

# UL-EU CERTIFICATE

Certificate No. UL-EU-01139-CPR

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Certificate Holder Bostik BV  
Denariusstraat 11  
4903 RC Oosterhout  
The Netherlands

Manufacturer A/003

Certified Product Type Fire Stop – Putty  
Product Trade Name Bostik FP 360 Putty Cord  
Trademark N/A  
Rating/Classification See Appendix

Expiry date 2030-04-28



A handwritten signature in purple ink, consisting of a series of loops and a final flourish.

**Authorized Certification Decision Maker**  
Chris Miles

This is to certify that representative samples of the Certified Product listed above have been investigated by Underwriters Laboratories to the Standard(s) indicated on this Certificate, in accordance with the UL Global Services Agreement and the UL-EU Mark Service Terms and Conditions ("Agreement"). The Certificate Holder is entitled to use the UL-EU Mark for the Certified Product listed on the certificate and manufactured at the production site(s) listed, in accordance with the terms of the Agreement. Only those products bearing the UL-EU Mark for Europe should be considered as being covered by UL's UL-EU Mark Service. This Certificate shall remain valid through the Expiration date, unless a Standard identified on this Certificate is amended or withdrawn prior to that date or there is a non-compliance with the Agreement.



# Appendix UL-EU CERTIFICATE

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This certificate relates to the use of Bostik FP 360 Putty Cord for fire stopping where insulated or uninsulated metallic pipes, cables and pipes penetrate flexible, masonry or concrete walls and rigid floor constructions, or where cable protrusion of socket boxes penetrate flexible walls. The detailed scope is given in pages 3 to 22 of this Certificate. This shows the thickness and acceptable dimensions, substrates and orientations required to provide fire resistance periods of up to 240 minutes (EI 240).

The product is certificated on the basis of:

- i) Inspection and surveillance of factory production control by UL
- ii) Fire resistance test data in accordance with 1366-3: 2009
- iii) Classification in accordance with EN 13501-2
- iv) Durability and Serviceability as defined in EAD 350454-00-1104, September 2017

The durability class of Bostik FP 360 Putty Cord is Z<sub>2</sub> - Intended for uses in internal conditions with humidity lower than 85 % RH excluding temperatures below 0°C, without exposure to rain or UV.



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| Product-type: Intumescent sheet  |   | Intended use: Penetration Seal                      |
|--|---|---|
| Assessment method  | Essential characteristic                                    | Product performance                                 |
| <b>BWR 2 Safety in case of fire</b>  |   |   |
| EN 13501-1   | Reaction to fire  | No performance determined                           |
| EN 13501-2   | Resistance to fire  | See pages 4 - 21                                    |
| <b>BWR 3 Hygiene, health and environment</b>   |   |   |
| EN 1026  | Air permeability  | See page 22   |
| EAD 350454-00-1104,<br>Annex C   | Water permeability  | No performance determined                           |
| Declaration of manufacturer<br>& EN 16516  | Content, emission and/or release of<br>dangerous substances | Use categories: IA1<br>Declaration of manufacturer  |
| <b>BWR 4 Safety in use</b>   |   |   |
| EOTA TR 001:2003   | Mechanical resistance and stability                         | No performance determined                           |
| EOTA TR 001:2003   | Resistance to impact/movement                               | No performance determined                           |
| EOTA TR 001:2003   | Adhesion  | No performance determined                           |
| EAD 350454-00-1104,<br>Clause 2.2.9  | Durability  | Z <sub>2</sub>                                      |
| <b>BWR 5 Protection against noise</b>  |   |   |
| EN 10140-1,2,4,5/ EN ISO<br>717-1  | Airborne sound insulation                                   | R <sub>w</sub> (C;C <sub>tr</sub> )= 67 (-2;-7) dB* |
| <b>BWR 6 Energy economy and heat retention</b>   |   |   |
| EN 12664, EN 12667, EN<br>12939, EN ISO 8990, EN<br>ISO 6946, EN ISO 14683,<br>EN ISO 10211, EN ISO<br>10456 | Thermal properties  | No performance determined                           |
| EN ISO 12572, EN 12086,<br>EN ISO 10456  | Water vapour permeability                                   | No performance determined                           |

\*Applicable only for Bostik FP 360 Putty Cord Pads in socket boxes





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| Bostik FP 360 Putty Cord: Double Sided Pipe and Cable Penetration Seals, 4mm Thick in Socket Box, in Walls |                                  |                    |   |   |                                  |                         |     |
|--|----------------------------------|--------------------|---|---|----------------------------------|-------------------------|-----|
| Substrate  | Minimum Substrate Thickness (mm) | Aperture (mm)      | Socket box  | Bostik FP 360 Putty Cord mm                                   | Services                         | Fire Resistance (mins.) |     |
|  |                                  |                    |   |   |                                  | E                       | EI  |
| Gypsum Drywall wall  | 100                              | 63 Ø               | Single or double Høiax Push Wallbox 15mm *  | 174 x 64 x 4 mm around pipe / 50 Ø x 25 mm at back of the box | Høiax 25mm PEX pipe in pipe hose | 90                      | 90  |
|  |                                  | 135 wide x 75 high | UK standard double socket box, 130mm wide x 70mm high x 47mm deep, each with up to 22mm hole cut to accept the cables   | Interior of box fully lined with pad                          | Cables up to 14 mm diameter      | 60                      | 60  |
|  | 120                              | 135 wide x 72 High | UK standard double socket box, maximum 130mm wide x 70mm high x 48mm deep, each with a 25mm wide x 14mm high knock out section centrally located at the bottom back angle of the box to accept the cables | Interior of box fully lined with pad                          | Cables up to 14 mm diameter      | 120                     | 120 |
|  |                                  | 135 wide x 72 High |   | Interior of box fully lined with pad                          | 2.5 mm twin and earth cables     | 120                     | 120 |

\*Fixed directly to studs or with steel plate between studs.

| Bostik FP 360 Putty Cord: Single Sided Cable Penetration Seals in Socket Box, in Walls |                                  |                             |   |  |                             |                         |    |
|--|----------------------------------|-----------------------------|---|--|-----------------------------|-------------------------|----|
| Substrate  | Minimum Substrate Thickness (mm) | Aperture (mm)               | Socket box  | Bostik FP 360 Putty Cord mm            | Services                    | Fire Resistance (mins.) |    |
|  |                                  |                             |   |  |                             | E                       | EI |
| Gypsum Drywall wall  | 100                              | 73 wide x 91 High x 51 deep | Schneider Electric Ref. IMT 36026 connection box, 72mm wide x 90mm high x 50mm deep | Fitted lining the back of the back box | Cables up to 14 mm diameter | 60                      | 45 |
|  |                                  | 92 wide x 112 High          | Elko 4189 1223720 connection box, 72mm wide x 90mm high x 58mm deep                 | Interior of box fully lined with pad   | Cables up to 14 mm diameter | 90                      | 90 |
|  |                                  | 74 wide x 74 High           | ELKO 5421 123740 connection box, 73mm wide x 73mm high x 55mm deep                  | Interior of box fully lined with pad   | Cables up to 14 mm diameter | 90                      | 90 |



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| Bostik FP 360 Putty Cord: Double Sided** Service Penetration Seals in Walls |                                  |   |                    |                         |     |
|---|----------------------------------|---|--------------------|-------------------------|-----|
| Substrate   | Minimum Substrate Thickness (mm) | Services (fitted at any position within the aperture)                                   | Sealant Depth (mm) | Fire Resistance (mins.) |     |
|   |                                  |   |                    | E                       | EI  |
| Drywall/ Masonry/ Concrete  | 100                              | Blank seal with a 15 mm deep cord of Bostik FP 360 Putty Cord on both sides of the wall | 15                 | 120                     | 120 |
|   |                                  | Cables up to 21 mm diameter, single or in a bundle up to 50 mm diameter#                | 15                 | 120                     | 120 |
|   |                                  | Cables up to 80 mm diameter, single or in a bundle up to 50 mm diameter#                | 15                 | 60                      | 60  |
| Mild or stainless steel pipes   |                                  |   |                    |                         |     |
| Drywall/ Masonry/ Concrete  | 100                              | Maximum 22 mm diameter*   | 15                 | 120                     | 120 |
|   |                                  | 23-30 mm diameter*  | 15                 | 120                     | 45  |
| ALUPEX pipes  |                                  |   |                    |                         |     |
| Drywall/ Masonry/ Concrete  | 100                              | 16 mm diameter*   | 15                 | 120                     | 120 |
|   |                                  | 17-20 mm diameter*  | 15                 | 120                     | 90  |
| Copper or steel pipes   |                                  |   |                    |                         |     |
| Drywall/ Masonry/ Concrete  | 100                              | 6 mm diameter*  | 15                 | 120                     | 120 |
|   |                                  | 7-12 mm diameter*   | 15                 | 120                     | 60  |

All pipe classifications are pipe end configuration C/C (C=Capped, C=Capped) Except Mild or Stainless Steel pipes which are C/U (C=Capped, U=Uncapped).

Maximum annular space 10 mm (a1) and minimum separation between penetration seals 30 mm (a2).

# Cable specification from EN 1366-3 standard cable configuration

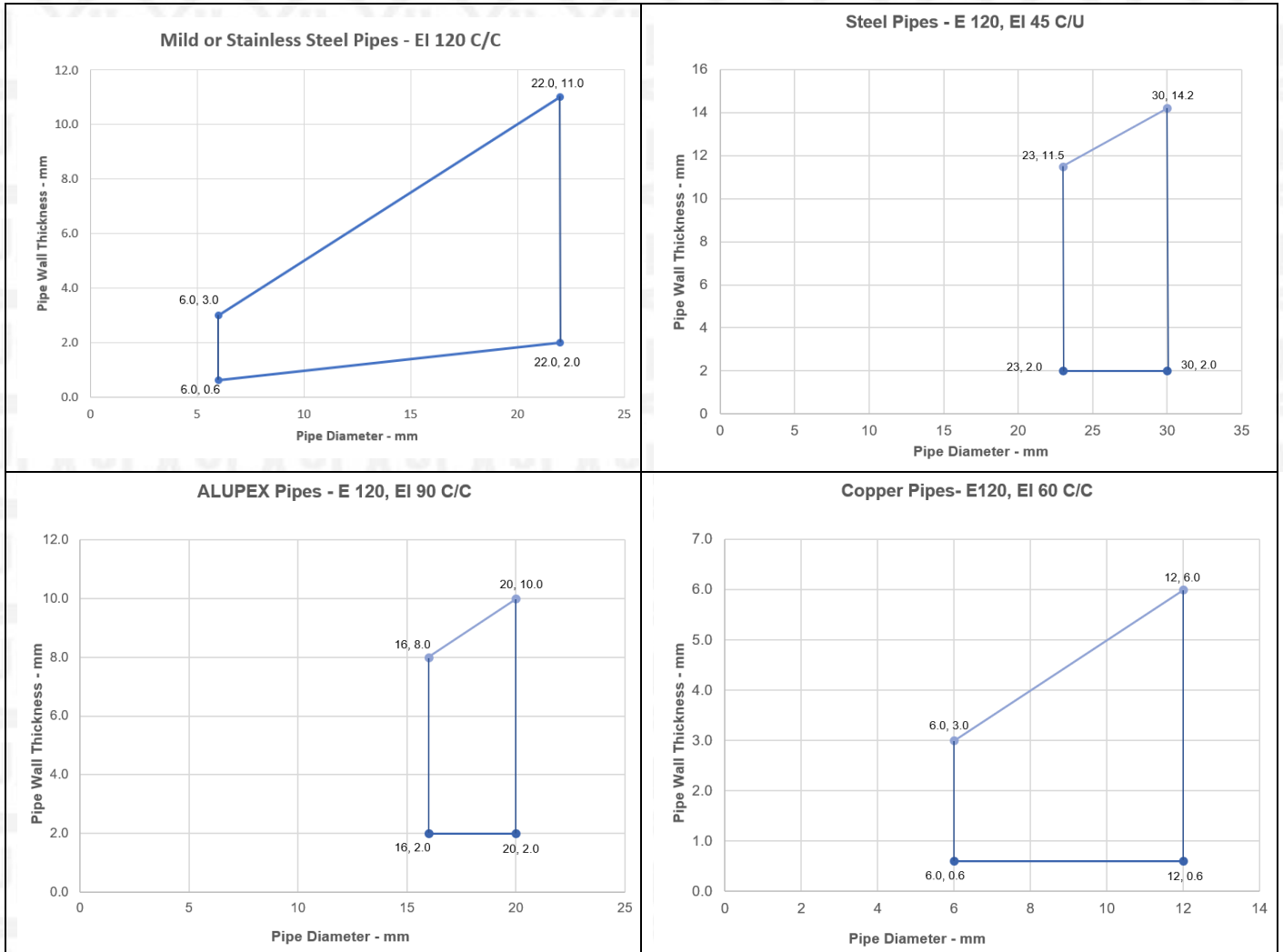
\* See below graphs for interpolated pipe sizes.

\*\* Seal applied to both sides of the wall



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| Bostik FP 360 Putty Cord: Double Sided** Service Penetration Seals in Walls                      |                                  |   |                    |   |                         |     |
|--|----------------------------------|---|--------------------|---|-------------------------|-----|
| Substrate  | Minimum Substrate Thickness (mm) | Services (fitted at any position within the aperture) | Sealant Depth (mm) | Insulation (LI)   | Fire Resistance (mins.) |     |
|  |                                  |   |                    |   | E                       | EI  |
| Mild or stainless steel pipes, with minimum 80 kg/m <sup>3</sup> density mineral wool insulation |                                  |   |                    |   |                         |     |
| Drywall/ Masonry/ Concrete   | 100                              | Maximum 40 mm diameter*                               | 15                 | Minimum 20 mm thick mineral wool 80 kg/m <sup>3</sup> , 500 mm long butted up to the wall on both faces | 120                     | 120 |
|  |                                  | 40-324 mm diameter*                                   | 15                 | Minimum 30 mm thick mineral wool 80 kg/m <sup>3</sup> , 500 mm long butted up to the wall on both faces | 120                     | 120 |
| Copper or steel pipe, with minimum 80 kg/m <sup>3</sup> density mineral wool insulation          |                                  |   |                    |   |                         |     |
| Drywall/ Masonry/ Concrete   | 100                              | Maximum 54 mm diameter/1.2-14.2 mm wall               | 15                 | Minimum 20 mm thick mineral wool 80 kg/m <sup>3</sup> , 500 mm long butted up to the wall on both faces | 90                      | 60  |
| ALUPEX pipe with minimum 80 kg/m <sup>3</sup> density mineral wool insulation                    |                                  |   |                    |   |                         |     |
| Drywall/ Masonry/ Concrete   | 100                              | Maximum 16 mm diameter*                               | 15                 | Minimum 20 mm thick mineral wool 80 kg/m <sup>3</sup> , 500 mm long butted up to the wall on both faces | 90                      | 90  |
|  |                                  | Maximum 75 mm diameter*                               | 15                 | Minimum 30 mm thick mineral wool 80 kg/m <sup>3</sup> , 500 mm long butted up to the wall on both faces | 90                      | 90  |

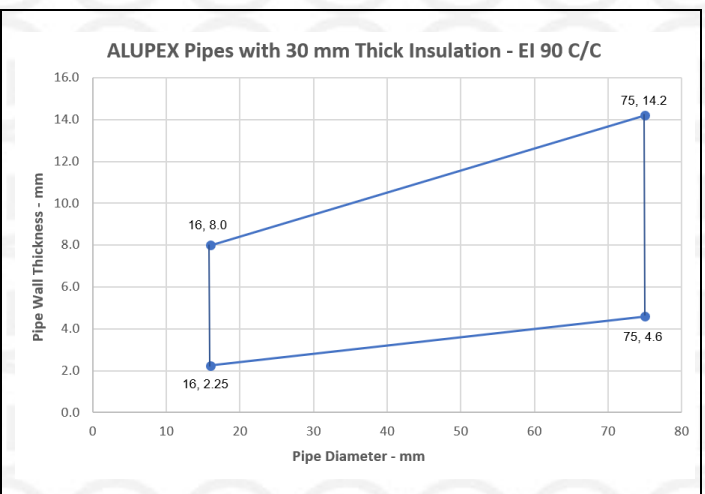
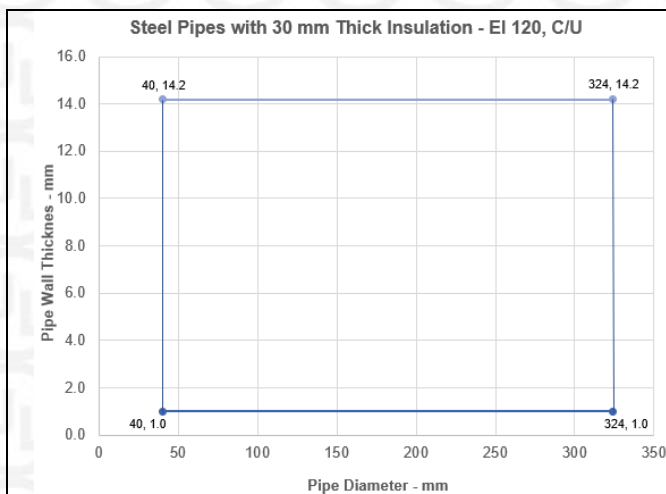
LI = Local Interrupted

All pipe classifications are pipe end configuration C/U (C=Capped, U=Uncapped) Except Copper or ALUPEX pipes which are C/C (C=Capped, C=Capped).

Maximum annular space 10 mm (a1) and minimum separation between penetration seals 30 mm (a2).

\* See below graphs for interpolated pipe sizes.

\*\* Seal applied to both sides of the wall





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| Bostik FP 360 Putty Cord: Double Sided** Service Penetration Seals in Walls          |                                  |   |                    |   |                         |     |
|--|----------------------------------|---|--------------------|---|-------------------------|-----|
| Substrate  | Minimum Substrate Thickness (mm) | Services (fitted at any position within the aperture) | Sealant Depth (mm) | Insulation (CS)                           | Fire Resistance (mins.) |     |
|  |                                  |   |                    |   | E                       | EI  |
| Mild or stainless steel pipes, with minimum 80 kg/m³ density mineral wool insulation |                                  |   |                    |   |                         |     |
| Drywall/ Masonry/ Concrete   | 100                              | Maximum 40 mm diameter*                               | 15                 | Minimum 20 mm thick mineral wool 80 kg/m³ | 120                     | 120 |
|  |                                  | 40-324 mm diameter*                                   | 15                 | 30-80 mm thick mineral wool 80 kg/m³      | 90                      | 60  |
| Copper or steel pipe, with minimum 80 kg/m³ density mineral wool insulation          |                                  |   |                    |   |                         |     |
| Drywall/ Masonry/ Concrete   | 100                              | Maximum 12 mm diameter/0.7-6.0 mm wall                | 15                 | Minimum 20 mm thick mineral wool 80 kg/m³ | 90                      | 60  |
|  |                                  | Maximum 54 mm diameter/1.2-14.2 mm wall               | 15                 | 30-80 mm thick mineral wool 80 kg/m³      | 90                      | 60  |
| ALUPEX pipe with minimum 80 kg/m³ density mineral wool insulation                    |                                  |   |                    |   |                         |     |
| Drywall/ Masonry/ Concrete   | 100                              | Maximum 16 mm diameter*                               | 15                 | Minimum 20 mm thick mineral wool 80 kg/m³ | 90                      | 90  |
|  |                                  | Maximum 75 mm diameter*                               | 15                 | Minimum 30 mm thick mineral wool 80 kg/m³ | 90                      | 90  |

CS = Continuous Sustained

All pipe classifications are pipe end configuration C/U (C=Capped, U=Uncapped) Except Copper or Steel and ALUPEX pipes which are C/C (C=Capped, C=Capped).

Maximum annular space 10 mm (a1) and minimum separation between penetration seals 30 mm (a2).

\* See below graphs for interpolated pipe sizes.

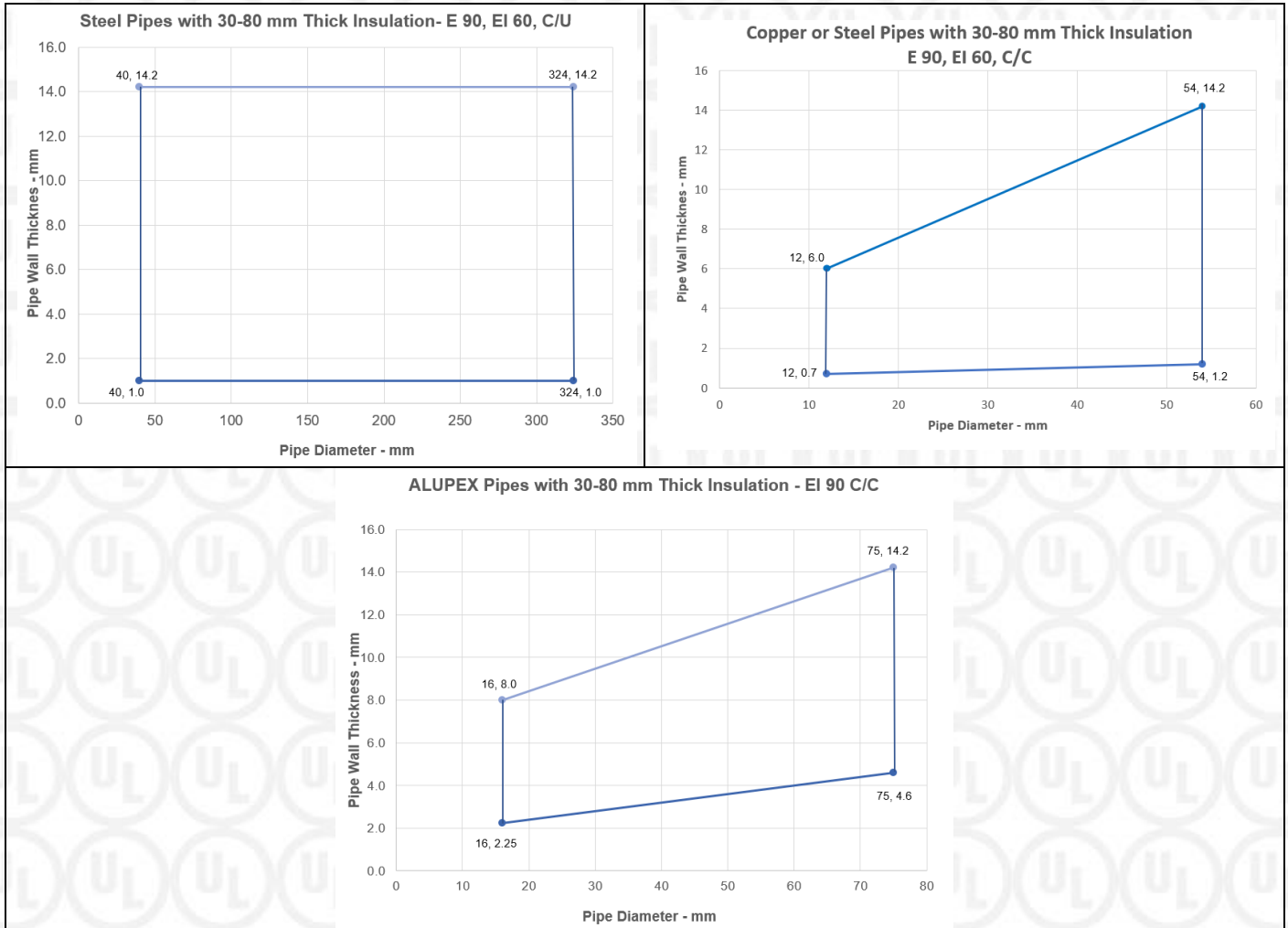
\*\* Seal applied to both sides of the wall





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| Bostik FP 360 Putty Cord: Double Sided** Service Penetration Seals in Walls |                                  |   |                    |            |                         |    |
|---|----------------------------------|---|--------------------|------------|-------------------------|----|
| Substrate   | Minimum Substrate Thickness (mm) | Services (fitted at any position within the aperture) | Sealant Depth (mm) | Insulation | Fire Resistance (mins.) |    |
|   |                                  |   |                    |            | E                       | EI |
| Mild or stainless steel pipes   |                                  |   |                    |            |                         |    |
| Drywall/ Masonry/ Concrete  | 120                              | Maximum 324 mm diameter/6.35-14.2 mm wall             | 15                 | None       | 90                      | 20 |
| Copper or steel pipe, with minimum 80 kg/m³ density mineral wool insulation |                                  |   |                    |            |                         |    |
| Drywall/ Masonry/ Concrete  | 120                              | Maximum 75 mm diameter/4.6-14.2 mm wall               | 15                 | None       | 90                      | 90 |
| ALUPEX pipe with minimum 80 kg/m³ density mineral wool insulation           |                                  |   |                    |            |                         |    |
| Drywall/ Masonry/ Concrete  | 120                              | Maximum 54 mm diameter/1.2-14.2 mm wall               | 15                 | None       | 90                      | 15 |

All pipe classifications are pipe end configuration C/U (C=Capped, U=Uncapped) Except Copper or Steel and ALUPEX pipes which are C/C (C=Capped, C=Capped).

Maximum annular space 10 mm (a1) and minimum separation between penetration seals 30 mm (a2).

\*\* Seal applied to both sides of the wall



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| Bostik FP 360 Putty Cord: Double Sided** Service Penetration Seals in Walls          |                                  |   |                    |   |                         |     |
|--|----------------------------------|---|--------------------|---|-------------------------|-----|
| Substrate  | Minimum Substrate Thickness (mm) | Services (fitted at any position within the aperture) | Sealant Depth (mm) | Insulation (CS)                           | Fire Resistance (mins.) |     |
|  |                                  |   |                    |   | E                       | EI  |
| Mild or stainless steel pipes, with minimum 80 kg/m³ density mineral wool insulation |                                  |   |                    |   |                         |     |
| Masonry/ Concrete  | 150                              | Maximum 40 mm diameter*                               | 15                 | Minimum 20 mm thick mineral wool 80 kg/m³ | 120                     | 120 |
|  |                                  | Maximum 324 mm diameter*                              | 15                 | 30-80 mm thick mineral wool 80 kg/m³      | 240                     | 180 |
| Copper or steel pipe, with minimum 80 kg/m³ density mineral wool insulation          |                                  |   |                    |   |                         |     |
| Masonry/ Concrete  | 150                              | Maximum 54 mm diameter/1.2-14.2 mm wall               | 15                 | Minimum 20 mm thick mineral wool 80 kg/m³ | 240                     | 120 |
| ALUPEX pipe with minimum 80 kg/m³ density mineral wool insulation                    |                                  |   |                    |   |                         |     |
| Masonry/ Concrete  | 150                              | Maximum 16 mm diameter*                               | 15                 | Minimum 20 mm thick mineral wool 80 kg/m³ | 240                     | 240 |
|  |                                  | Maximum 75 mm diameter*                               | 15                 | Minimum 30 mm thick mineral wool 80 kg/m³ | 240                     | 240 |

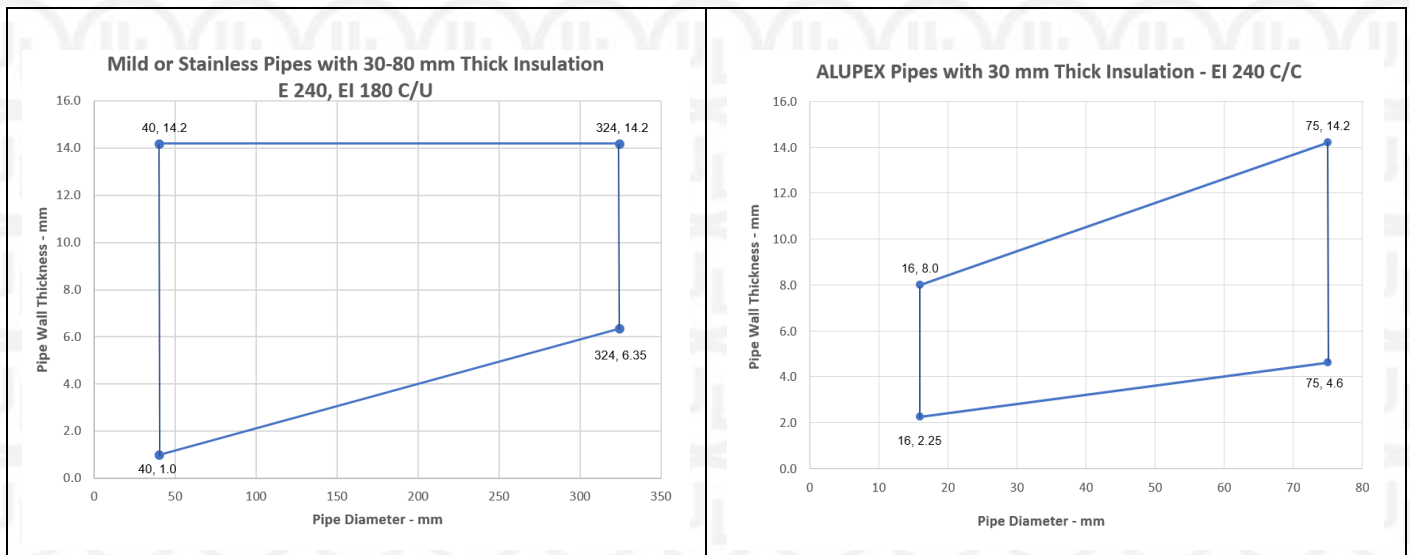
CS = Continuous Sustained

All pipe classifications are pipe end configuration C/U (C=Capped, U=Uncapped) Except Copper or Steel and ALUPEX pipes which are C/C (C=Capped, C=Capped).

Maximum annular space 10 mm (a1) and minimum separation between penetration seals 30 mm (a2).

\* See below graphs for interpolated pipe sizes.

\*\* Seal applied to both sides of the wall





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| Bostik FP 360 Putty Cord: Single Sided** Service Penetration Seals in Floors |                                  |   |                    |                         |     |
|--|----------------------------------|---|--------------------|-------------------------|-----|
| Substrate  | Minimum Substrate Thickness (mm) | Services (fitted at any position within the aperture)             | Sealant Depth (mm) | Fire Resistance (mins.) |     |
|  |                                  |   |                    | E                       | EI  |
| Concrete   | 150                              | None (blank)  | 15                 | 120                     | 30  |
|  |                                  | Cables up to 21 mm diameter in tied bundles up to 50 mm diameter* | 15                 | 120                     | 60  |
|  |                                  | Cables up to 21 mm diameter*                                      | 15                 | 120                     | 120 |
|  |                                  | Cables 22-50 mm diameter*   | 15                 | 120                     | 90  |
|  |                                  | Cables 51-80 mm diameter*   | 15                 | 120                     | 60  |
|  |                                  | Single 'A1' type cable*   | 15                 | 240                     | 240 |
|  |                                  | Single 'C3' type cable*   | 15                 | 240                     | 240 |
|  |                                  | Single 'E' type cable*  | 15                 | 120                     | 120 |
|  |                                  | Single 'D1' type cable*   | 15                 | 120                     | 120 |
|  |                                  | Single 'D2' type cable*   | 15                 | 120                     | 120 |
|  |                                  | Single 'D3' type cable*   | 15                 | 240                     | 60  |

Maximum annular space 10 mm (a1) and minimum separation between penetration seals 30 mm (a2).

\* Cable specification from EN 1366-3 standard cable configuration

\*\* Seal applied to top side of floor, except for blank seals where seal is applied flush with bottom face of floor.



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| Bostik FP 360 Putty Cord: Single Sided** Service Penetration Seals in Floors |                                  |  |                    |                         |     |
|--|----------------------------------|--|--------------------|-------------------------|-----|
| Substrate  | Minimum Substrate Thickness (mm) | Services (fitted at any position within the aperture)            | Sealant Depth (mm) | Fire Resistance (mins.) |     |
|  |                                  |  |                    | E                       | EI  |
| Concrete   | 150                              | None (blank)   | 15                 | 120                     | 120 |
|  |                                  | Cables up to 21 mm diameter in tied bundles up to 75mm diameter# | 15                 | 60                      | 45  |
|  |                                  | Cables up to 21 mm diameter#                                     | 15                 | 120                     | 60  |
|  |                                  | Cables 22-80 mm diameter#  | 15                 | 90                      | 45  |
| Mild or stainless steel pipes  |                                  |  |                    |                         |     |
| Concrete   | 150                              | 4 mm diameter*   | 15                 | 120                     | 120 |
|  |                                  | 5-30 mm diameter*  | 15                 | 120                     | 45  |
| Copper or steel pipes  |                                  |  |                    |                         |     |
| Concrete   | 150                              | 6 mm diameter*   | 15                 | 120                     | 90  |
|  |                                  | 7-12 mm diameter*  | 15                 | 120                     | 30  |

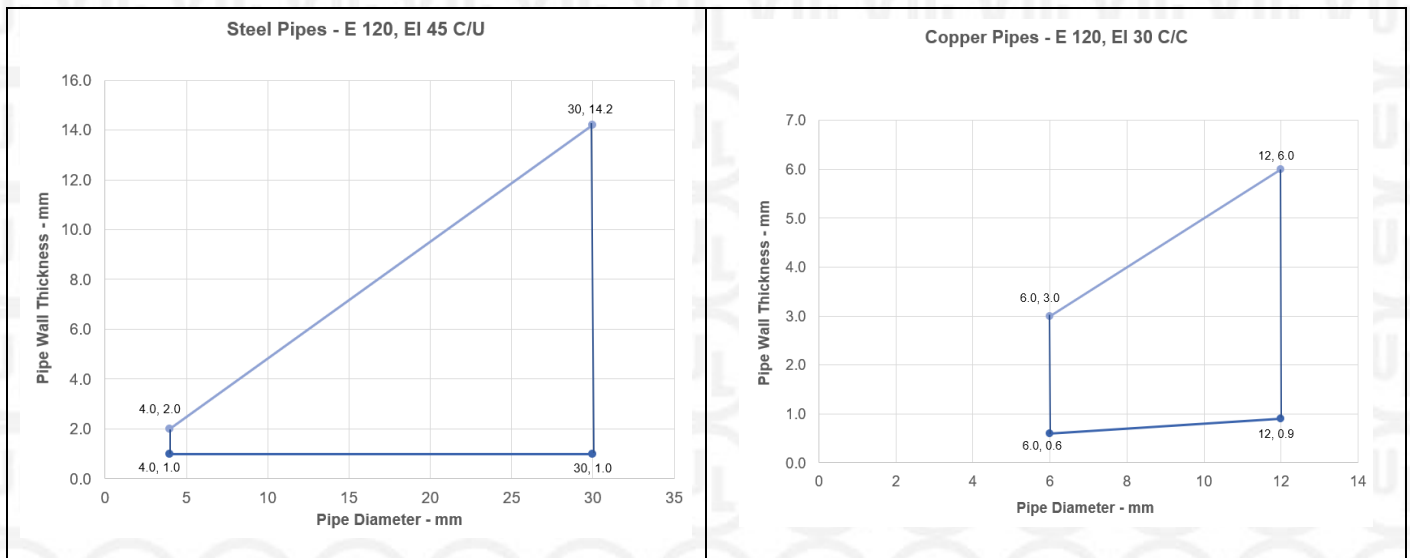
Maximum annular space 10 mm (a1) and minimum separation between penetration seals 30 mm (a2).

# Cable specification from EN 1366-3 standard cable configuration

\* See below graphs for interpolated pipe sizes.

\*\* Seal applied to bottom side of floor, except for blank seals where seal is applied flush with both faces of floor.

All pipe classifications are pipe end configuration C/C (C=Capped, U=Uncapped) Except Mild or Stainless Steel pipes which are C/U (C=Capped, U=Uncapped).



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| Bostik FP 360 Putty Cord: Single Sided* Service Penetration Seals in Floors |                                  |   |                    |                         |     |
|---|----------------------------------|---|--------------------|-------------------------|-----|
| Substrate   | Minimum Substrate Thickness (mm) | Services (fitted at any position within the aperture) | Sealant Depth (mm) | Fire Resistance (mins.) |     |
|   |                                  |   |                    | E                       | EI  |
| Mild or stainless steel pipes   |                                  |   |                    |                         |     |
| Concrete  | 150                              | Maximum 22 mm diameter/1.2-11.0 mm wall#              | 15                 | 120                     | 120 |
|   |                                  | Maximum 324 mm diameter/6.35-14.2 mm wall#            | 15                 | 240                     | 15  |
| Copper or steel pipes   |                                  |   |                    |                         |     |
| Concrete  | 150                              | 6 mm diameter#  | 15                 | 120                     | 120 |
|   |                                  | 7-10 mm diameter#                                     | 15                 | 120                     | 90  |
|   |                                  | Maximum 54 mm diameter/1.2-14.2 mm wall               | 15                 | 120                     | 120 |
| ALUPEX pipes  |                                  |   |                    |                         |     |
| Concrete  | 150                              | 16-20 mm diameter#                                    | 15                 | 120                     | 120 |
|   |                                  | Maximum 75 mm diameter/4.6-14.2 mm wall               | 15                 | 45                      | 30  |

Maximum annular space 10 mm (a1) and minimum separation between penetration seals 30 mm (a2).

\* Seal applied to top side of floor

All pipe classifications are pipe end configuration C/C (C=Capped, C=Capped) Except Mild or Stainless Steel pipes which are C/U (C=Capped, U=Uncapped).

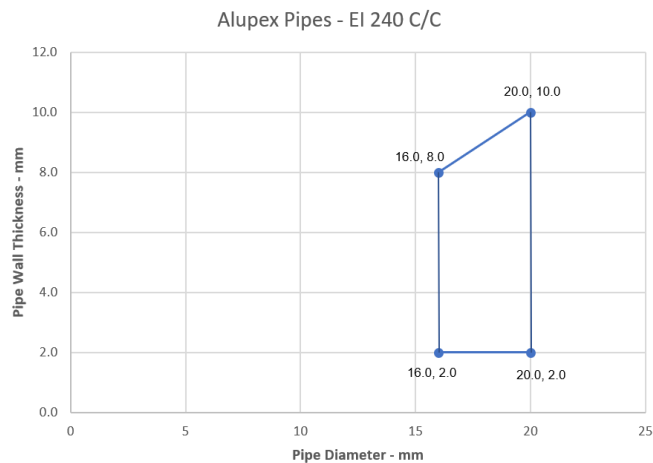
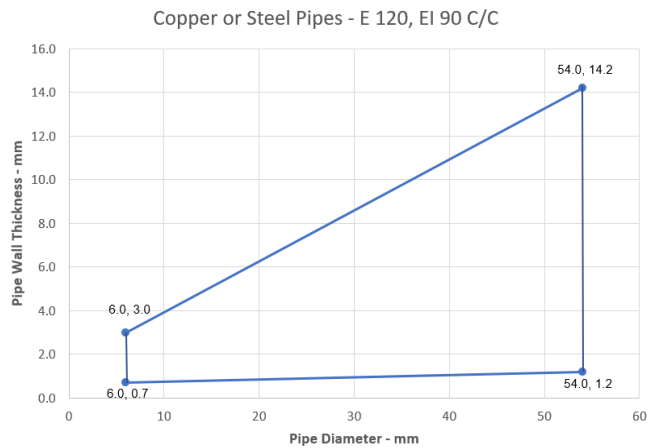
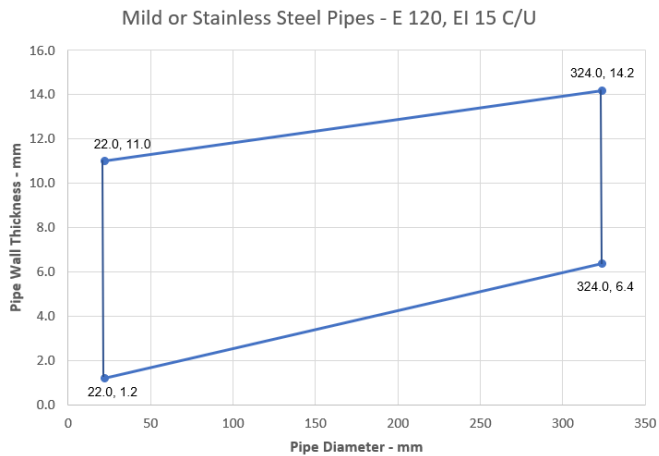
# See below graphs for interpolated pipe sizes.





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| Bostik FP 360 Putty Cord: Single Sided** Service Penetration Seals in Floors         |                                  |   |                    |  |                         |     |
|--|----------------------------------|---|--------------------|--|-------------------------|-----|
| Substrate  | Minimum Substrate Thickness (mm) | Services (fitted at any position within the aperture) | Sealant Depth (mm) | Insulation (LI)  | Fire Resistance (mins.) |     |
|  |                                  |   |                    |  | E                       | EI  |
| Mild or stainless steel pipes, with minimum 80 kg/m³ density mineral wool insulation |                                  |   |                    |  |                         |     |
| Concrete   | 150                              | Maximum 40 mm diameter*                               | 15                 | Minimum 20 mm thick mineral wool 80 kg/m³, 500 mm long butted up to the floor on both faces          | 240                     | 240 |
|  |                                  | 41-324 mm diameter*                                   | 15                 | Minimum 30 mm thick mineral wool 80 kg/m³, 500 mm long butted up to the floor on both faces          | 240                     | 60  |
| ALUPEX pipe with minimum 80 kg/m³ density mineral wool insulation                    |                                  |   |                    |  |                         |     |
| Concrete   | 150                              | Maximum 16 mm diameter/2.25-8.0 mm wall*              | 15                 | Minimum 20 mm thick mineral wool 80 kg/m³, 500 mm long butted up to the wall on both faces           | 240                     | 240 |
|  |                                  | Maximum 75 mm diameter/4.6-14.2 mm wall*              | 15                 | Minimum 30 mm thick mineral wool 80 kg/m³, 500 mm long butted up to the floor on both faces          | 240                     | 240 |
| Copper or steel pipe with minimum 75 kg/m³ density glass or mineral wool insulation  |                                  |   |                    |  |                         |     |
| Concrete   | 150                              | Maximum 12 mm diameter/0.7-14.2 mm wall*              | 15                 | Minimum 20 mm thick glass or mineral wool 75 kg/m³, 500 mm long butted up to the floor on both faces | 240                     | 240 |
|  |                                  | Maximum 54 mm diameter/1.2-14.2 mm wall*              | 15                 |  | 180                     | 120 |

LI = Local Interrupted

All pipe classifications are pipe end configuration C/U (C=Capped, U=Uncapped) Except Copper or Steel and ALUPEX pipes which are C/C (C=Capped, C=Capped).

Maximum annular space 10 mm (a1) and minimum separation between penetration seals 30 mm (a2).

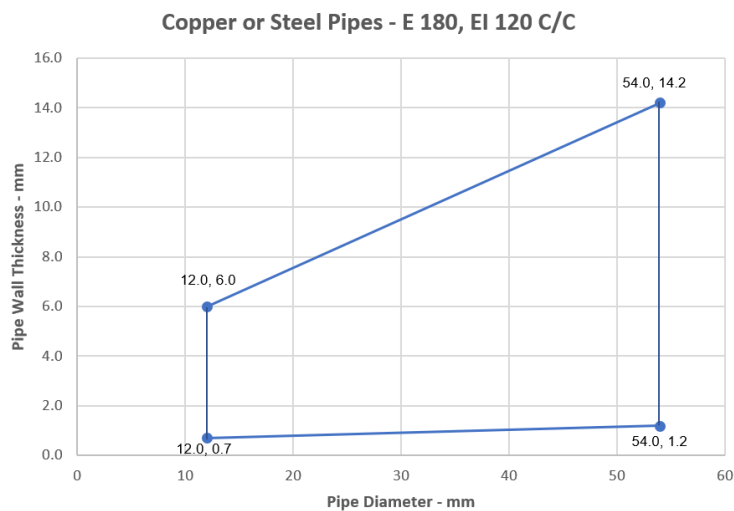
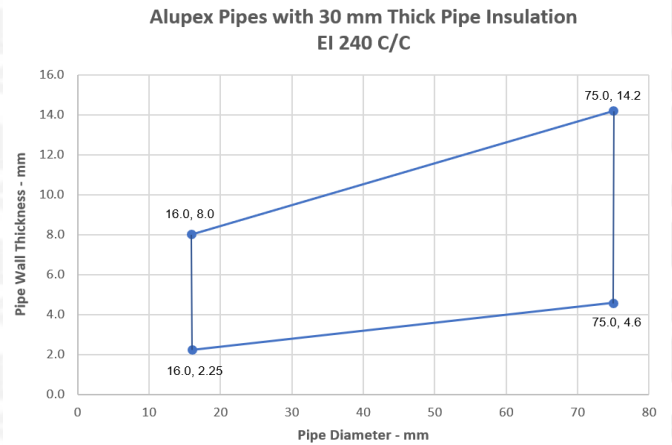
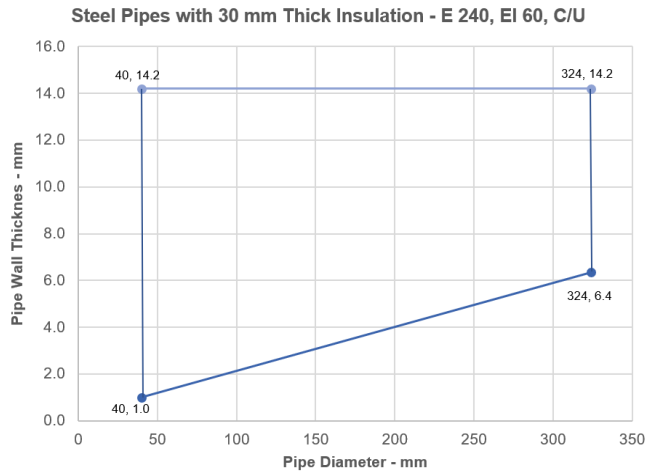
\*See below graphs for interpolated pipe sizes.

\*\* Seal applied to top side of the floor



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# Appendix UL-EU CERTIFICATE

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| Bostik FP 360 Putty Cord: Single Sided** Service Penetration Seals in Floors         |                                  |   |                    |   |                         |     |
|--|----------------------------------|---|--------------------|---|-------------------------|-----|
| Substrate  | Minimum Substrate Thickness (mm) | Services (fitted at any position within the aperture) | Sealant Depth (mm) | Insulation (CS)                           | Fire Resistance (mins.) |     |
|  |                                  |   |                    |   | E                       | EI  |
| Mild or stainless steel pipes, with minimum 80 kg/m³ density mineral wool insulation |                                  |   |                    |   |                         |     |
| Concrete   | 150                              | Maximum 40 mm diameter/1.0-14.2 mm wall               | 15                 | Minimum 20 mm thick mineral wool 80 kg/m³ | 240                     | 240 |
|  |                                  | Maximum 324 mm diameter*                              | 15                 | 30-80 mm thick mineral wool 80 kg/m³      | 240                     | 240 |
| Copper or steel pipe, with minimum 80 kg/m³ density mineral wool insulation          |                                  |   |                    |   |                         |     |
| Concrete   | 150                              | Maximum 12 mm diameter/0.7-6.0 mm wall                | 15                 | Minimum 20 mm thick mineral wool 80 kg/m³ | 240                     | 240 |
|  |                                  | Maximum 54 mm diameter/1.2-14.2 mm wall,              | 15                 | 30-80 mm thick mineral wool 80 kg/m³      | 240                     | 240 |
| ALUPEX pipe with minimum 80 kg/m³ density mineral wool insulation                    |                                  |   |                    |   |                         |     |
| Concrete   | 150                              | Maximum 16 mm diameter/2.25-8.0 mm wall*              | 15                 | Minimum 20 mm thick mineral wool 80 kg/m³ | 240                     | 240 |
|  |                                  | Maximum 75 mm diameter/4.6-14.2 mm wall*              | 15                 | 30-80 mm thick mineral wool 80 kg/m³      | 240                     | 240 |

CS = Continuous Sustained

All pipe classifications are pipe end configuration C/U (C=Capped, U=Uncapped) Except Copper or Steel and ALUPEX pipes which are C/C (C=Capped, C=Capped).

Maximum annular space 10 mm (a1) and minimum separation between penetration seals 30 mm (a2).

\*See below graphs for interpolated pipe sizes.

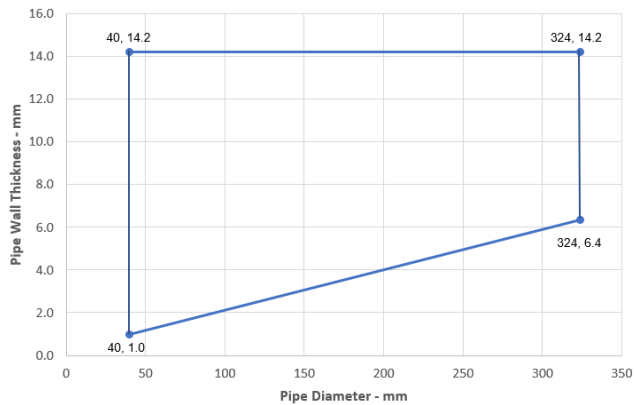
\*\* Seal applied to top side of the floor



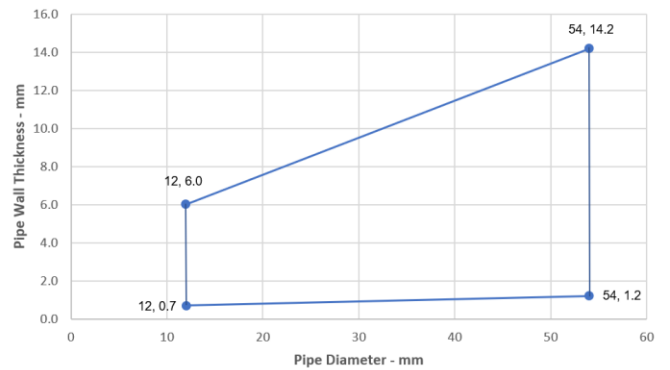
# Appendix UL-EU CERTIFICATE

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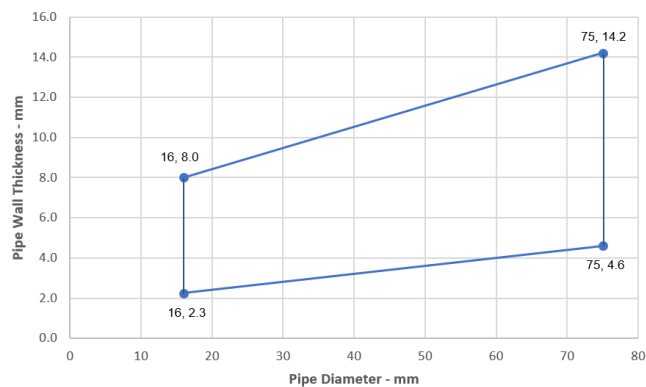
Steel Pipes with 30-80 mm Thick Insulation - EI 240 C/U



Copper or Steel Pipes with 30-80 mm Thick Insulation  
EI 240 C/C



Alupex Pipes with 30-80 mm Thick Insulation  
EI 240 C/C



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| Bostik FP 360 Putty Cord: Single Sided** Service Penetration Seals in Floors          |                                  |   |                    |   |                         |     |
|---|----------------------------------|---|--------------------|---|-------------------------|-----|
| Substrate   | Minimum Substrate Thickness (mm) | Services (fitted at any position within the aperture) | Sealant Depth (mm) | Insulation (CS)                                     | Fire Resistance (mins.) |     |
|   |                                  |   |                    |   | E                       | EI  |
| Copper or steel pipe, with minimum 75 kg/m <sup>3</sup> density glass wool insulation |                                  |   |                    |   |                         |     |
| Concrete  | 150                              | Maximum 12 mm diameter/0.7-6.0 mm wall*               | 15                 | Minimum 20 mm thick glass wool 75 kg/m <sup>3</sup> | 240                     | 90  |
|   |                                  | Maximum 54 mm diameter/1.2-14.2 mm wall*              | 15                 | 20-40 mm thick glass wool 75 kg/m <sup>3</sup>      | 90                      | 90  |
| ALUPEX pipe with minimum 75 kg/m <sup>3</sup> density glass wool insulation           |                                  |   |                    |   |                         |     |
| Concrete  | 150                              | Maximum 16 mm diameter/2.25-8.0 mm wall*              | 15                 | Minimum 20 mm thick glass wool 75 kg/m <sup>3</sup> | 120                     | 120 |
|   |                                  | Maximum 75 mm diameter/4.6-14.2 mm wall*              | 15                 | 20-50 mm thick glass wool 75 kg/m <sup>3</sup>      | 120                     | 120 |

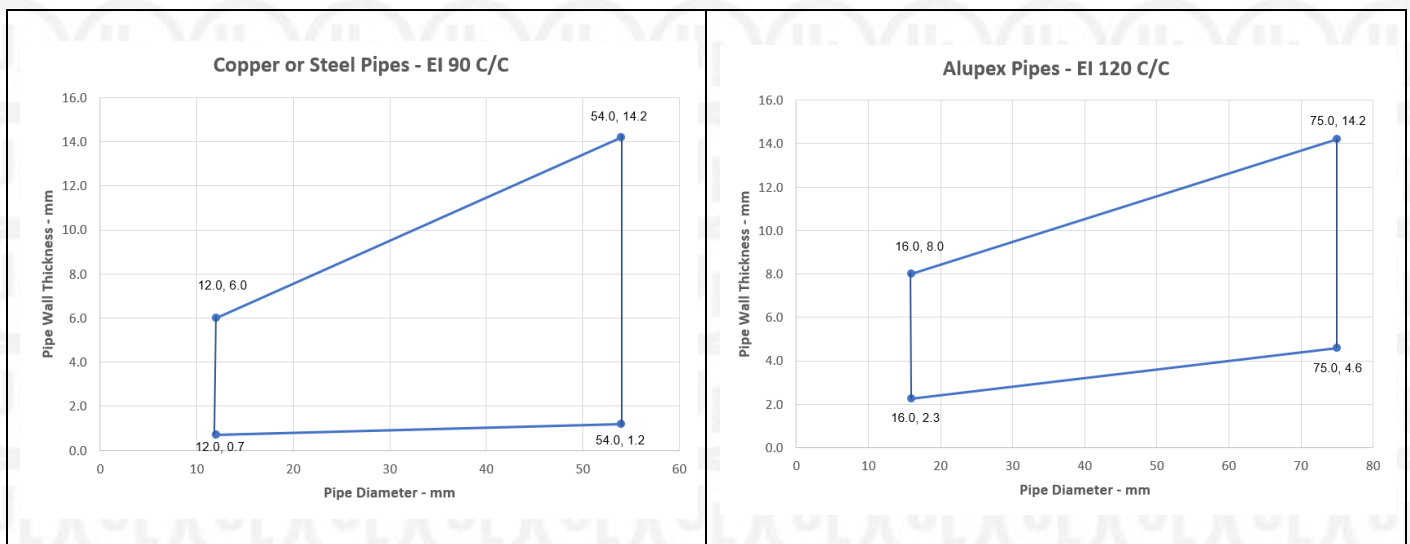
CS = Continuous Sustained

All pipe classifications are pipe end configuration C/C (C=Capped, C=Capped).

Maximum annular space 10 mm (a1) and minimum separation between penetration seals 30 mm (a2).

\*See below graphs for interpolated pipe sizes.

\*\* Seal applied to top side of the floor



# Appendix UL-EU CERTIFICATE

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| Bostik FP 360 Putty Cord: Double Sided** Service Penetration Seals in Floors |                                  |  |                    |                         |     |
|--|----------------------------------|--|--------------------|-------------------------|-----|
| Substrate  | Minimum Substrate Thickness (mm) | Services (fitted at any position within the aperture)          | Sealant Depth (mm) | Fire Resistance (mins.) |     |
|  |                                  |  |                    | E                       | EI  |
| Concrete   | 150                              | Cables up to 21 mm diameter, in a bundle up to 50 mm diameter* | 15                 | 240                     | 240 |
| Copper or steel pipes  |                                  |  |                    |                         |     |
| Concrete   | 150                              | Maximum 10 mm diameter/0.7-14.2 mm wall                        | 15                 | 240                     | 180 |

All pipe classifications are pipe end configuration C/C (C=Capped, C=Capped).

Maximum annular space 10 mm (a1) and minimum separation between penetration seals 30 mm (a2).

\* Cable specification from EN 1366-3 standard cable configuration

\*\* Seal applied to both sides of the floor



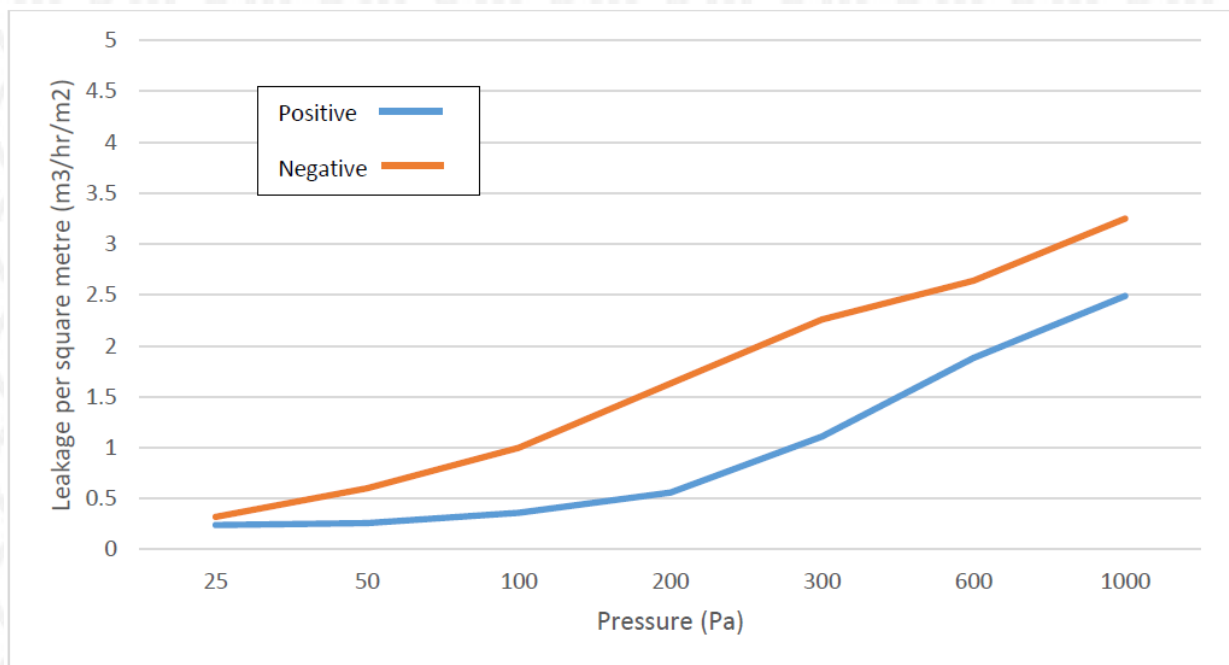


# Appendix UL-EU CERTIFICATE

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## Bostik FP 360 Putty Cord: Air permeability performance according to BS EN 1026: 2016

| Product tested                          | Bostik FP 360 Putty Cord around 48mm electrical cable in 58mm hole |                             |   |
|---|--|-----------------------------|---|
|   | Summary of testing procedure                                       |                             | Result                                      |
|   | Pressure (Pa)  | Leakage (m <sup>3</sup> /h) | Leakage (m <sup>3</sup> /m <sup>2</sup> /h) |
| Results under negative chamber pressure | 25   | 0.32                        | N/A   |
|   | 50   | 0.60                        | N/A   |
|   | 100  | 1.00                        | N/A   |
|   | 200  | 1.63                        | N/A   |
|   | 300  | 2.26                        | N/A   |
|   | 600  | 2.64                        | N/A   |
|   | 1000   | 3.25                        | N/A   |
| Results under positive chamber pressure | 25   | 0.24                        | N/A   |
|   | 50   | 0.26                        | N/A   |
|   | 100  | 0.36                        | N/A   |
|   | 200  | 0.56                        | N/A   |
|   | 300  | 1.11                        | N/A   |
|   | 600  | 1.88                        | N/A   |
|   | 1000   | 2.49                        | N/A   |



# Appendix UL-EU Certificate

|                           |                   |
|---------------------------|-------------------|
| <b>Certification Mark</b> | <b>UL-EU mark</b> |
| <b>Certificate No.</b>    | UL-EU-01139-CPR   |
| <b>Page</b>               | 23/23             |
| <b>Date of Issue</b>      | 2020-04-29        |

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