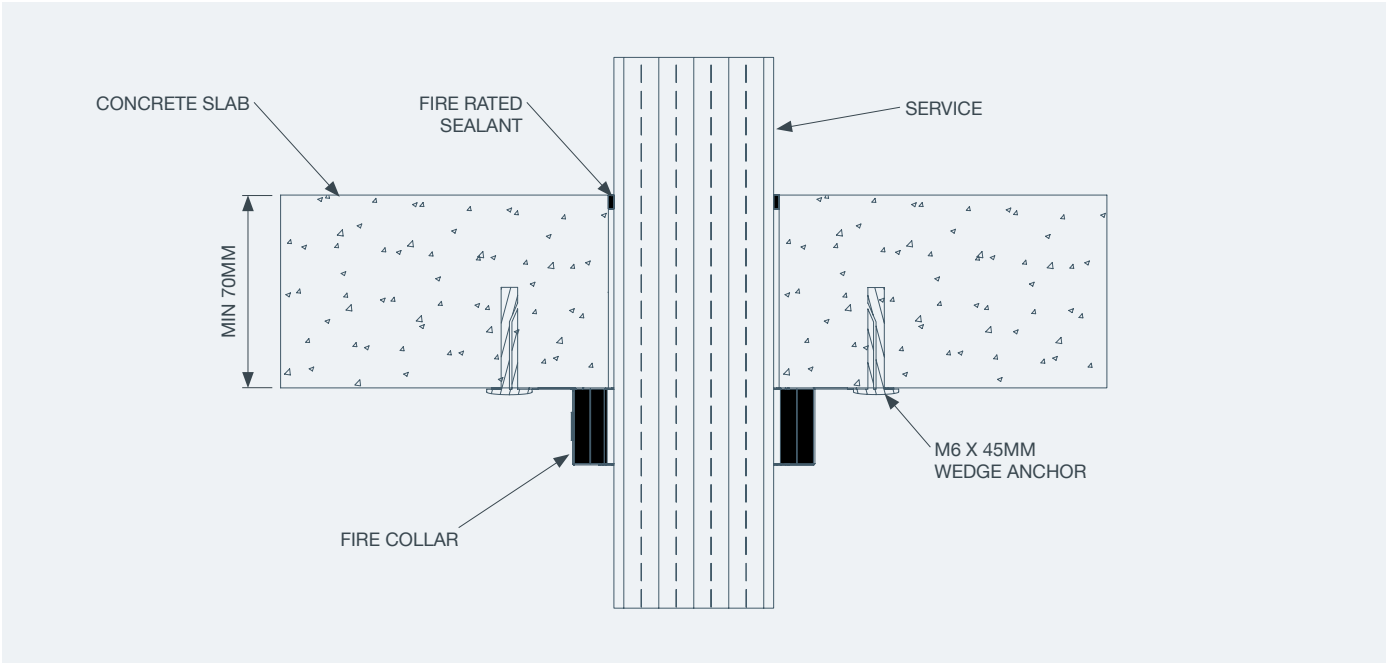
1. Ensure substrate around service is flat and free from obstructions.
2. Open fire collar and position around service.
3. Slide tab through slot in fire collar and fold back 180° to secure.
4. Secure fire collar by using suitable fixings as per testing. Do not use fixings which rely on plastic or nylon components for grip.
5. Install only from underside on floor penetrations. Install fire collar on both sides for wall penetrations.

CONCRETE SLAB TEST RESULTS:

| DESCRIPTION                               | SLAB DEPTH (MM) | PRODUCT CODE | PENETRATION HOLE SIZE (MM) | FLOOR FRL* | REPORT NUMBER |
|-------------------------------------------|-----------------|--------------|----------------------------|------------|---------------|
| CABLES                                    |                 |              |                            |            |               |
| 1x TPS Cable                              | 70              | ALLFC25      | 28                         | -/60/45    | 145431        |
| 7x TPS Cables                             | 70              | ALLFC25      | 28                         | -/60/45    | 145431        |
| 1x CAT6 Data Cable                        | 70              | ALLFC25      | 28                         | -/60/45    | 145431        |
| 10x CAT6 Data Cables                      | 70              | ALLFC25      | 28                         | -/60/60    | 145431        |
| 1x Fire Alarm & 1x Fibre Optic Cable      | 70              | ALLFC50      | 62                         | -/60/60    | 145431        |
| 25x Fire Alarm & 25x Fibre Optic Cables   | 70              | ALLFC50      | 62                         | -/60/60    | 145431        |
| 1x 25mm Mains Cable & 1x 10mm Earth Cable | 70              | ALLFC25      | 28                         | -/60/45    | 145431        |

Fixing: M6 x 45mm Wedge Anchors.  
For installations resulting in an annular gap of 4mm or greater insert PE backing rod prior to fire rated sealant.

CONCRETE FLOOR SLAB INSTALLATION DETAILS:



# RIB & TIMBER INFILL TEST RESULTS:

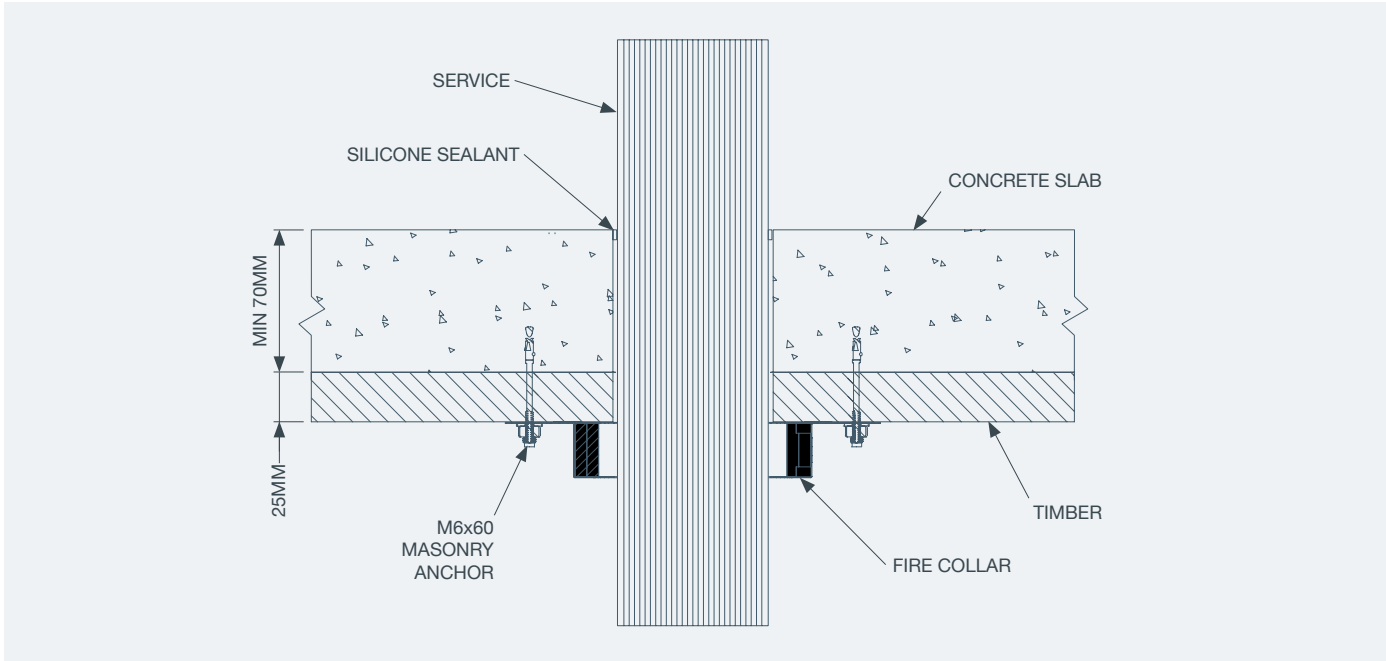
| DESCRIPTION                                   | PRODUCT CODE | PENETRATION HOLE SIZE (MM) | FLOOR FRL* | REPORT NUMBER |
|-----------------------------------------------|--------------|----------------------------|------------|---------------|
| CABLES                                        |              |                            |            |               |
| 60x TPS Cables                                | ALLFC80      | 85                         | -/90/45    | 143281-003    |
| 100x CAT6 Data Cables                         | ALLFC80      | 80                         | -/90/60    | 143281-003    |
| 25x Fire Alarm & 25x Fibre Optic Cables       | ALLFC50      | 62                         | -/90/60    | 143281-003    |
| 1x 25mm Mains Cable + 1x 10mm Earth Cable     | ALLFC25      | 28                         | -/90/45    | 143281-003    |
| A/C MIXED SERVICES                            |              |                            |            |               |
| 1x Pair Coil, 1x TPS Cable & 1x 20mm PVC DWV  | ALLFC50      | 62                         | -/90/90    | 143281-003    |
| 3x Pair Coil, 6x TPS Cables & 1x 25mm PVC DWV | ALLFC100     | 102                        | -/90/30    | 143281-003    |

Fixing: Collars tested using M6x60 masonry anchors.

Tested 70mm concrete slab with timber infill boards 25mm thick.

For installations resulting in an annular gap of 4mm or greater insert PE backing rod prior to silicone sealant.

## RIB & TIMBER INFILL INSTALLATION DETAILS:

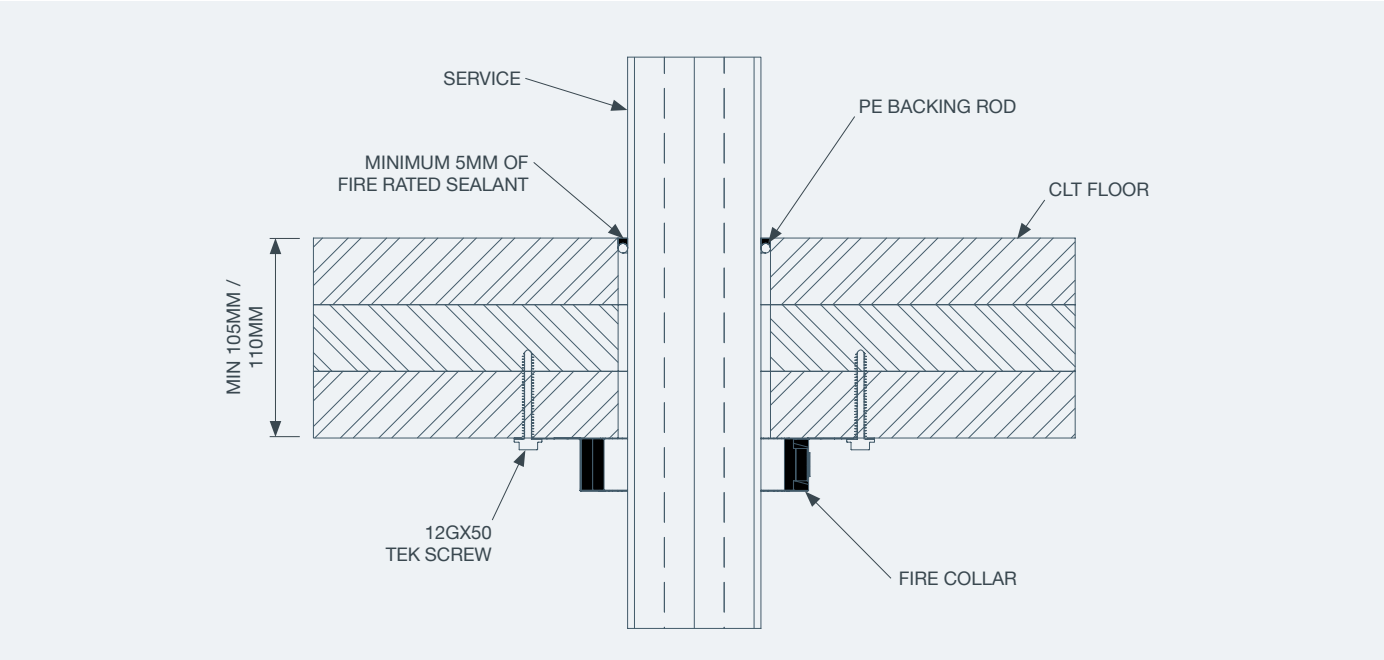


## CROSS LAMINATED TIMBER (CLT) FLOOR TEST RESULTS:

| DESCRIPTION                                                | TIMBER DEPTH | PRODUCT CODE | PENETRATION HOLE SIZE (MM) | FLOOR FRL* | REPORT NUMBER |
|------------------------------------------------------------|--------------|--------------|----------------------------|------------|---------------|
| CABLES                                                     |              |              |                            |            |               |
| 1x TPS Cable                                               | 110          | ALLFC25      | 32                         | -/60/60    | 148131        |
| 7x TPS Cables                                              | 105          | ALLFC25      | 32                         | -/60/30    | 145432        |
| 1x CAT6 Data Cable                                         | 110          | ALLFC25      | 28                         | -/60/60    | 148131        |
| 7x CAT6 Data Cables                                        | 105          | ALLFC25      | 28                         | -/60/45    | 145432        |
| 1x 16mm Mains & 1x 10mm Earth Cable                        | 105          | ALLFC25      | 30                         | -/60/60    | 145432        |
| A/C MIXED SERVICES                                         |              |              |                            |            |               |
| 1x Fire Rated Pair Coil, 1x TPS Cable & 1x CAT6 Data Cable | 105          | ALLFC80      | 80                         | -/60/30    | 145432        |

Fixing: Collars tested using Tek Screw 12G x 50mm.  
For installations resulting in an annular gap of 4mm or greater insert PE backing rod prior to fire rated sealant.

## CROSS LAMINATED TIMBER INSTALLATION DETAILS:



## 2 X 13MM PLASTERBOARD CEILING TEST RESULTS:

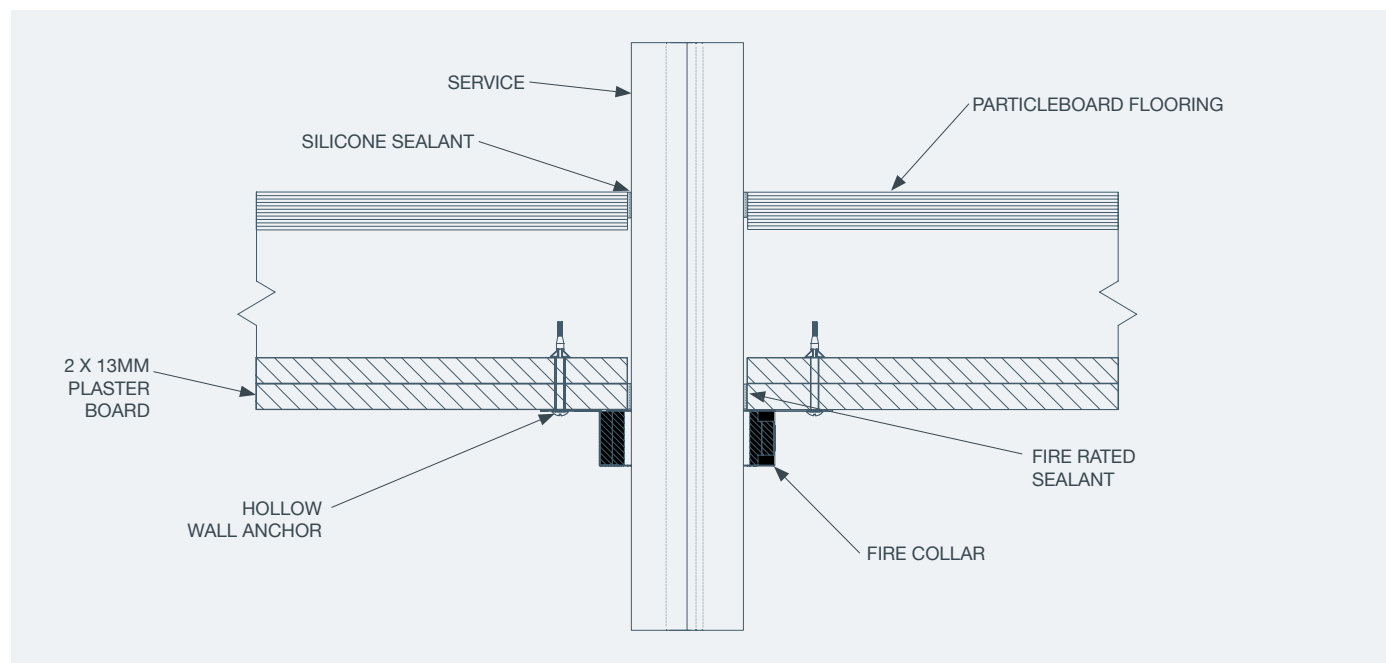
| DESCRIPTION                                              | PRODUCT CODE | PENETRATION HOLE SIZE (MM) | PLASTERBOARD FRL* | REPORT NUMBER |
|----------------------------------------------------------|--------------|----------------------------|-------------------|---------------|
| CABLES                                                   |              |                            |                   |               |
| 1x TPS Cable                                             | ALLFC25      | 28                         | -/90/90           | 146206        |
| 7x TPS Cables                                            | ALLFC25      | 32                         | -/90/90           | 142100        |
| 8x TPS Cable                                             | ALLFC50      | 32                         | -/90/90           | 146206        |
| 1x CAT6 Data Cable                                       | ALLFC25      | 28                         | -/90/90           | 146206        |
| 10x CAT6 Data Cables                                     | ALLFC25      | 28                         | -/90/90           | 142100        |
| 11x CAT6 Data Cable                                      | ALLFC50      | 28                         | -/90/90           | 146206        |
| 1x Fire Alarm & 1x Fibre Optic Cable                     | ALLFC40      | 32                         | -/90/90           | 146206        |
| 10x Fire Alarm & 10x Fibre Optic Cables                  | ALLFC40      | 32                         | -/90/90           | 146206        |
| 1x 16mm Mains Cable + 1x 10mm Earth Cable                | ALLFC25      | 28                         | -/90/90           | 146206        |
| 1x 25mm Mains Cable & 1x 10mm Earth Cable                | ALLFC25      | 28                         | -/90/90           | 142100        |
| A/C MIXED SERVICES                                       |              |                            |                   |               |
| Pair Coil, TPS Cable & 10mm PVC Pipe                     | ALLFC50      | 60                         | -/90/90           | 142100        |
| 3x Fire Rated Pair Coil, 3x TPS Cables & 1x 25mm PVC DWV | ALLFC100     | 102                        | -/90/60           | 146206        |

Fixing: Collars tested using hollow wall anchors.

For installations resulting in an annular gap of 4mm or greater insert PE backing rod prior to fire rated sealant and/or silicone sealant.

Tested using a 190mm deep timber framing with two layers of 13mm fire rated plasterboard on the exposed side of the frame and 19mm particleboard flooring on the unexposed side of the frame. A total floor-ceiling thickness of 235mm. Pipe collars are fixed using hollow wall anchors directly into the plasterboard - not fixed into framing or studs. Fire rated sealant is applied in the space between the services and plasterboard on the exposed face and silicone sealant between the service and particleboard flooring on the unexposed face.

## 2X 13MM PLASTERBOARD CEILING INSTALLATION DETAILS:



# 16MM PLASTERBOARD CEILING TEST RESULTS:

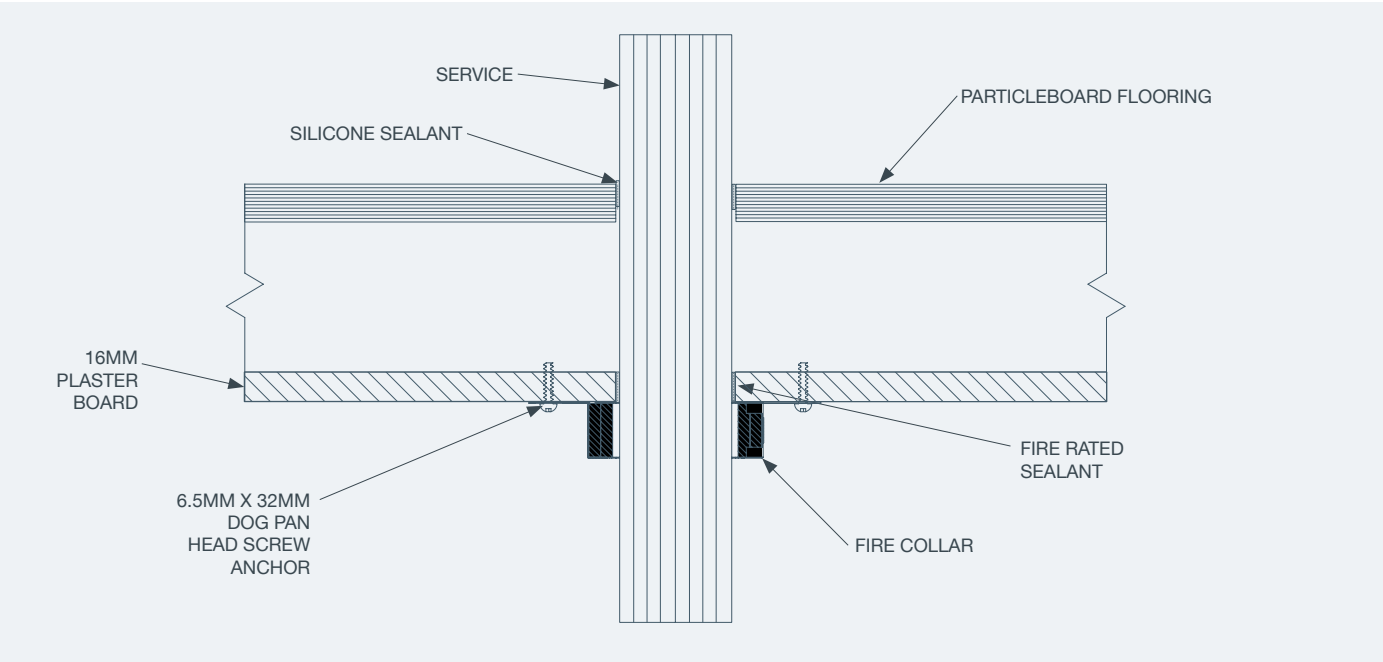
| DESCRIPTION          | PRODUCT CODE | PENETRATION HOLE SIZE (MM) | PLASTERBOARD WALL FRL* | REPORT NUMBER |
|----------------------|--------------|----------------------------|------------------------|---------------|
| CABLES               |              |                            |                        |               |
| 7x TPS Cables        | ALLFC25      | 32                         | -/60/60                | 148449        |
| 10x CAT6 Data Cables | ALLFC25      | 28                         | -/60/60                | 148449        |

Fixing: 6.5mm x 32mm Dog pan head screw anchors.

For installations resulting in an annular gap of 4mm or greater insert PE backing rod prior to fire rated sealant and/or silicone sealant.

Tested using a 190mm deep timber framing with one layer of 16mm fire rated plasterboard on the exposed side of the frame and 19mm particleboard flooring on the unexposed side of the frame. A total floor-ceiling thickness of 225mm. Fire collars are fixed using dog pan head anchors directly into plasterboard - not fixed into framing or studs. Fire rated sealant is applied in the space between the pipe and plasterboard on the exposed face and silicone sealant between the service and particleboard flooring on the unexposed face.

## 16MM PLASTERBOARD CEILING INSTALLATION DETAILS:



## 13MM PLASTERBOARD WALL TEST RESULTS:

| DESCRIPTION                                       | PRODUCT CODE | PENETRATION HOLE SIZE (MM) | PLASTERBOARD WALL FRL* | REPORT NUMBER |
|---------------------------------------------------|--------------|----------------------------|------------------------|---------------|
| PVC CONDUIT                                       |              |                            |                        |               |
| 25mm PVC Conduit Filled with 2x Electrical Cables | ALLFC25      | 28                         | -/60/45                | 5810          |
| CABLES                                            |              |                            |                        |               |
| 1x TPS Cable                                      | ALLFC25      | 28                         | -/60/60                | 146207        |
| 7x TPS Cables                                     | ALLFC25      | 32                         | -/60/45                | 146207        |
| 8x TPS Cables                                     | ALLFC50      | 32                         | -/60/60                | 146207        |
| 25x TPS Cables                                    | ALLFC50      | 57                         | -/60/45                | 143281        |
| 1x CAT6 Data Cable                                | ALLFC25      | 28                         | -/60/60                | 146207        |
| 10x CAT6 Data Cables                              | ALLFC25      | 28                         | -/60/30                | 146207        |
| 11x CAT6 Data Cables                              | ALLFC50      | 28                         | -/60/30                | 146207        |
| 60x CAT6 Data Cables                              | ALLFC50      | 57                         | -/60/45                | 143281        |
| 1x Fire Alarm Cable                               | ALLFC25      | 28                         | -/60/60                | 147932        |
| 10x Fire Alarm Cables                             | ALLFC25      | 28                         | -/60/60                | 147932        |
| 11x Fire Alarm Cables                             | ALLFC50      | 30                         | -/60/60                | 148954        |
| 40x Fire Alarm Cables                             | ALLFC50      | 57                         | -/60/60                | 148954        |
| 1x Fire Alarm & 1x Fibre Optic Cable              | ALLFC25      | 28                         | -/60/60                | 146207        |
| 6x Fire Alarm & 6x Fibre Optic Cables             | ALLFC25      | 32                         | -/60/60                | 143281        |
| 1x 16mm Mains Cable + 1x 10mm Earth Cable         | ALLFC25      | 28                         | -/60/60                | 146207        |
| 1x 25mm Mains Cable + 1x 10mm Earth Cable         | ALLFC25      | 28                         | -/60/60                | 146207        |
| A/C MIXED SERVICES                                |              |                            |                        |               |
| 1x Pair Coil, 1x TPS Cable & 1x 20mm PVC DWV      | ALLFC50      | 60                         | -/60/30                | 147932        |
| 2x Pair Coil, 2x TPS Cables & 1x 25mm PVC DWV     | ALLFC100     | 95                         | -/60/60                | 147932        |
| 3x Pair Coil, 6x TPS Cables & 1x 32mm PVC DWV     | ALLFC100     | 95                         | -/60/30                | 143281        |
| A/C MIXED SERVICES - IN WALL                      |              |                            |                        |               |
| *Pair Coil, TPS Cable & 20mm PVC DWV (Flexi Hose) | ALLFC50      | 95                         | -/60/60                | 13509         |

Fixing: Collars tested using hollow wall anchors.

Tested using a 64mm wide steel stud with a single layer of 13mm fire rated plasterboard on each side of the frame. A total wall thickness of 90mm. Fire collars are fixed using hollow wall anchors directly into the plasterboard - not fixed into framing or studs in wall. Fire rated sealant is applied in the space between the service and plasterboard on both the exposed and unexposed face.

\* In wall Pair Coil uses fire rated sealant as smoke seal, see notes on install detail below.

# STANDARD NON-FIRE RATED 13MM PLASTERBOARD WALL TEST RESULTS:

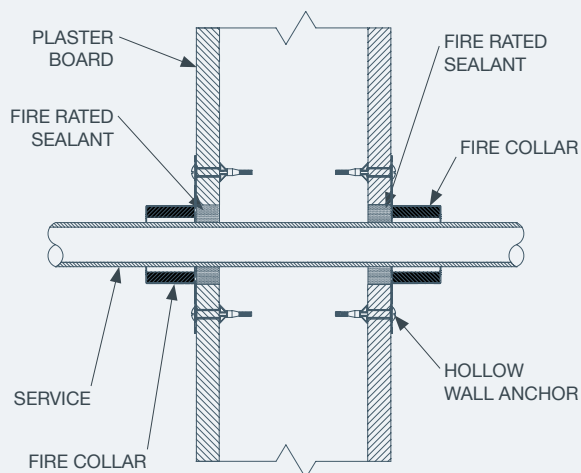
| DESCRIPTION                               | PRODUCT CODE | PENETRATION HOLE SIZE (MM) | PLASTERBOARD WALL FRL* | REPORT NUMBER |
|-------------------------------------------|--------------|----------------------------|------------------------|---------------|
| <b>CABLES</b>                             |              |                            |                        |               |
| 1x TPS Cable                              | ALLFC25      | 28                         | -/30/30                | 148639        |
| 7x TPS Cables                             | ALLFC25      | 32                         | -/30/-                 | 148639        |
| 1x CAT6 Data Cable                        | ALLFC25      | 28                         | -/30/30                | 148639        |
| 10x CAT6 Data Cables                      | ALLFC25      | 28                         | -/30/30                | 148639        |
| 1x Fire Alarm Cable                       | ALLFC25      | 28                         | -/30/30                | 148639        |
| 10x Fire Alarm Cables                     | ALLFC25      | 28                         | -/30/30                | 148639        |
| 1x 16mm Mains Cable + 1x 10mm Earth Cable | ALLFC25      | 28                         | -/30/30                | 148639        |

Fixing: 6.5mm x 32mm Dog screw wall anchors.

Tested using a 64mm wide steel stud with a single layer of 13mm fire rated plasterboard on each side of the frame. A total wall thickness of 90mm. Fire collars are fixed using Dog Screw Anchors directly into the plasterboard - not fixed into framing or studs in wall. Fire rated sealant is applied in the space between the service and plasterboard on both the exposed and unexposed face.

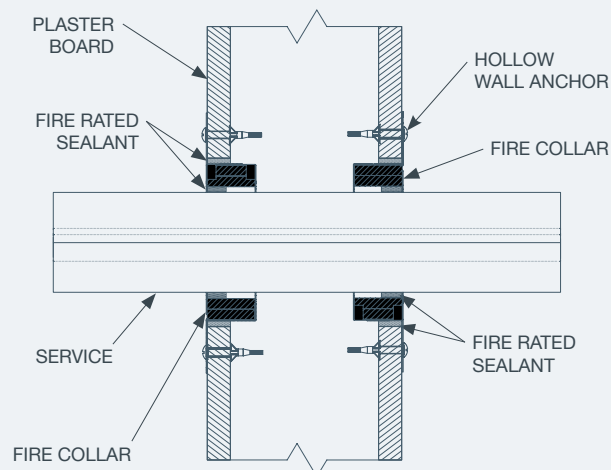
## PLASTERBOARD INSTALLATION DETAILS:

### FACE FIXED WITH HOLLOW WALL ANCHOR (SEE RELEVANT TABLE)



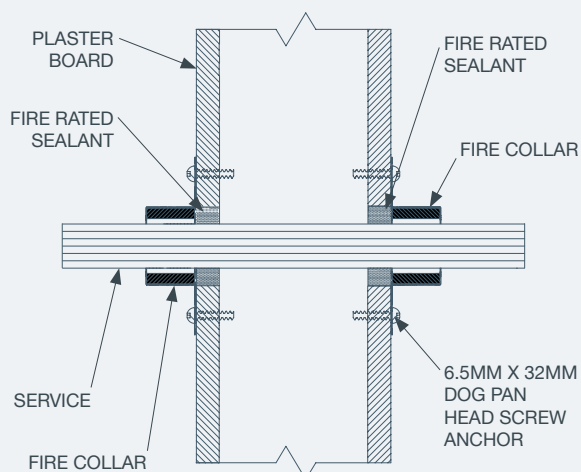
DETAIL SHOWS CONDUIT PIPE, OTHER TESTED SERVICES TO BE BUNDLED TOGETHER THROUGH THE PENETRATION, FIRE COLLAR AND SEALANT INSTALL CONSISTENT WITH ALL SERVICES.

### IN WALL (SEE RELEVANT TABLE)



DETAIL SHOWS PAIR COIL, OTHER TESTED SERVICES TO BE BUNDLED TOGETHER IN A SIMILAR FASHION, FIRE COLLAR AND SEALANT INSTALL CONSISTENT WITH ALL SERVICES.

### FACE FIXED WITH DOG PAN HEAD SCREW

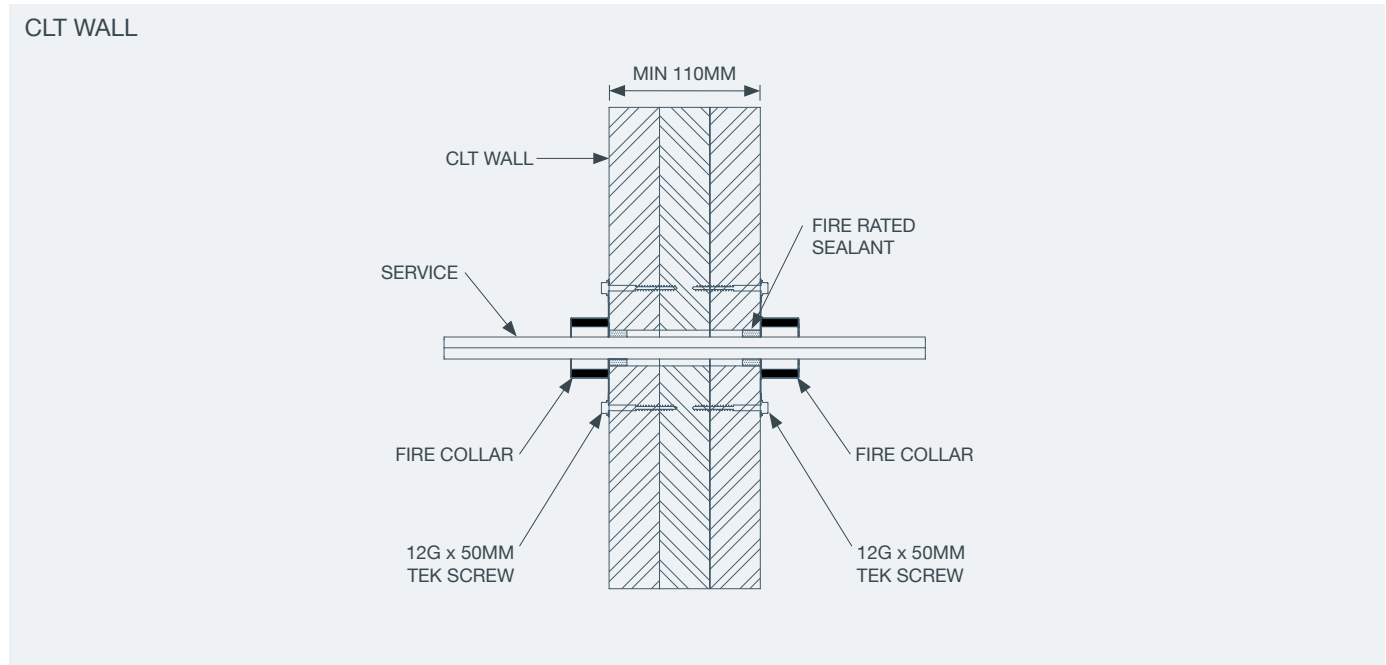


Smoke seal on pair coil achieved with fire rated sealant between service and fire collar. Other services not to include fire rated sealant between service and collar unless otherwise stated.

# CROSS LAMINATED TIMBER (CLT) WALL TEST RESULTS:

| DESCRIPTION                               | TIMBER DEPTH | PRODUCT CODE | PENETRATION HOLE SIZE (MM) | WALL FRL* | REPORT NUMBER |
|-------------------------------------------|--------------|--------------|----------------------------|-----------|---------------|
| CABLES                                    |              |              |                            |           |               |
| 1x TPS Cable                              | 110          | ALLFC25      | 26                         | -/60/60   | 148132        |
| 7x TPS Cables                             | 110          | ALLFC25      | 32                         | -/60/60   | 148132        |
| 1x CAT6 Data Cable                        | 110          | ALLFC25      | 26                         | -/60/60   | 148132        |
| 10x CAT6 Data Cable                       | 110          | ALLFC25      | 32                         | -/60/60   | 148132        |
| 1x 16mm Mains Cable + 1x 10mm Earth Cable | 110          | ALLFC25      | 30                         | -/60/60   | 148132        |
| 1x 25mm Mains Cable + 1x 10mm Earth Cable | 110          | ALLFC25      | 35                         | -/60/60   | 148132        |

Fixing: Collars tested using Tek Screw 12G x 50mm.  
For installations resulting in an annular gap of 4mm or greater insert PE backing rod prior to fire rated sealant.



PIPE COLLAR DIMENSIONS

| CODE                       | NOM. PIPE DIAMETER | OUTSIDE DIAMETER (A) | INSIDE DIAMETER (B) | COLLAR HEIGHT (C) | COLLAR DIAMETER (D) | # OF FIXING TABS |
|----------------------------|--------------------|----------------------|---------------------|-------------------|---------------------|------------------|
| ALLFC25GALV                | 25mm               | 100mm                | 31mm                | 28mm              | 44mm                | 2                |
| ALLFC40SS<br>ALLFC40GALV   | 40mm               | 121mm                | 50mm                | 28mm              | 63mm                | 2                |
| ALLFC50SS<br>ALLFC50GALV   | 50mm               | 122mm                | 63mm                | 28mm              | 88mm                | 3                |
| ALLFC65SS<br>ALLFC65GALV   | 65mm               | 136mm                | 77mm                | 28mm              | 102mm               | 3                |
| ALLFC80SS<br>ALLFC80GALV   | 80mm               | 154mm                | 95mm                | 28mm              | 120mm               | 3                |
| ALLFC100SS<br>ALLFC100GALV | 100mm              | 213mm                | 120mm               | 38mm              | 145mm               | 4                |
| ALLFC150SS<br>ALLFC150GALV | 150mm              | 258mm                | 165mm               | 54mm              | 190mm               | 6                |
| ALLFC200SS                 | 200mm              | 319mm                | 203mm               | 102mm             | 242mm               | 6                |
| ALLFC250SS                 | 225mm              | 370mm                | 253mm               | 102mm             | 292mm               | 6                |

