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Authorised and notified
according to Article 29 of the
Regulation (EU)
No 305/2011 of the European
Parliament and of the Council
of 9 March 2011

MEMBER OF EOTA



European Technical Assessment ETA-20/1321 of 2021/01/01

I General Part

Technical Assessment Body issuing the ETA and designated according to Article 29 of the Regulation (EU) No 305/2011: ETA-Danmark A/S

Trade name of the construction product:

MULCOL® MULTIDISC

Product family to which the above construction product belongs:

Fire Stopping and Sealing Product:
• Penetration Seals

Manufacturer:

Mulcol International BV
Arnesteinweg 18
4338 PD Middelburg
The Netherlands

Manufacturing plant:

L/001

This European Technical Assessment contains:

49 pages including 2 annexes which form an integral part of the document

This European Technical Assessment is issued in accordance with Regulation (EU) No 305/2011, on the basis of:

EAD 350454-00-1104 for Fire stopping and fire sealing products - Penetration seals

This version replaces:

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I. SPECIFIC PARTS OF THE EUROPEAN TECHNICAL ASSESSMENT

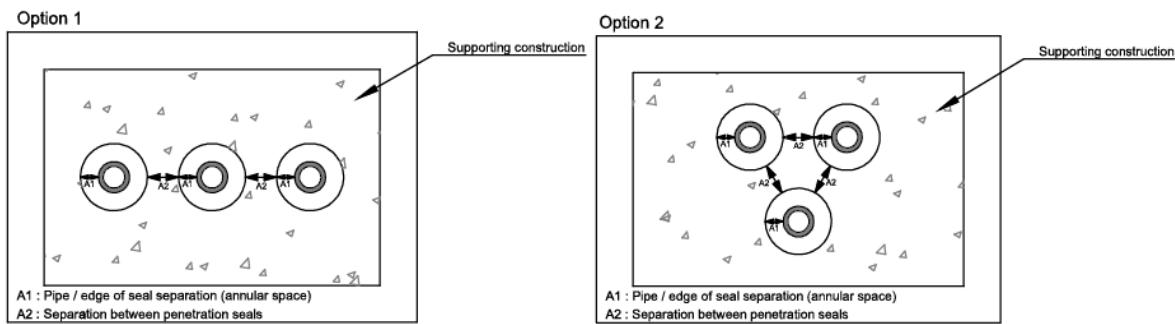
1 Technical description of the product

- 1) Mulcol® Multidisc is a surface mounted self-adhesive intumescent disc device used to form penetration seals where plastic pipes, aluminium composite pipes and cables penetrate walls and floors.
- 2) The Mulcol® Multidisc is supplied in boxes of 65 mm diameter x 3 mm disks, to be used single or in combination depending upon services.
- 3) Services penetrating the Mulcol® Multidisc are required to be supported at maximum 450 mm from both faces of walls and from the top face of floors.
- 4) The permitted separation between apertures and annular spaces for the services/seals are indicated in Annex A and B.

The following minimum distances between the apertures edges and between the pipes shall be applied (distance A₁ to A₂ according to Figure E.1 of EN 1366-3:2009):

- distance A₁ = 0 mm;
- distance A₂ = 20 mm;

Visualisation of annular space and separation between penetration seals



- 5) The following products are used in conjunction with Mulcol® Multidisc to form the penetration seal:
 - Mulcol® Multimastic FB1;
 - Mulcol® Multisealant A;
 - Mulcol® Multimastic SP;
 - Mulcol® Multimastic C;
 - Mulcol® Multimortar
- 6) Pipe materials referred to in Annex A and B are as follows:

Generic Material	Specific Material	Standards
Plastic	PVC-U	DIN 8061 / DIN 8062 / DIN 19531-10 / EN 1329-1 / EN 1452-1 / EN 1453-1 / EN ISO 15493
	PVC-C	
Aluminium Composite	Aluminium and PE	EN ISO 15494

- 7) The applicant has submitted a written declaration that the product and/or constituents of the product contains no substances which have been classified as dangerous according to Directive 67/548/EEC and Regulation (EC) No. 1272/2008 and listed in the 'indicative list on dangerous substances' of the EGDS – taking into account the installation conditions of the construction product and the release scenarios resulting from there.

In addition to the specific clauses relating to dangerous substances contained in this European Technical Assessment, there may be other requirements applicable to the products falling within its scope (e.g. transposed European legislation and national laws, regulations and administrative provisions). In order to meet the provisions of the Construction Products Regulation, these requirements need also to be complied with, when and where they apply.

- 8) The use category of Mulcol® Multidisc in relation to BWR 3 (Hygiene, health and environment) is IA1, S/W3

2 Specification of the intended uses of the product in accordance with the applicable European Assessment Document (Hereinafter EAD): EAD 350454-00-1104

Detailed information and data is given in Annex A and B.

The intended use of system Mulcol® Multidisc is to reinstate the fire resistance performance of flexible wall and rigid wall and floor constructions, where they are penetrated by services.

1) The specific elements of construction that the system Mulcol® Multidisc may be used to provide a penetration seal in, are as follows:

Flexible walls: The wall must have a minimum thickness of 100 mm and comprise steel studs lined on both faces with minimum 2 layers of 12.5 mm thick boards.

Rigid walls: The wall must have a minimum thickness of 100 mm and comprise concrete, aerated concrete or masonry, with a minimum density of $600 \pm 200 \text{ kg/m}^3$, class G4/600 or heavier.

Rigid floors: The floor must have a minimum thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of $600 \pm 200 \text{ kg/m}^3$, class G4/600 or heavier.

The supporting construction must be classified in accordance with EN 13501-2 for the required fire resistance period.

2) General conditions – Flexible wall

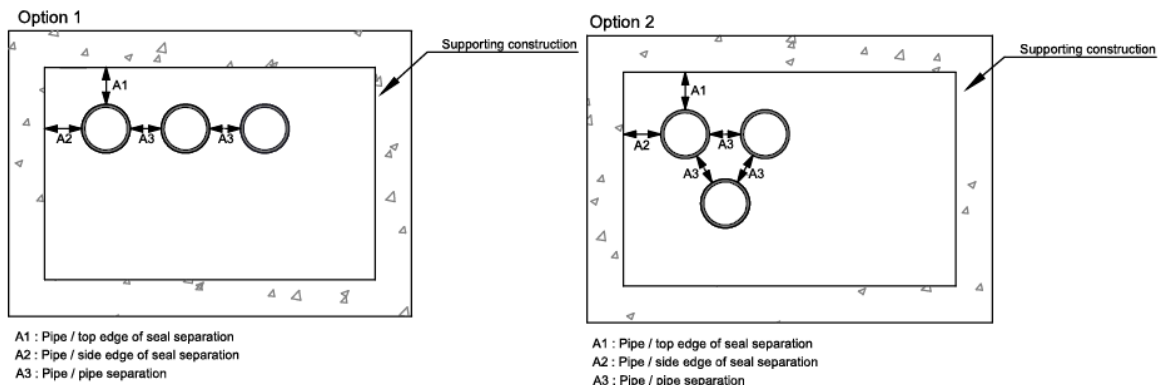
The pipe penetrations can be applied in any type of insulated or non insulated flexible all construction (partition) provided that the following conditions are met. The total thickness of the flexible wall (for example walls with wooden or steel framing) shall be at least 100 mm. The wall shall consist out of in total four board layers with a thickness of 12.5 mm each. A minimum distance of 100 mm to a stud shall be held. When wooden studs are used, at least 100 mm of insulation class A1 or A2 according to EN 13501-2 shall be present between the penetration seal and the stud(s).

3) General conditions – Mixed Penetration Seals – Multiple Mulcol® Multidisc devices with the same or different services, may be incorporated in coated firestop board system Mulcol® Multimastic FB1 subject to the conditions specified in Annex A. The performance of the seal is restricted to the contained service/Mulcol® Multidisc device with the lowest classification, as given in Annex A and B.

In the Mulcol® Multimastic FB1 system the following minimum distances between the apertures edges and between the pipes shall be applied (distance A₁ to A₃ according to Figure E.1 of EN 1366-3: 2009, See Figure 2):

- distance A₁ = 10 mm;
- distance A₂ = 10 mm;
- distance A₃ = 20 mm.

Figure 2 Figure E.1 of EN 1366-3: 2009



- 4) The system Mulcol® Multidisc may be used to provide a penetration seal with specific supporting constructions and substrates (for details see Annex A & B).
- 5) The provisions made in this European Technical Assessment are based on an assumed working life of the Mulcol® Multidisc of 30 years, provided that the conditions laid down in the manufacturers datasheet and instructions for the packaging/transport/storage/installation/ use/repair are met. The indications given on the working life cannot be interpreted as a guarantee given by the producer or the Technical Assessment Body, but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.
- 6) Type Z₁: intended for use at internal conditions with high humidity, excluding temperatures below 0°C.
- 7) General Conditions – The maximum aperture for the penetration seal should not exceed Ø 26 mm. The annular gap between the pipe and the wall or floor does not have to be filled. Optionally it can be filled with rock wool of at least 35 kg/m³, Mulcol® Multimortar, Mulcol® Multisealant A or Mulcol® Multimastic SP.
- 8) General Conditions – Installation in coated firestop board system – Mulcol® Multimastic FB1 (2x50 mm)

The aperture size in the floor may be up to 1200 mm wide and 2400 mm long and the wall may be up to 2400 mm wide and 1200 mm high. The Mulcol® Multimastic FB1 board system has a total thickness of 100 mm (2 x 50 mm) with a coating Mulcol® Multimastic C. The coating is applied with a thickness 1 mm on the outwards pointing faces of each panel (no coating between the boards). The coating shall also be applied circumferential over the opening of the rock wool with the adjacent construction (overlap minimal 25 mm). The joints between the different board elements and the aperture edge shall be glued together with Mulcol® Multimastic SP. A cavity between the rock wool panels may be present.

For further information regarding the placing instructions and the field of application of the Mulcol® Multimastic FB1 (2 x 50 mm) penetration seal system reference is made to the European Technical Assessment ETA 16/0985 dated January 25, 2017 or ETA 16/0563 dated August 23, 2016.

The system Mulcol® Multidisc may be used to provide a penetration seal with specific supporting constructions and substrates (for details see Annex A and B).

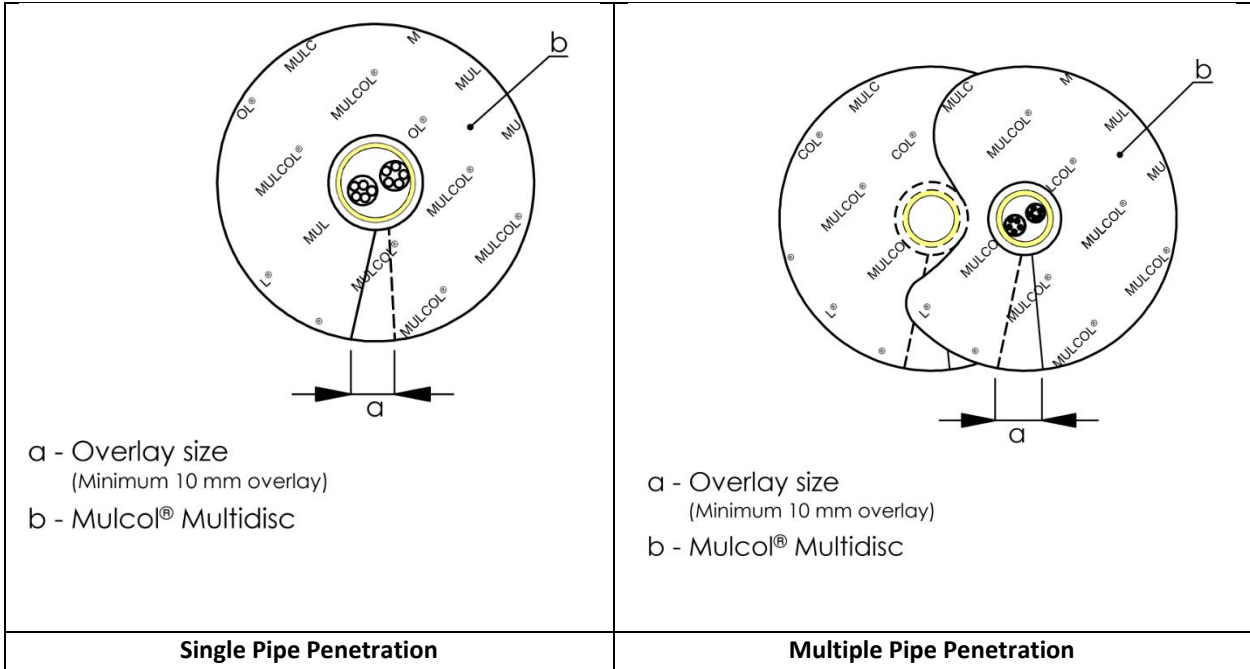
- 9) Pipe types

The follow aluminium composite pipe types are allowed:

- Alpex DUO, Valsir Pexal, Valsir Mixal and APE Plain (PE-Xb/AL/PE-Xb);
- Uponor and Geberit Mepla (PE-RT/AL/PE-RT);
- Uponor and Henco (PE-Xc/AL/PE-Xc);
- Uponor and REHAU (PE-Xa) and REHAU (PE-Xc);
- SP Superpipe and POLYGON PEX (PE-X/AL/PE-X);
- Valsir Pexal and Valsir Mixal (PE/AL/PE-Xb);
- Wavin Tigris, Protecta-Line System and Alpex F50 Profi (PE-X/AL/PE).

10) General conditions for Multidisc installation

The Multidisc shall be over the aperture and around the services making sure that the sealing side overlaps.



3 Performance of the product and references to the methods used for its assessment

Product Type: Pipe closure		Intended use: Penetration Seal
	Essential characteristic	Product performance
BWR 2 Safety in case of fire		
	Reaction to fire	Class 'E'
	Resistance to fire	Annex A
BWR 3 Hygiene, health and environment		
	Air permeability	No performance assessed
	Water permeability	No performance assessed
	Content, emission and/or release of dangerous substances	Use categories: IA1, S/W3 Declaration of manufacturer
BWR 4 Safety in use		
	Mechanical resistance and stability	No performance assessed
	Resistance to impact/movement	
	Adhesion	
	Durability	Z ₁
BWR 5 Protection against noise		
	Airborne sound insulation	No performance assessed
BWR 6 Energy economy and heat retention		
	Thermal properties	No performance assessed
	Water vapour permeability	No performance assessed

4 ASSESSMENT AND VERIFICATION OF CONSTANCY OF PERFORMANCE (HEREINAFTER AVCP) SYSTEM APPLIED, WITH REFERENCE TO ITS LEGAL BASE

According to the decision 1999/454/EC – Commission Decision of date 22nd June 1999 on the procedure for attesting the conformity of construction products pursuant to Article 20(2) of Council Directive 89/106/EEC as regards fire stopping, fire sealing and fire protective products, published in the Official Journal of the European Union (OJEU) L178/52 of 14/07/1999, see <http://eur-lex.europa.eu/JOIndex.do> of the European Commission¹, as amended, the system(s) of assessment and verification of constancy of performance (see Annex V to Regulation (EU) No 305/2011) given in the following table(s) applies (apply).

Product(s)	Intended use(s)	Level(s) or class(es)	System(s)
Fire stopping and Fire Sealing Products	For fire compartmentation and/or fire protection or fire performance	Any	1

5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited at ETA-Danmark A/S prior to CE marking

Issued in Copenhagen on 2021-01-01 by



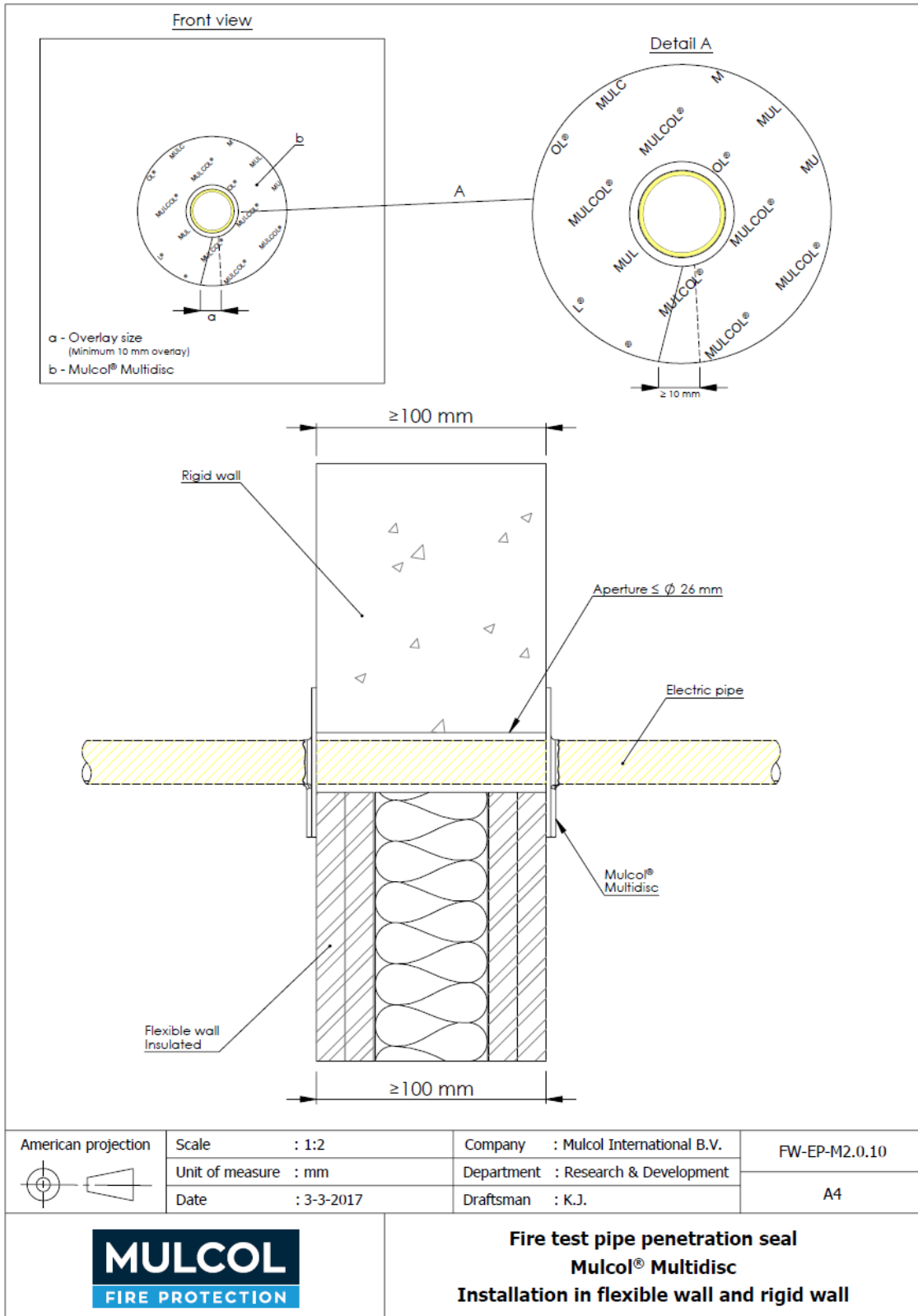
Thomas Bruun

Managing Director, ETA-Danmark

ANNEX A – Resistance to Fire Classification – Mulcol® Multidisc - Flexible or rigid wall constructions according to Section 2 1) with wall thickness of minimum 100 mm

A.1 Mulcol® Multidisc with PVC-ET conduits

A.1.1 Single PVC-ET conduits, with one Mulcol® Multidisc to both sides of the wall



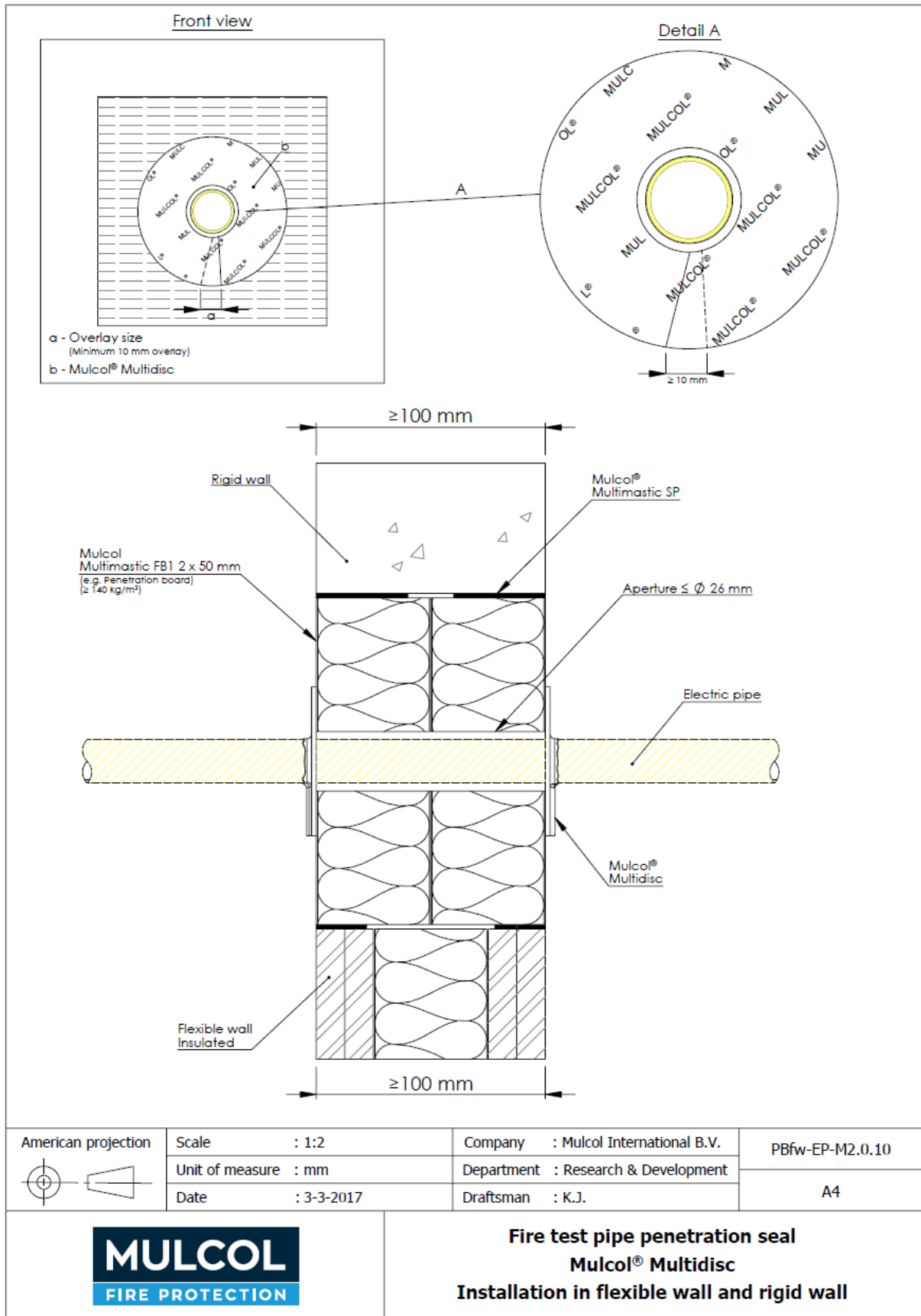
Pipe/conduit material	Outer diameter pipe (inch or mm)	Distance A ₂ (mm)	Classification*
PVC-ET	≤ 3/4"	≤ 20 mm (according to Section I.1.4)	EI 120 U/U
	≤ 25 mm		

* U/U pipe end configuration applies to C/U, U/C and C/C also

Permitted telecommunication cables		One sheathed cable allowed for each pipe*			Empty pipe
UPT Cat. 5	UPT Cat. 6	YMKV 3 x 2.5 mm ²	YMKV 5 x 1.5 mm ²	YMKV 5 x 2.5 mm ²	
Yes	Yes	Yes	Yes	Yes	Yes

* Electric cable, Copper content ≤ 12,5 mm²

A.1.2 Single PVC-ET conduits, with one Mulcol® Multidisc to both sides of Mulcol® Multimastic FB1 system in wall



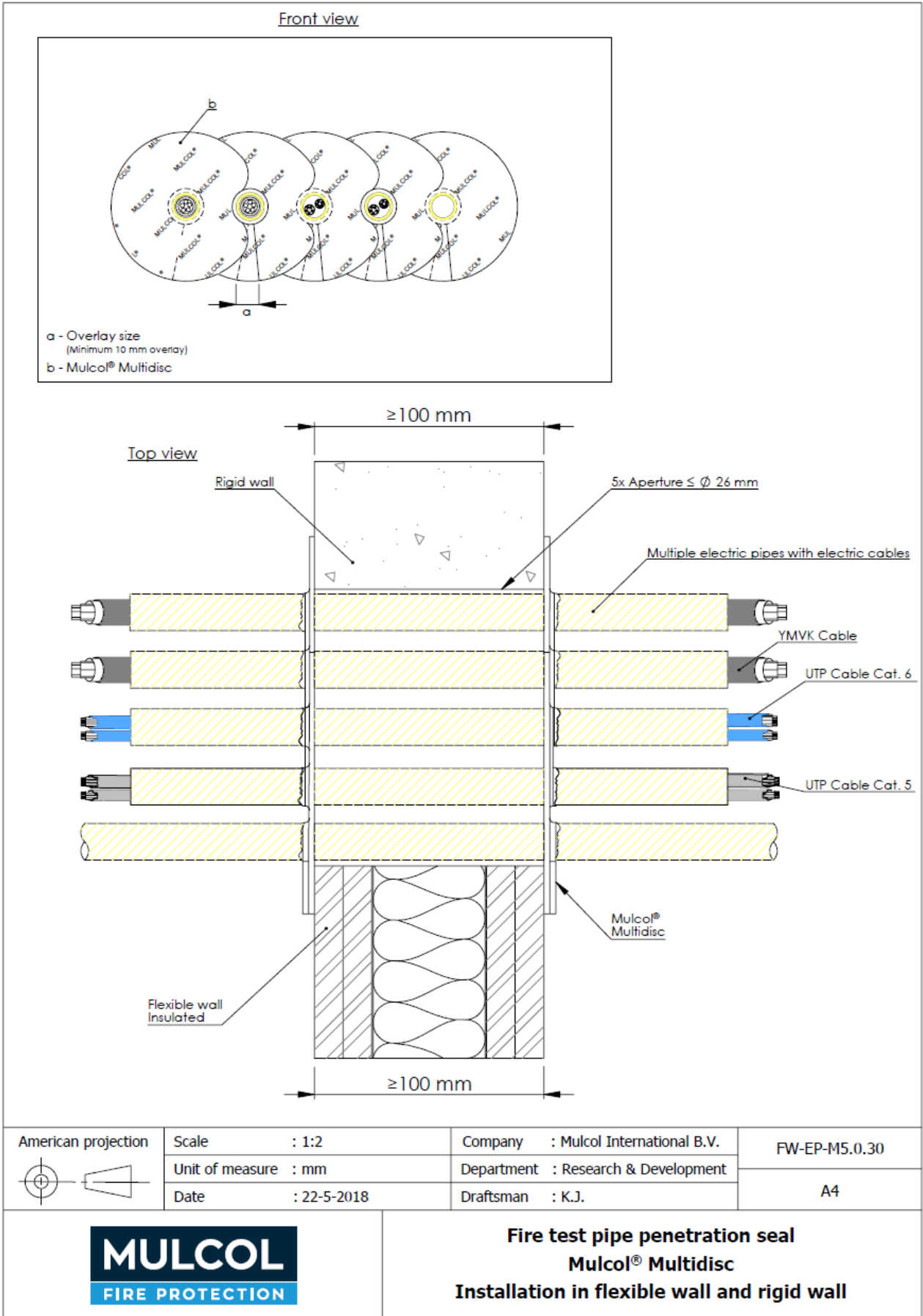
Pipe/conduit material	Outer diameter pipe (inch or mm)	Distance A ₂ (mm)	Classification*
PVC-ET	≤ 3/4"	≤ 20 mm (see fig.2 according to Section I.2.3)	E 120 U/U EI 90 U/U
	≤ 25 mm		

* U/U pipe end configuration applies to C/U, U/C and C/C also

Permitted telecommunication cables		One sheathed cable allowed for each pipe*			Empty pipe
UPT Cat. 5	UPT Cat. 6	YMKV 3 x 2.5 mm ²	YMKV 5 x 1.5 mm ²	YMKV 5 x 2.5 mm ²	
Yes	Yes	Yes	Yes	Yes	Yes

* Electric cable, Copper content ≤ 12,5 mm²

A.1.3 Multiple PVC-ET conduits, with Mulcol® Multidiscs to both sides of the wall



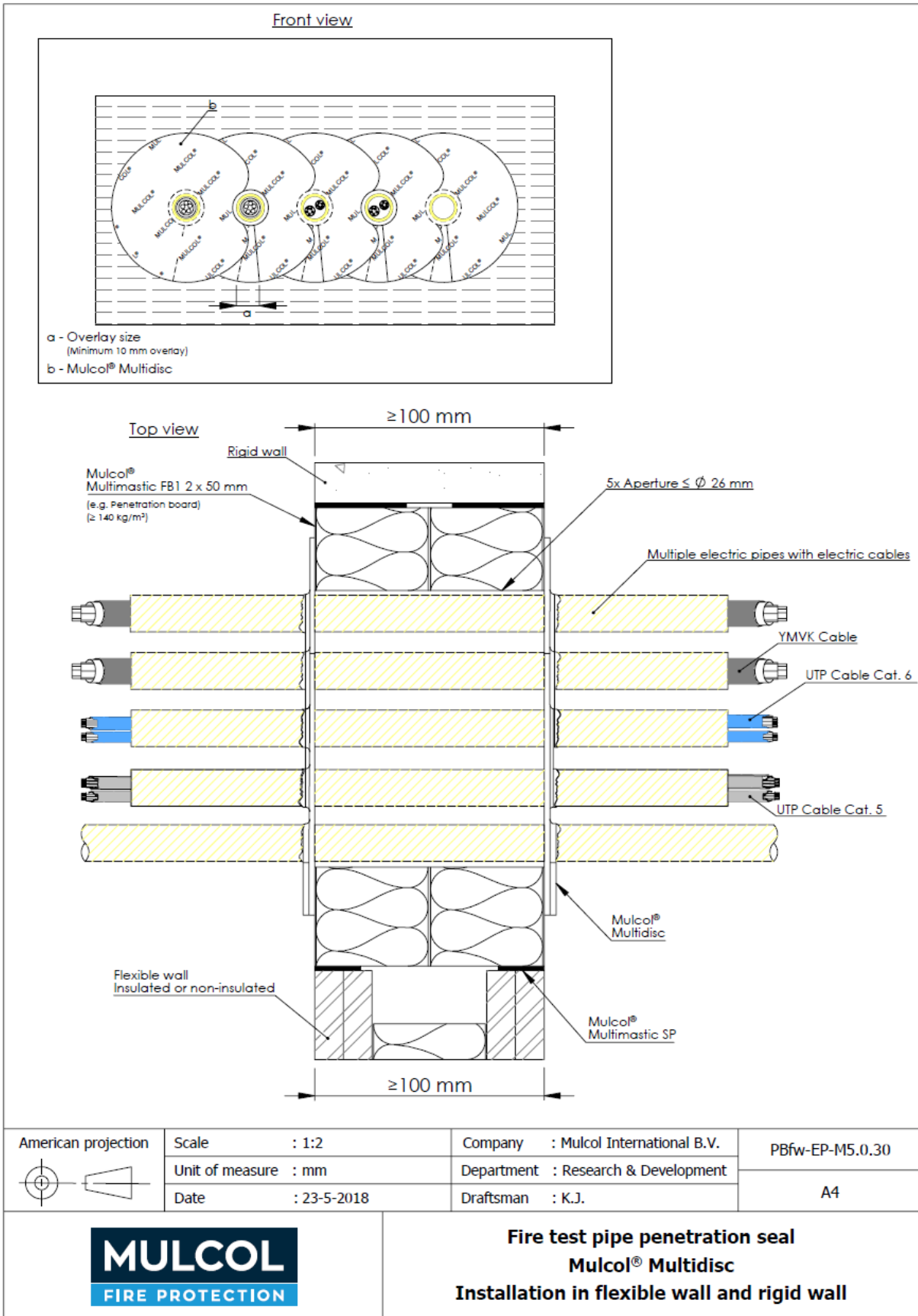
Pipe/conduit material	Outer diameter pipe	Distance A ₂ (mm)	Classification*
PVC-ET	≤ 5/8"	≤ 20 mm (according to Section I.1.4)	E 120 U/U EI 90 U/U

* U/U pipe end configuration applies to C/U, U/C and C/C also

Permitted telecommunication cables		One sheathed cable allowed for each pipe*			Empty pipe
UPT Cat. 5	UPT Cat. 6	YMKV 3 x 2.5 mm ²	YMKV 5 x 1.5 mm ²	YMKV 5 x 2.5 mm ²	
Yes	Yes	Yes	Yes	Yes	Yes

* Electric cable, Copper content ≤ 12,5 mm²

A.1.4 Multiple PVC-ET conduits, with Mulcol® Multidiscs to both sides of Mulcol® Multimastic FB1 system in the wall



Pipe/conduit material	Outer diameter pipe	Distance A ₃ (mm)	Classification*
PVC-ET	≤ 5/8"	≤ 20 mm (see fig.2 according to Section I.2.3)	E 120 U/U EI 90 U/U

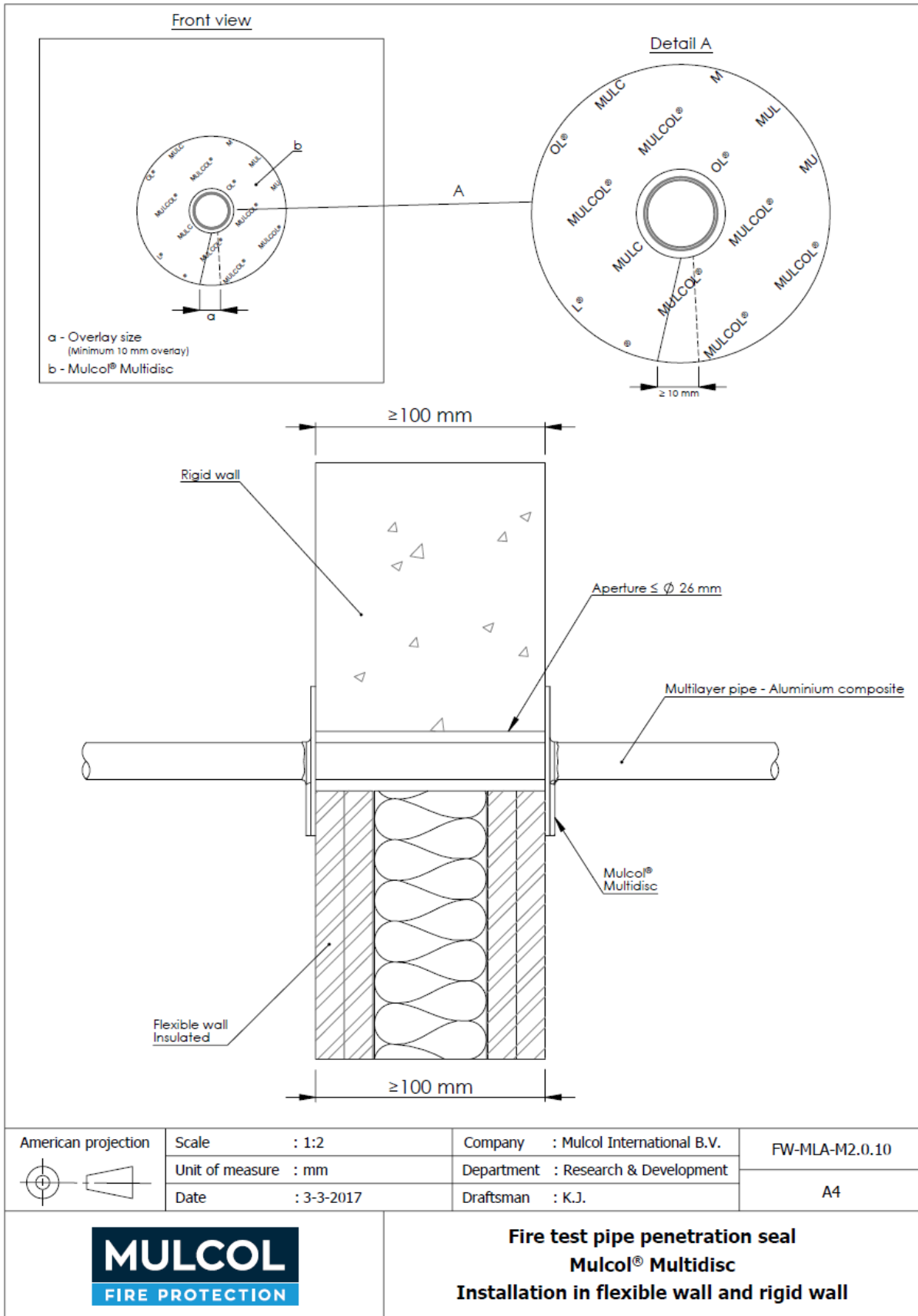
* U/U pipe end configuration applies to C/U, U/C and C/C also

Permitted telecommunication cables		One sheathed cable allowed for each pipe*			Empty pipe
UPT Cat. 5	UPT Cat. 6	YMKV 3 x 2.5 mm ²	YMKV 5 x 1.5 mm ²	YMKV 5 x 2.5 mm ²	
Yes	Yes	Yes	Yes	Yes	Yes

* Electric cable, Copper content ≤ 12,5 mm²

A.2 Mulcol® Multidisc with Aluminium composite pipes

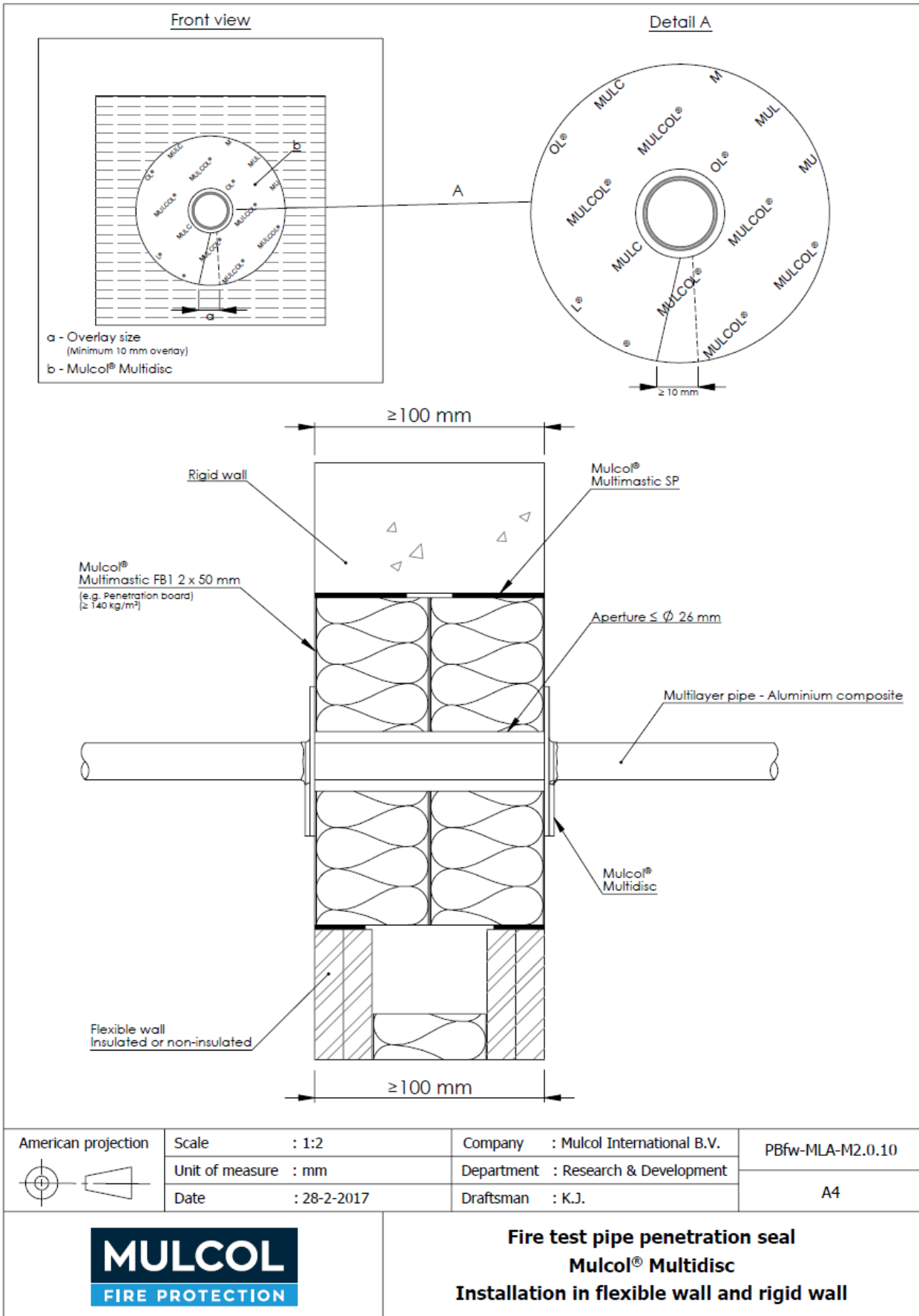
A.2.1 Single Aluminium composite pipes, with Mulcol® Multidisc to both sides of the wall



Pipe material	Pipe diameter (mm)	Pipe wall (mm)	Distance A₂ (mm)	Classification*
Aluminium composite	≤ 16	2.0	≤ 20 mm (according to Section I.1.4)	E 120 U/C EI 90 U/C

* U/C pipe end configuration applies to C/C also

A.2.2 Single Aluminium composite pipes, with Mulcol® Multidisc to both sides of Mulcol® Multimastic FB1 system in the wall

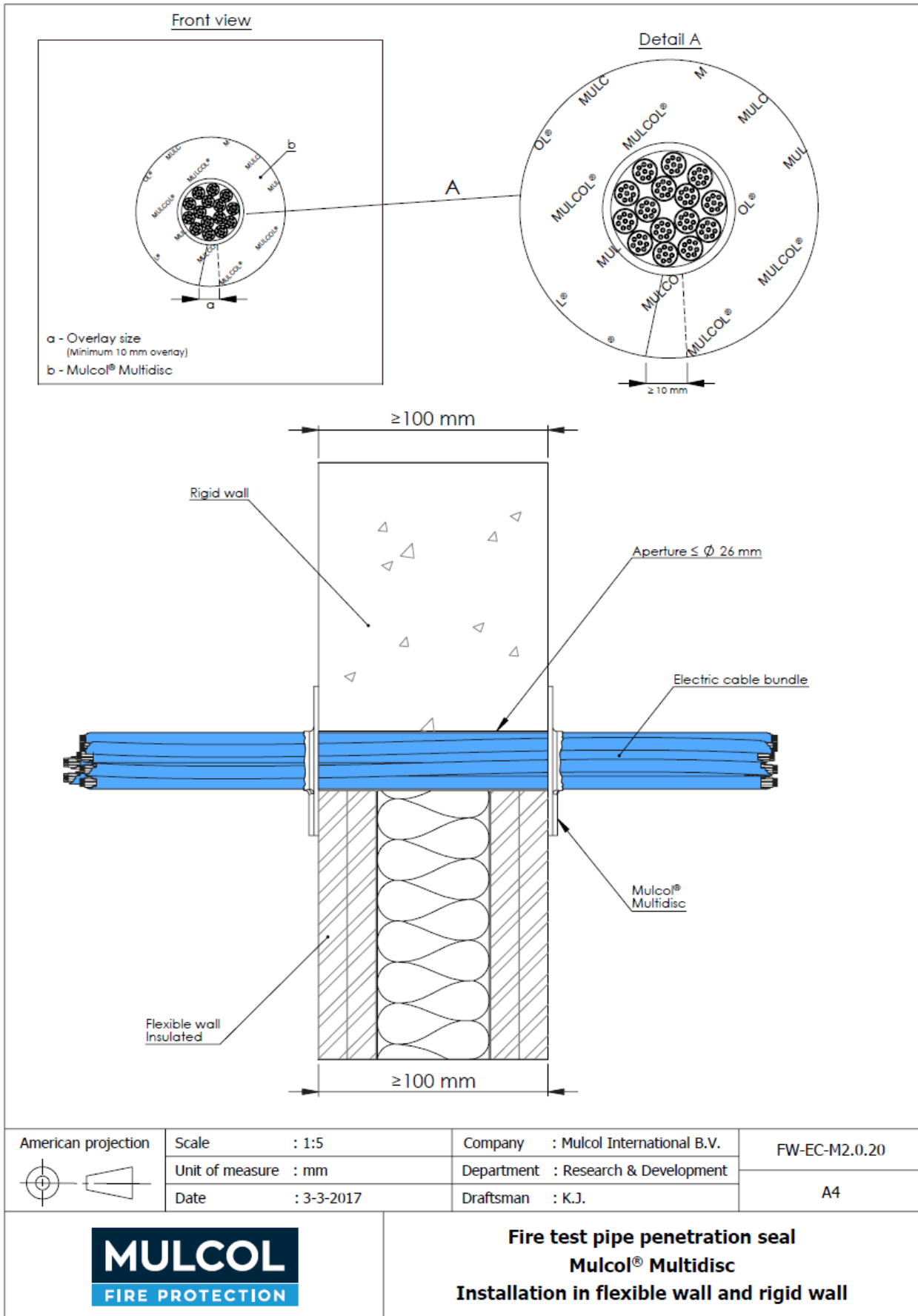


Pipe material	Pipe diameter (mm)	Pipe wall (mm)	Distance A₃ (mm)	Classification*
Aluminium composite	≤ 16	2.0	≤ 20 mm (see fig. 2 according to Section I.2.3)	E 120 U/C EI 90 U/C

* U/C pipe end configuration applies to C/C also

A.3 Mulcol® Multidisc with cables

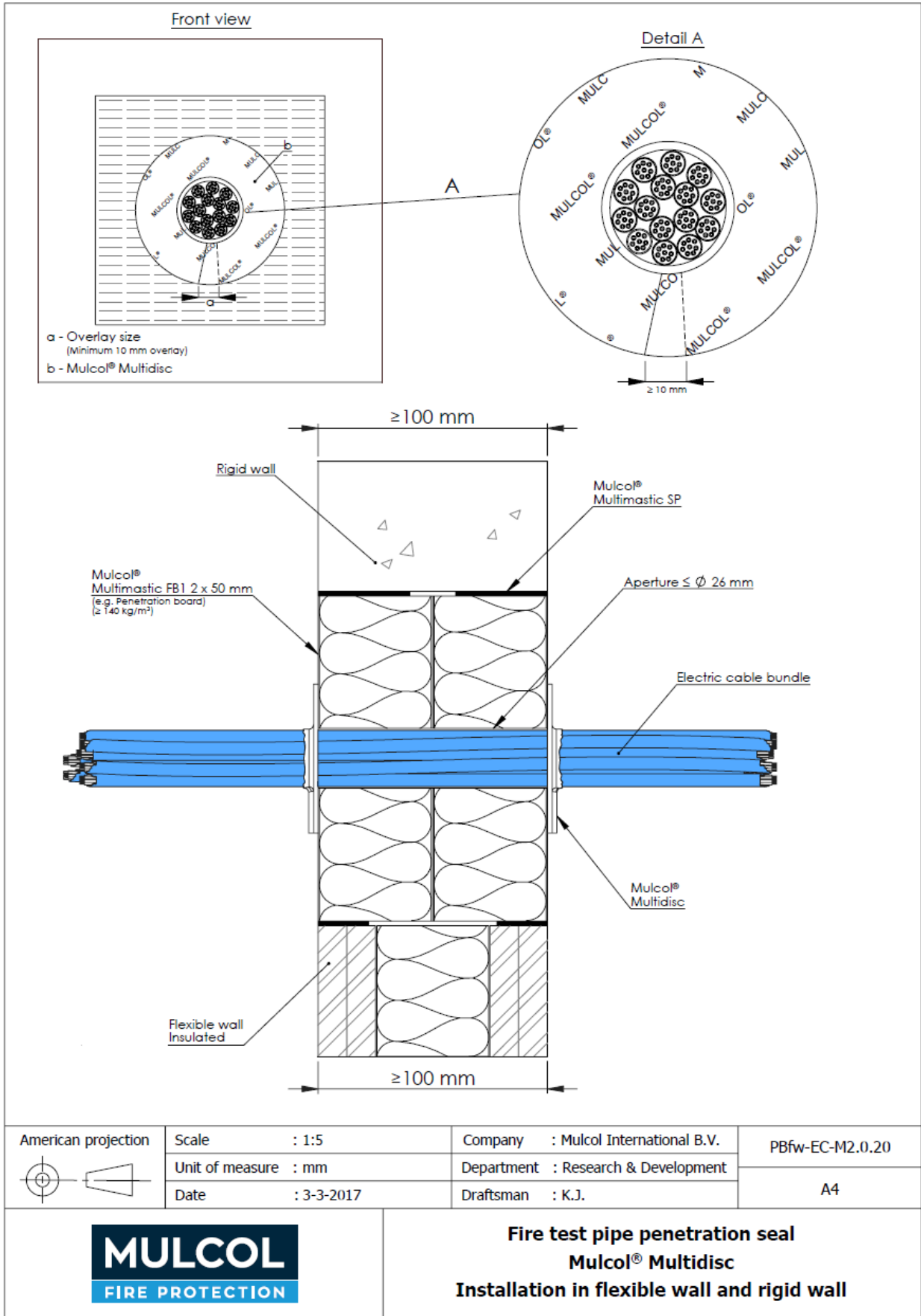
A.3.1 Multiple cables, with Mulcol® Multidisc to both sides of the wall



Cable		Number of cables allowed*	Distance A ₂ (mm)	Performance class
Generic type	Type			
Telecommunication cable	UTP Cat. 5 and/or UTP Cat. 6	≤ 15	≤ 20 mm (according to Section I.1.4)	EI 120

* Electric cable bundle, Copper content ≤ 60 mm²

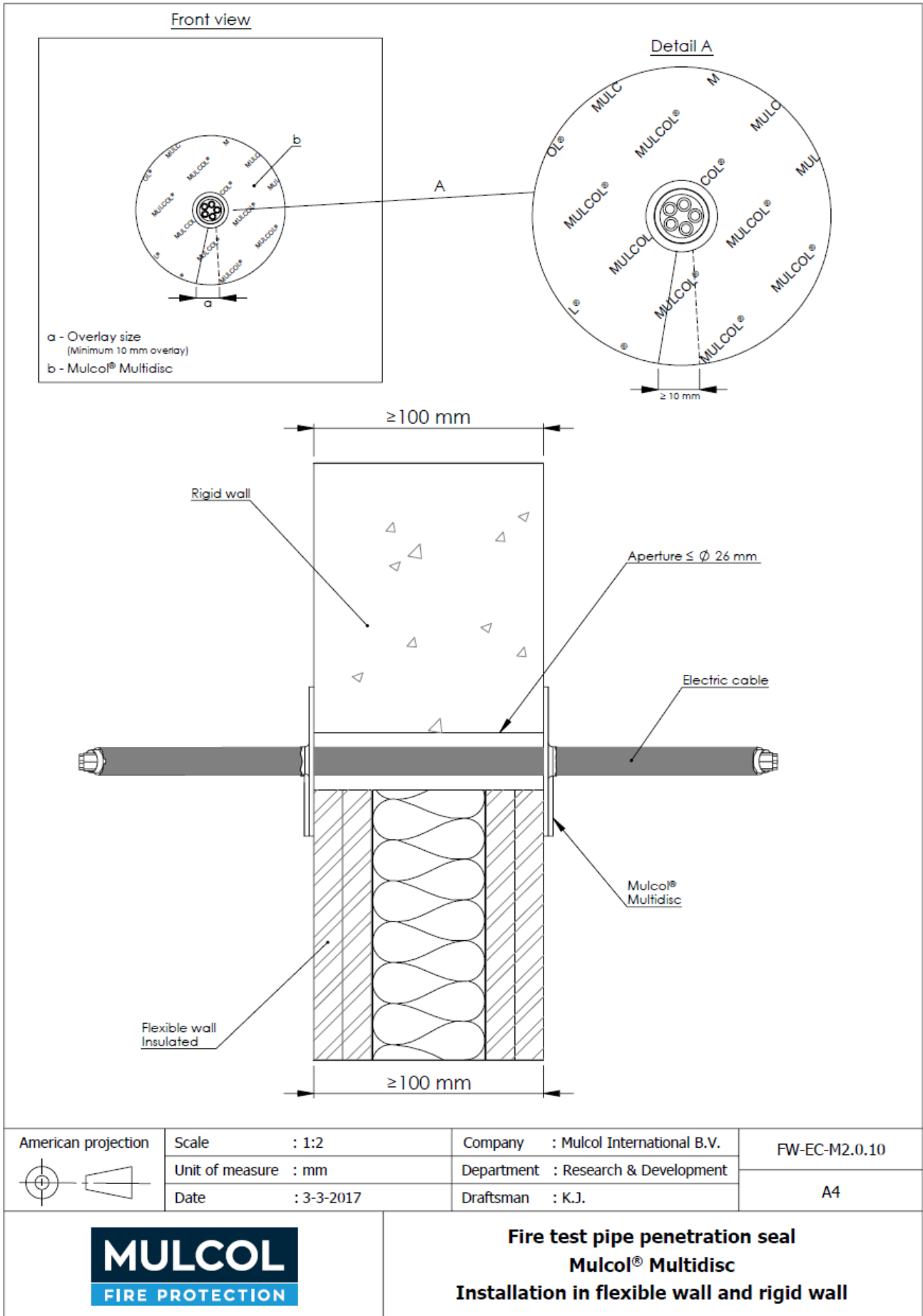
A.3.2 Multiple cables, with Mulcol® Multidisc to both sides of Mulcol® Multimastic FB1 system in the wall



Cable		Number of cables allowed*	Distance A ₃ (mm)	Performance class
Generic type	Type			
Telecommunication cable	UTP Cat. 5 and/or UTP Cat. 6	≤ 15	≤ 20 mm (see fig. 2 according to Section I.1.4)	E 120 EI 60

* Electric cable bundle, Copper content ≤ 60 mm²

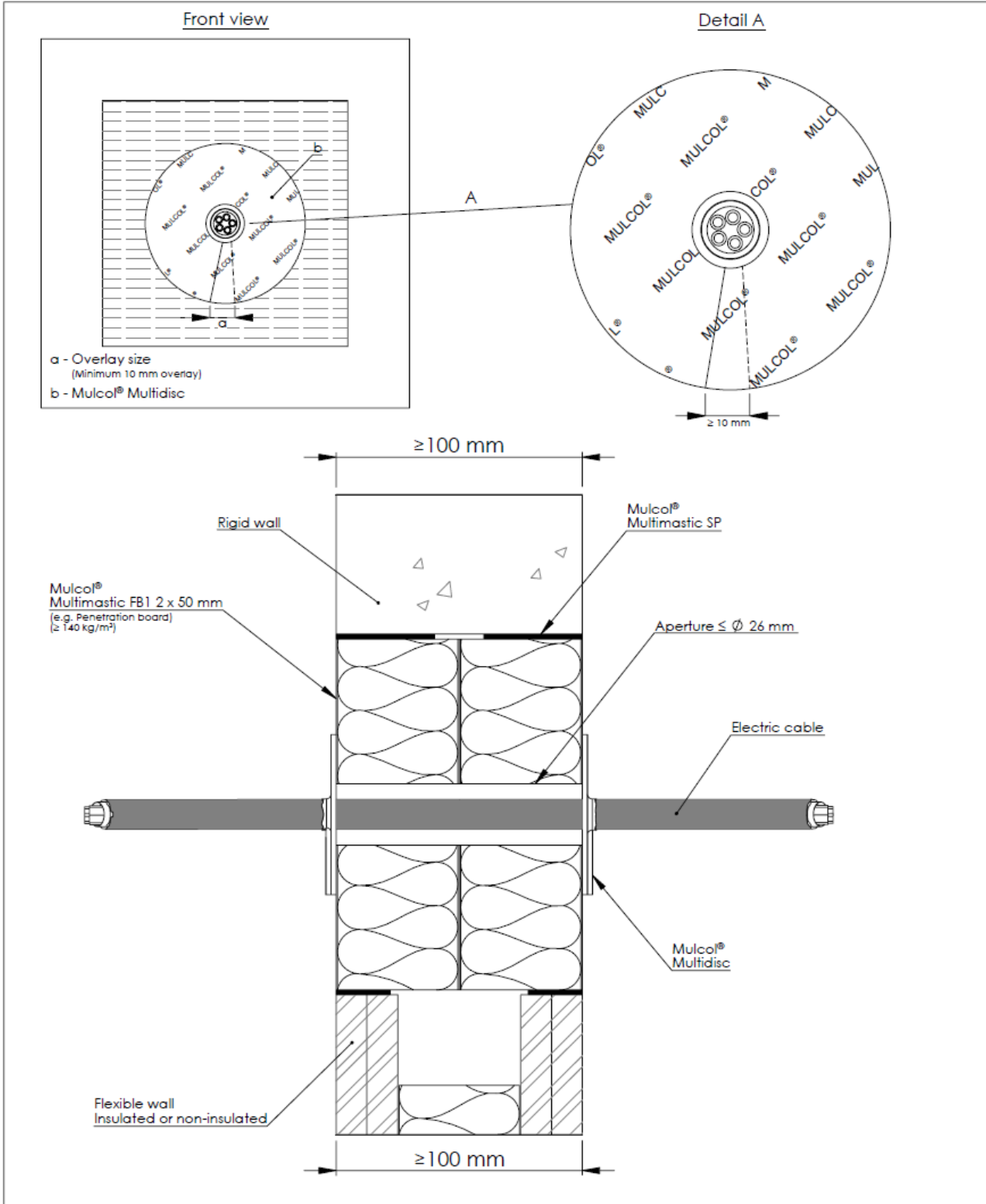
A.3.3 Single cables, with Mulcol® Multidisc to both sides of the wall



Cable		Number of cables allowed*	Distance A ₂ (mm)	Performance class
Generic type	Type			
Sheathed cable	YMKV 3 x 2.5 mm ² or YMKV 5 x 1.5 mm ² or YMKV 5 x 2.5 mm ²	1	≤ 20 mm (according to Section I.1.4)	EI 120

* Electric cable, Copper content ≤ 12,5 mm²

A.3.4 Single cables, with Mulcol® Multidisc to both sides of Mulcol® Multimastic FB1 system in the wall



American projection 	Scale : 1:2	Company : Mulcol International B.V.	PBfw-EC-M2.0.10
	Unit of measure : mm	Department : Research & Development	
	Date : 27-2-2017	Draftsman : K.J.	A4



Fire test pipe penetration seal
Mulcol® Multidisc
Installation in flexible wall and rigid wall

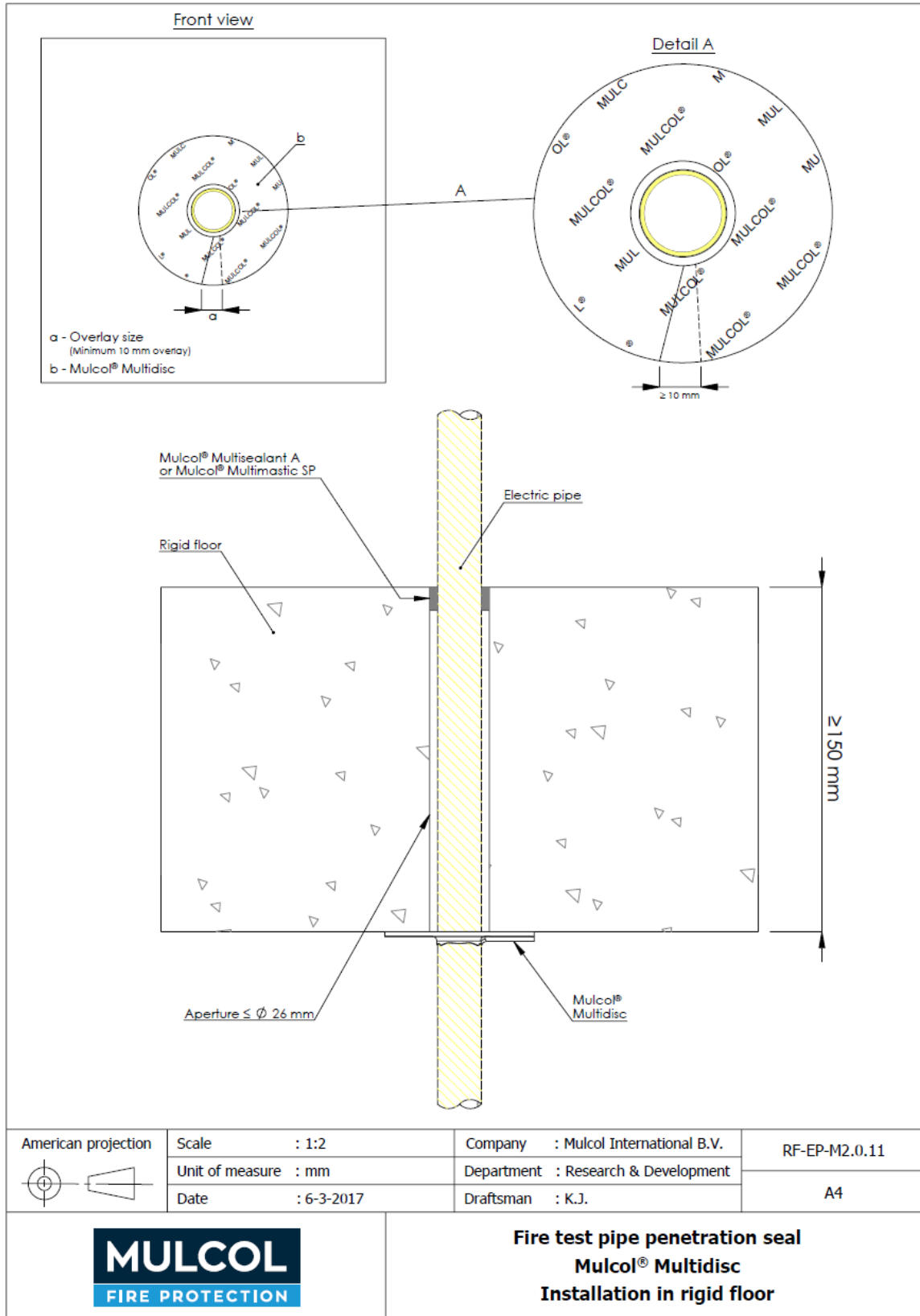
Cable		Number of cables allowed*	Distance A ₃ (mm)	Performance class
Generic type	Type			
Sheathed cable	YMKV 3 x 2.5 mm ² or YMKV 5 x 1.5 mm ² or YMKV 5 x 2.5 mm ²	1	≤ 20 mm (see fig. 2 according to Section I.2.3)	EI 90

* Electric cable, Copper content ≤ 12,5 mm²

Annex B - Resistance to Fire Classification – Mulcol® Multidisc - Rigid floor constructions according to Section 2 1) with floor thickness of minimum 150 mm

B.1 Mulcol® Multidisc with PVC-ET conduits

B.1.1 Single PVC-ET conduits, with one Mulcol® Multidisc the underside of the floor



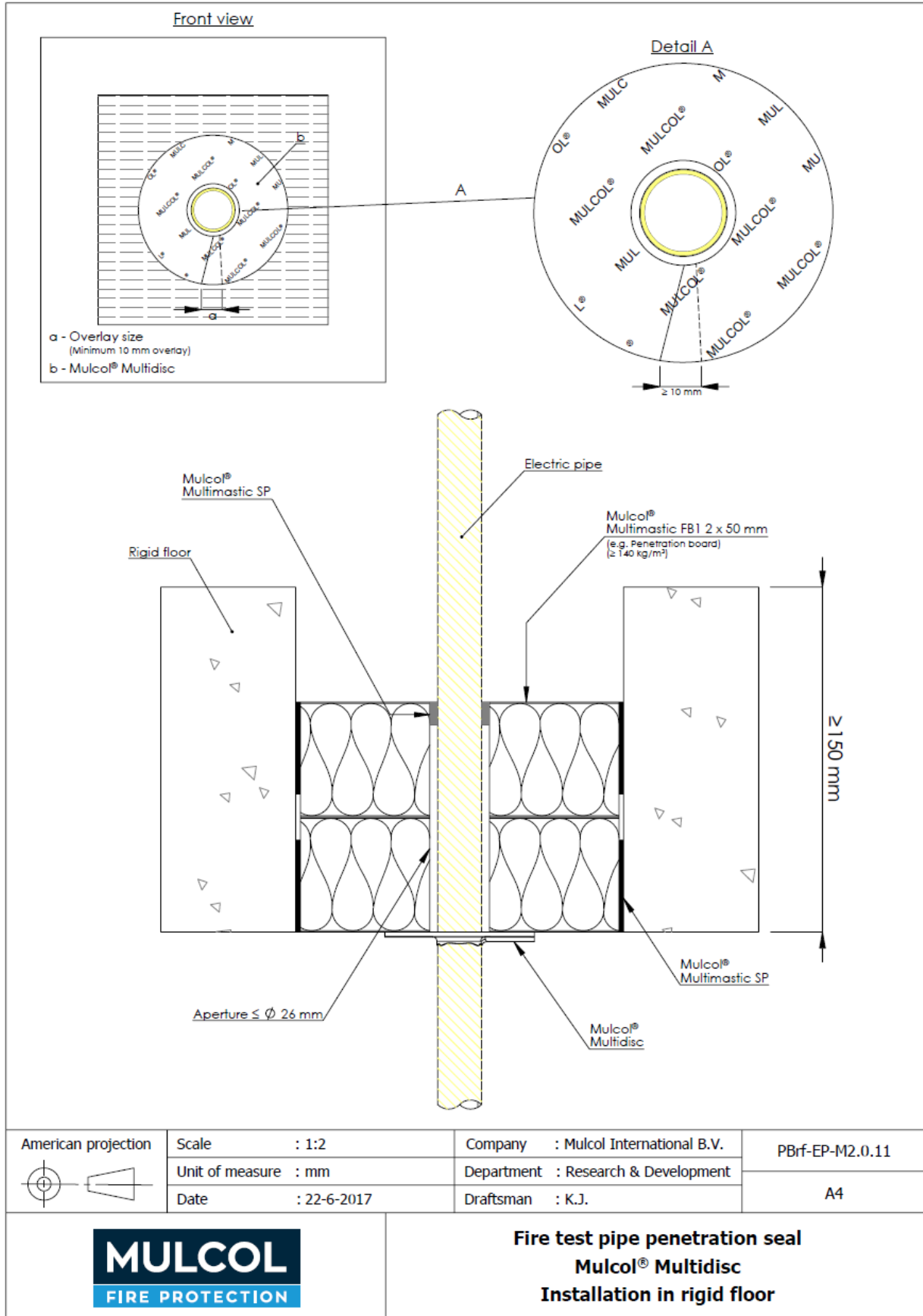
Pipe/conduit material	Outer diameter pipe (inch or mm)	Distance A ₂ (mm)	Classification*
PVC-ET	≤ 3/4"	≤ 20 mm (according to Section I.1.4)	EI 120 U/U
	≤ 25 mm		

* U/U pipe end configuration applies to C/U, U/C and C/C also

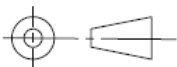
Permitted telecommunication cables		One sheathed cable allowed for each pipe*			Empty pipe
UPT Cat. 5	UPT Cat. 6	YMKV 3 x 2.5 mm ²	YMKV 5 x 1.5 mm ²	YMKV 5 x 2.5 mm ²	
Yes	Yes	Yes	Yes	Yes	Yes

* Electric cable, Copper content ≤ 12,5 mm²

B.1.2 Single PVC-ET conduits, with one Mulcol® Multidisc to the underside of Mulcol® Multimastic FB1 system in wall



American projection



Scale : 1:2

Unit of measure : mm

Date : 22-6-2017

Company : Mulcol International B.V.

Department : Research & Development

Draftsman : K.J.

PBrf-EP-M2.0.11

A4



Fire test pipe penetration seal
Mulcol® Multidisc
Installation in rigid floor

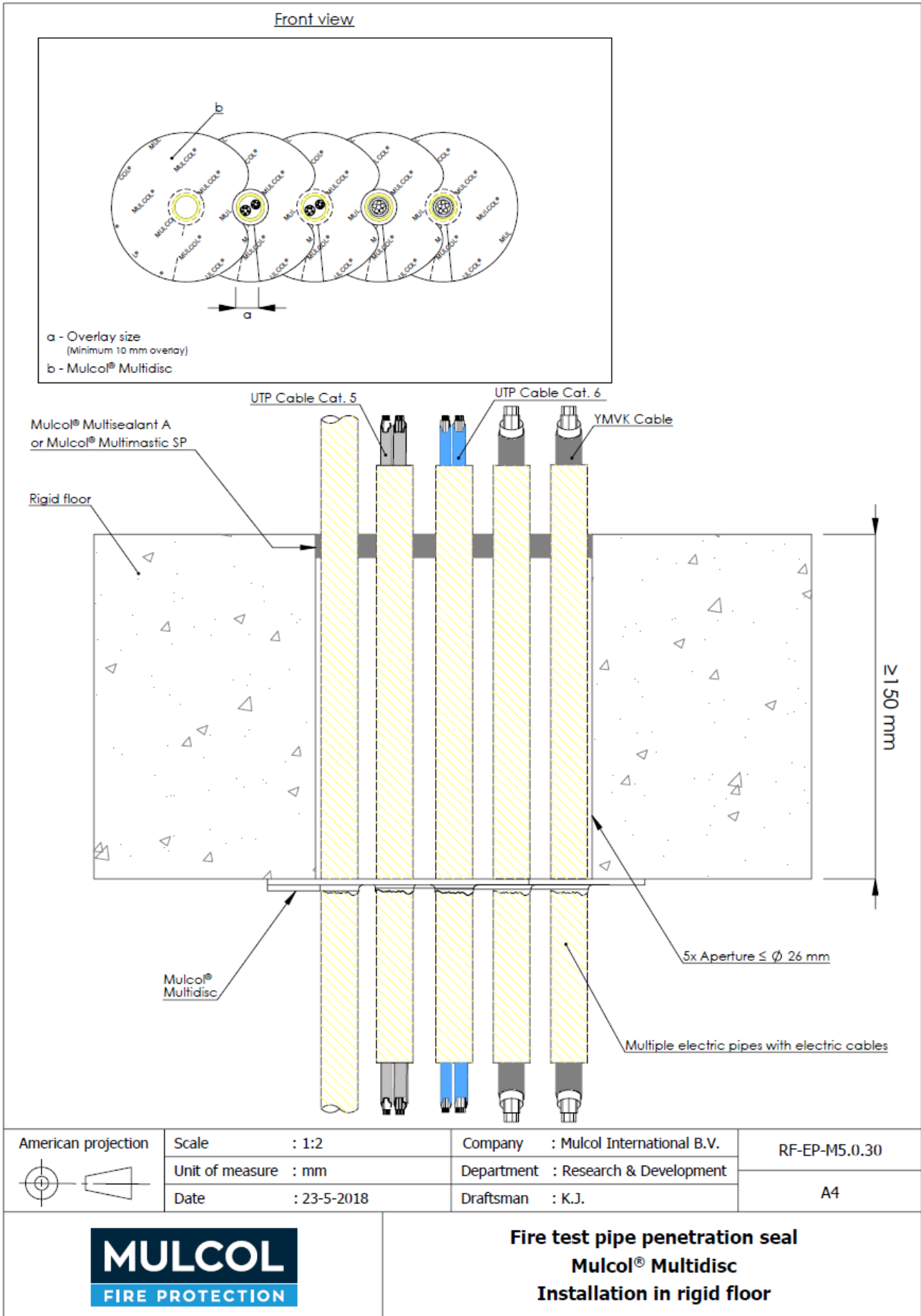
Pipe/conduit material	Outer diameter pipe (inch or mm)	Distance A ₂ (mm)	Classification*
PVC-ET	≤ 3/4"	≤ 20 mm (see fig.2 according to Section I.2.3)	E 120 U/U EI 90 U/U
	≤ 25 mm		

* U/U pipe end configuration applies to C/U, U/C and C/C also

Permitted telecommunication cables		One sheathed cable allowed for each pipe*			Empty pipe
UPT Cat. 5	UPT Cat. 6	YMKV 3 x 2.5 mm ²	YMKV 5 x 1.5 mm ²	YMKV 5 x 2.5 mm ²	
Yes	Yes	Yes	Yes	Yes	Yes

* Electric cable, Copper content ≤ 12,5 mm²

B.1.3 Multiple PVC-ET conduits, with Mulcol® Multidiscs to the underside of the floor



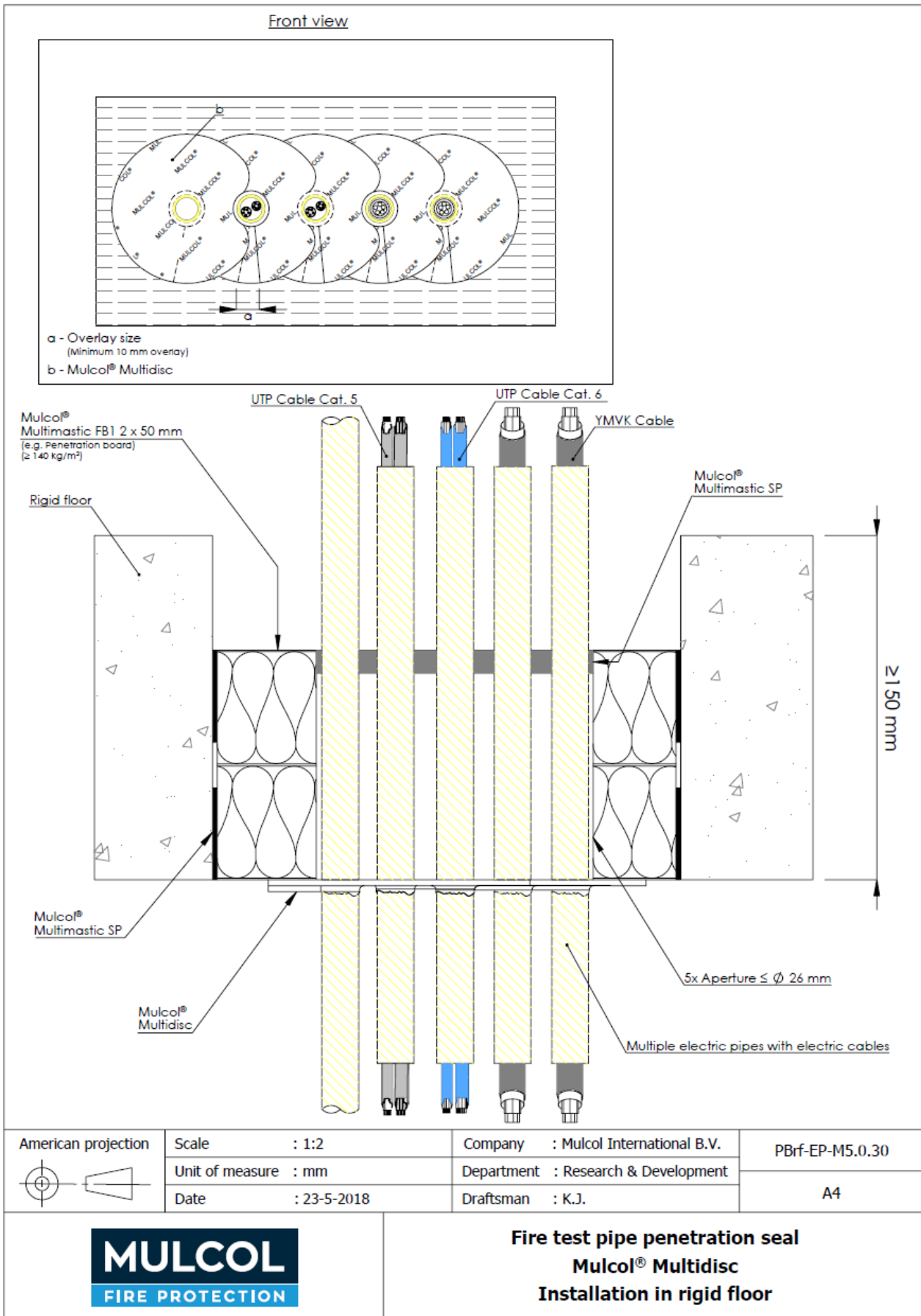
Pipe/conduit material	Outer diameter pipe	Distance A ₂ (mm)	Classification*
PVC-ET	≤ 5/8"	≤ 20 mm (according to Section I.1.4)	E 120 U/U EI 90 U/U

* U/U pipe end configuration applies to C/U, U/C and C/C also

Permitted telecommunication cables		One sheathed cable allowed for each pipe*			Empty pipe
UPT Cat. 5	UPT Cat. 6	YMKV 3 x 2.5 mm ²	YMKV 5 x 1.5 mm ²	YMKV 5 x 2.5 mm ²	
Yes	Yes	Yes	Yes	Yes	Yes

* Electric cable, Copper content ≤ 12,5 mm²

B.1.4 Multiple PVC-ET conduits, with Mulcol® Multidiscs to the underside of Mulcol® Multimastic FB1 system in the floor



Pipe/conduit material	Outer diameter pipe	Distance A3 (mm)	Classification*
PVC-ET	≤ 5/8"	≤ 20 mm (see fig.2 according to Section I.2.3)	E 120 U/U EI 90 U/U

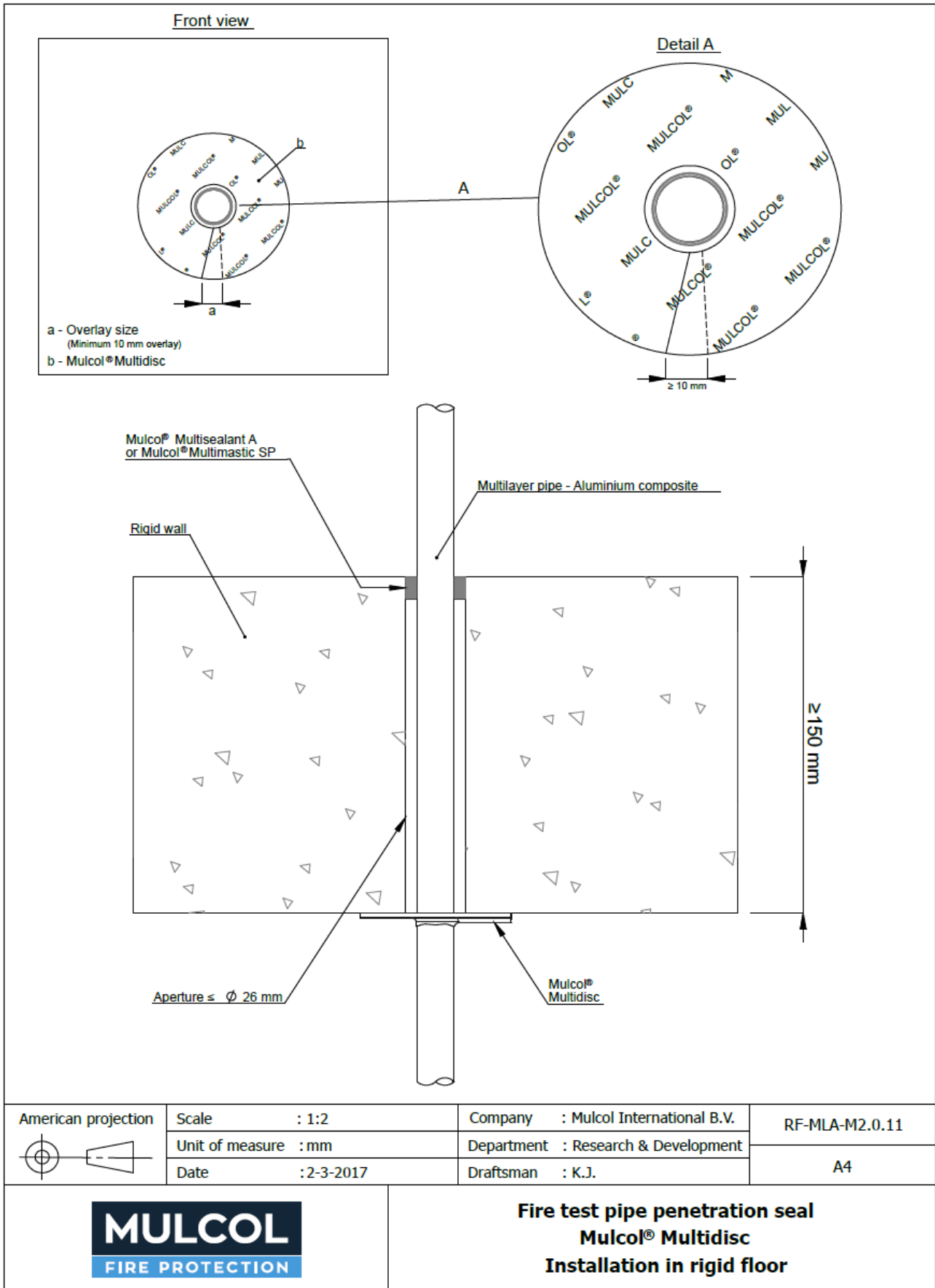
* U/U pipe end configuration applies to C/U, U/C and C/C also

Permitted telecommunication cables		One sheathed cable allowed for each pipe*			Empty pipe
UPT Cat. 5	UPT Cat. 6	YMKV 3 x 2.5 mm ²	YMKV 5 x 1.5 mm ²	YMKV 5 x 2.5 mm ²	
Yes	Yes	Yes	Yes	Yes	Yes

* Electric cable, Copper content ≤ 12,5 mm²

B.2 Mulcol® Multidisc with Aluminium composite pipes

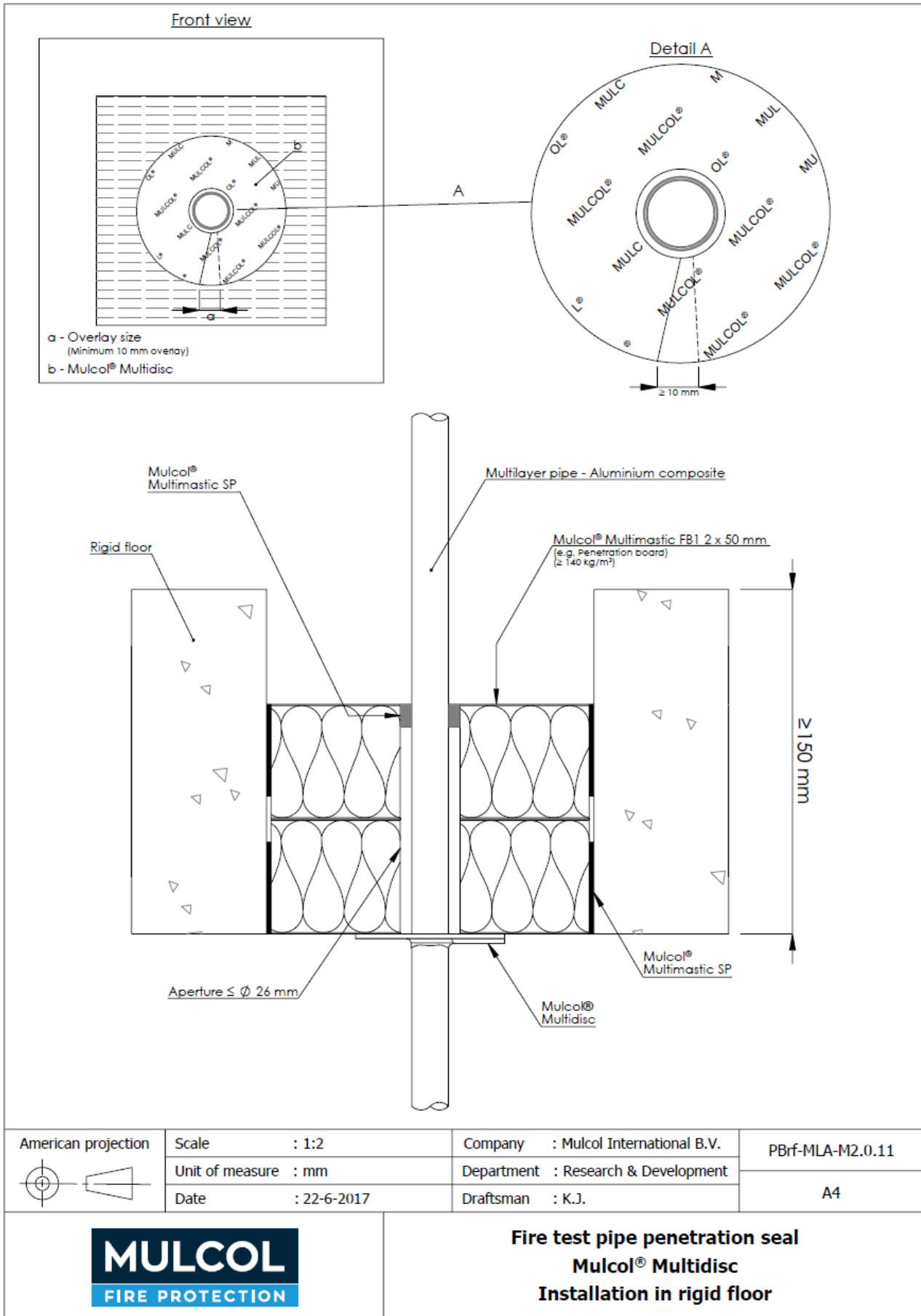
B.2.1 Single Aluminium composite pipes, with Mulcol® Multidisc to the underside of the floor



Pipe material	Pipe diameter (mm)	Pipe wall (mm)	Distance A₂ (mm)	Classification*
Aluminium composite	≤ 16	2.0	≤ 20 mm (according to Section I.1.4)	E 120 U/C EI 90 U/C

* U/C pipe end configuration applies to C/C also

B.2.2 Single Aluminium composite pipes, with Mulcol® Multidisc to the underside of Mulcol® Multimastic FB1 system in the floor



American projection 	Scale : 1:2	Company : Mulcol International B.V.	PBrf-MLA-M2.0.11
	Unit of measure : mm	Department : Research & Development	
	Date : 22-6-2017	Draftsman : K.J.	A4



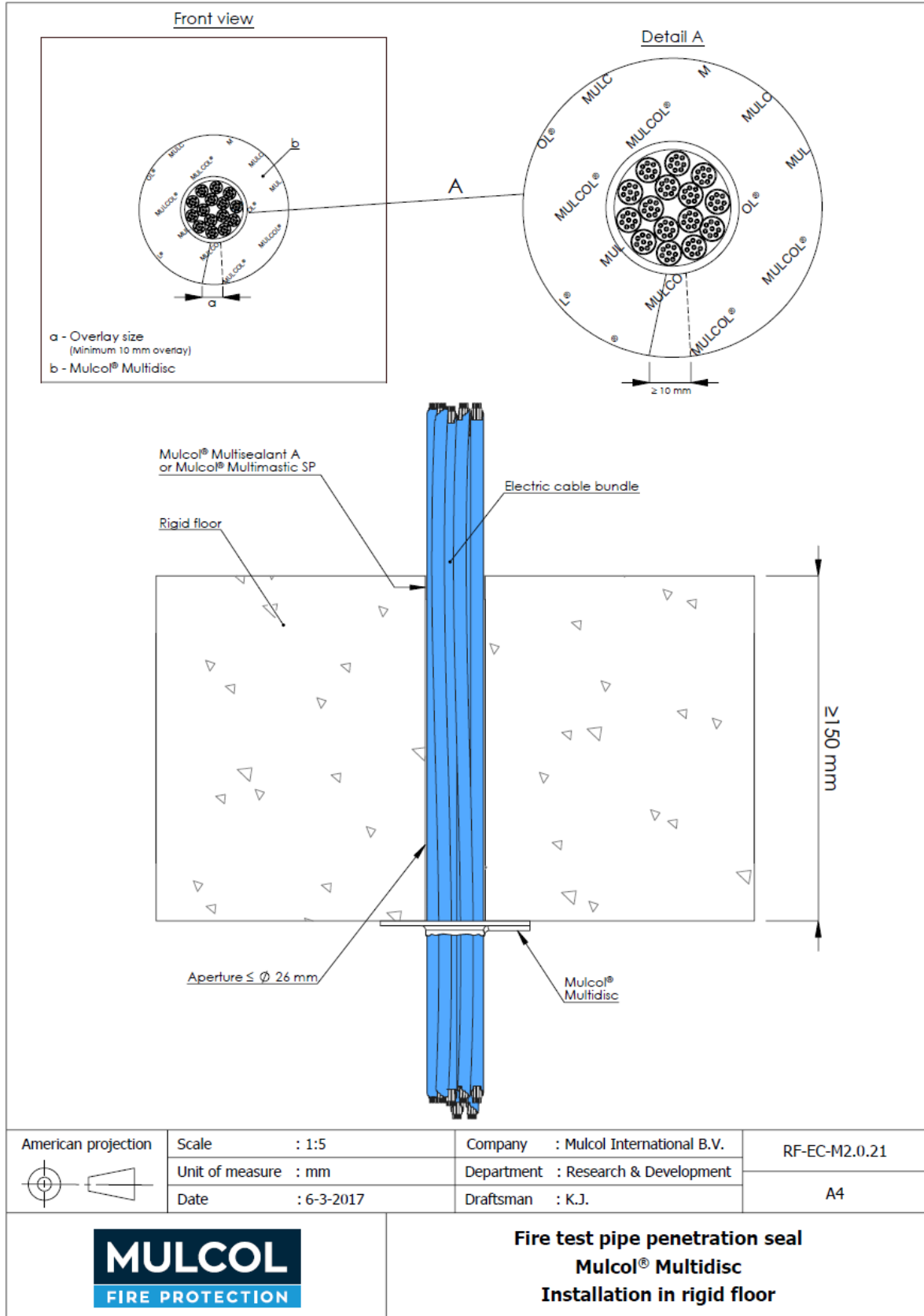
Fire test pipe penetration seal
Mulcol® Multidisc
Installation in rigid floor

Pipe material	Pipe diameter (mm)	Pipe wall (mm)	Distance A₃ (mm)	Classification*
Aluminium composite	≤ 16	2.0	≤ 20 mm (see fig. 2 according to Section I.2.3)	E 120 U/C EI 90 U/C

* U/C pipe end configuration applies to C/C also

B.3 Mulcol® Multidisc with cables

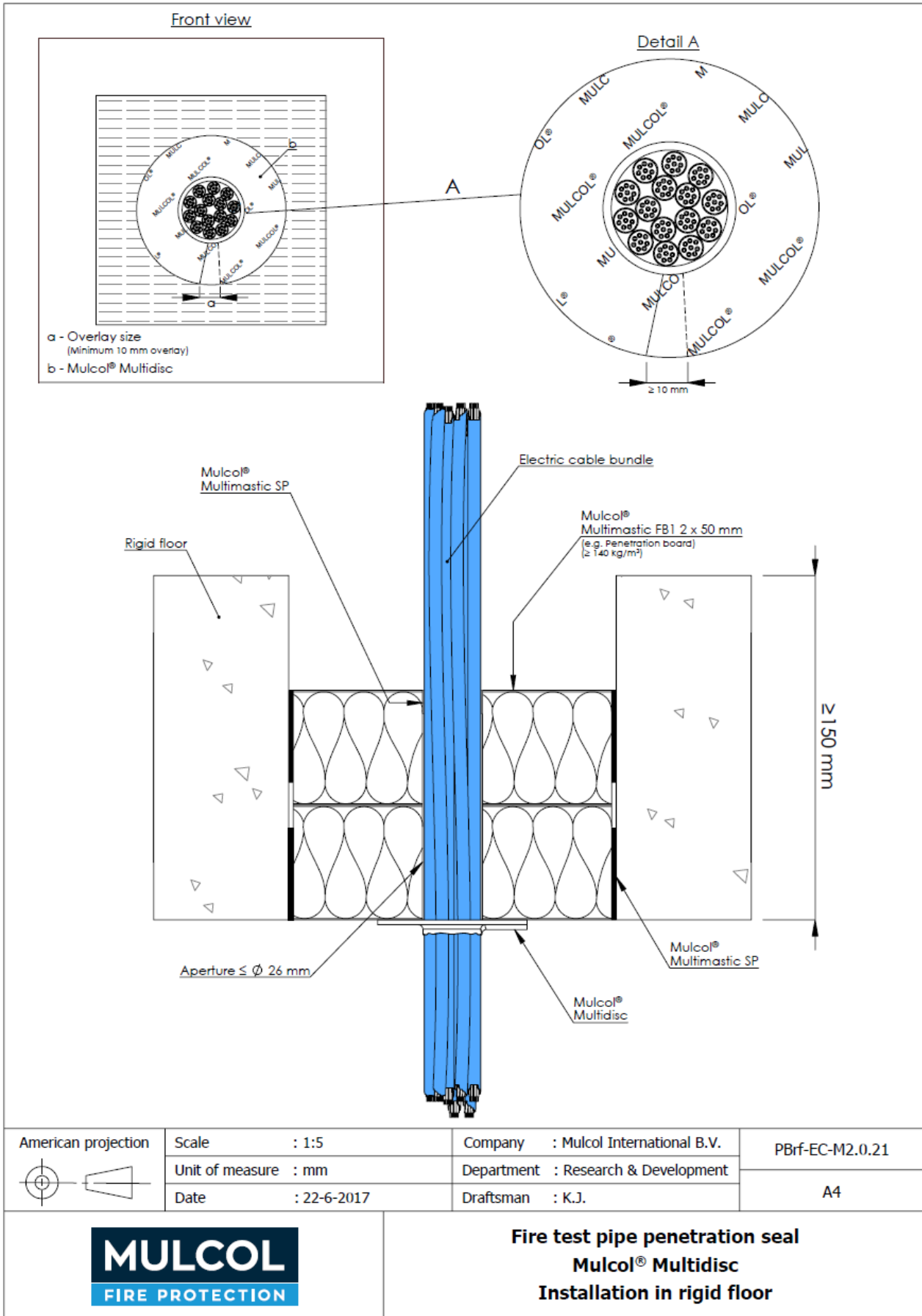
B.3.1 Multiple cables, with Mulcol® Multidisc to the underside of the floor



Cable		Number of cables allowed*	Distance A ₂ (mm)	Performance class
Generic type	Type			
Telecommunication cable	UTP Cat. 5 and/or UTP Cat. 6	≤ 15	≤ 20 mm (according to Section I.1.4)	EI 120

* Electric cable bundle, Copper content ≤ 60 mm²

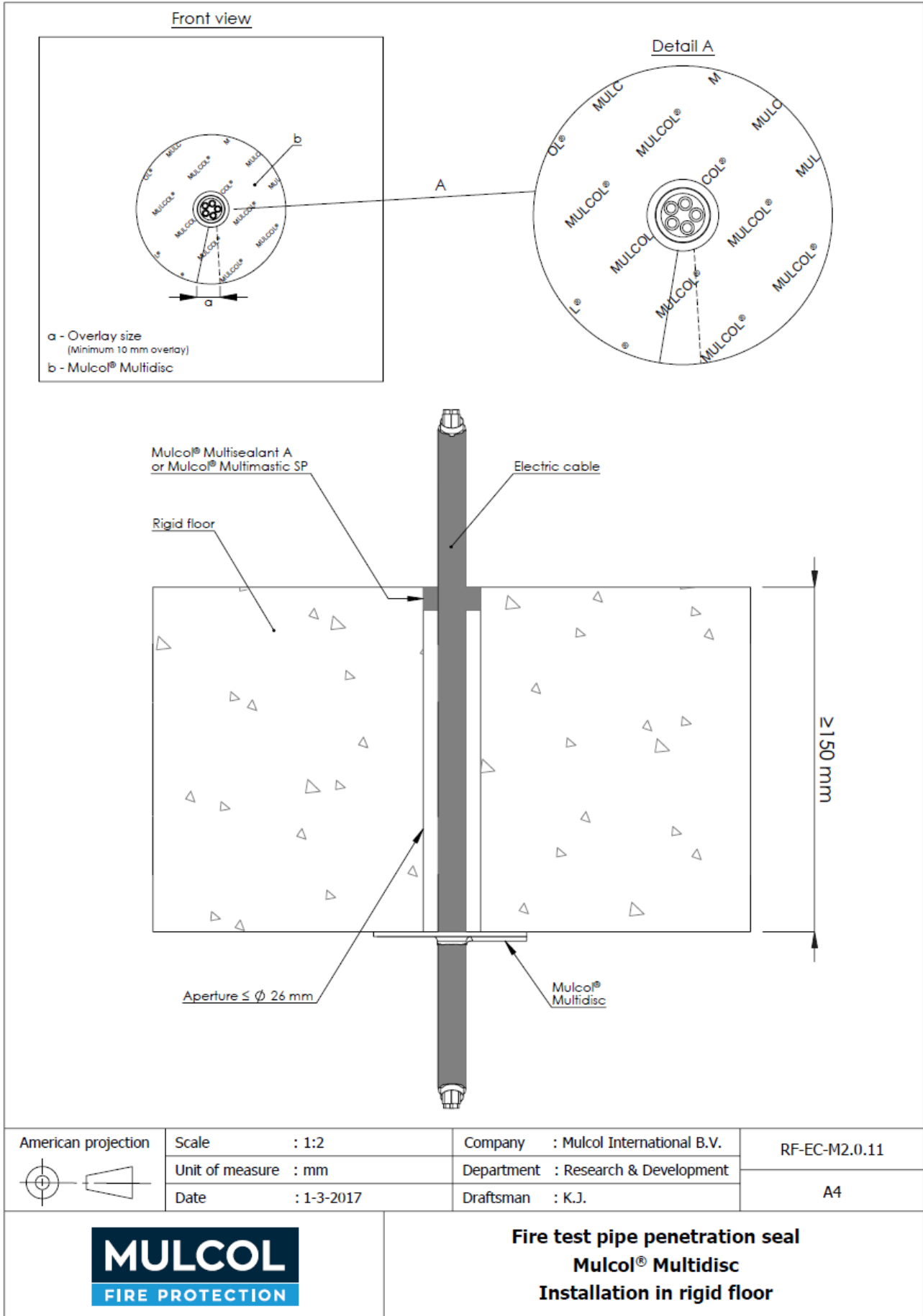
B.3.2 Multiple cables, with Mulcol® Multidisc to the underside of Mulcol® Multimastic FB1 system in the floor



Cable		Number of cables allowed*	Distance A ₃ (mm)	Performance class
Generic type	Type			
Telecommunication cable	UTP Cat. 5 and/or UTP Cat. 6	≤ 15	≤ 20 mm (see fig. 2 according to Section I.1.4)	E 120 EI 60

* Electric cable bundle, Copper content ≤ 60 mm²

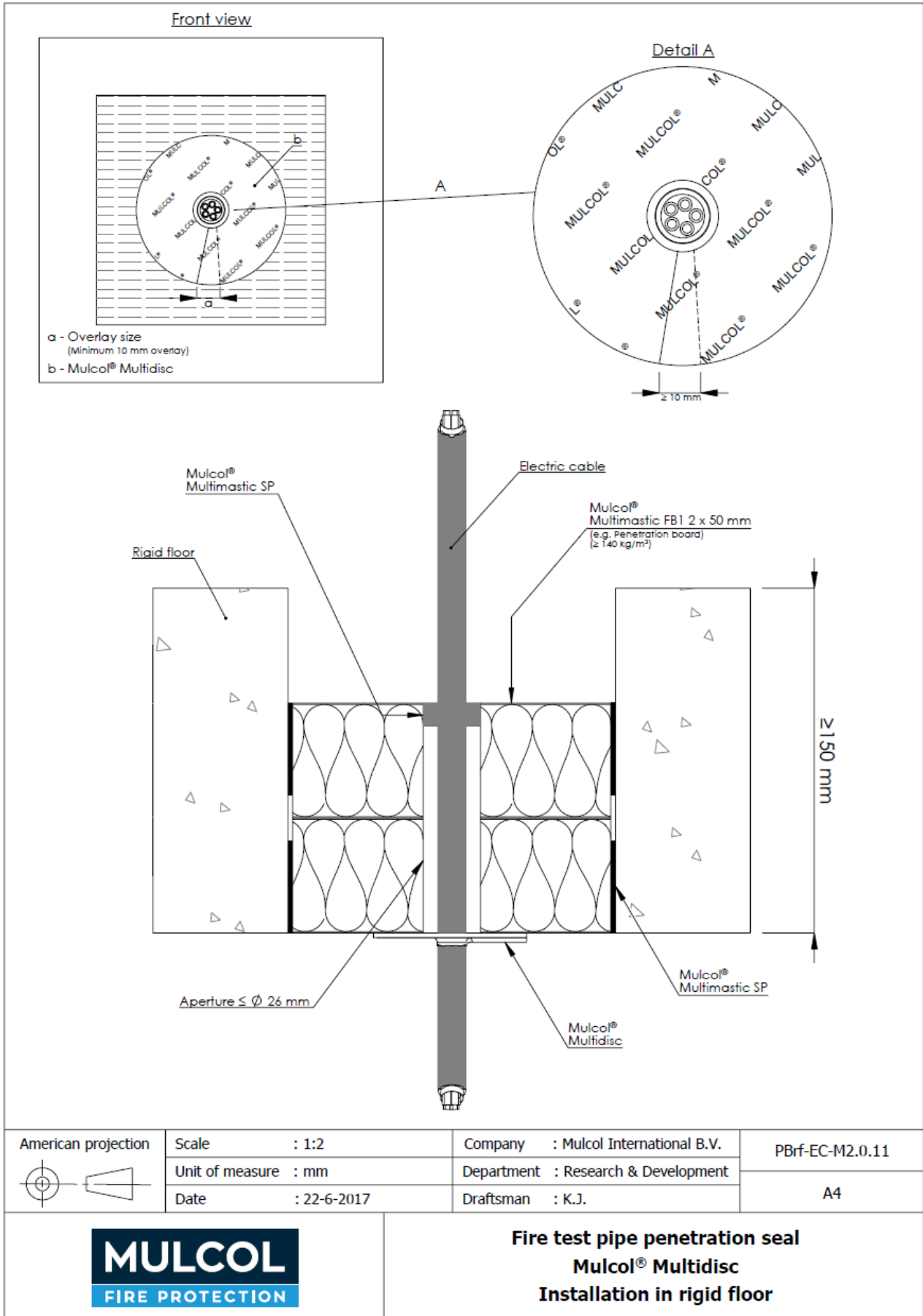
B.3.3 Single cables, with Mulcol® Multidisc to the underside of the floor



Cable		Number of cables allowed*	Distance A ₂ (mm)	Performance class
Generic type	Type			
Sheathed cable	YMKV 3 x 2.5 mm ² or YMKV 5 x 1.5 mm ² or YMKV 5 x 2.5 mm ²	1	≤ 20 mm (according to Section I.1.4)	EI 120

* Electric cable, Copper content ≤ 12,5 mm²

B.3.4 Single cables, with Mulcol® Multidisc to the underside of Mulcol® Multimastic FB1 system in the floor



Cable		Number of cables allowed*	Distance A ₃ (mm)	Performance class
Generic type	Type			
Sheathed cable	YMKV 3 x 2.5 mm ² or YMKV 5 x 1.5 mm ² or YMKV 5 x 2.5 mm ²	1	≤ 20 mm (see fig. 2 according to Section I.2.3)	EI 90

* Electric cable, Copper content ≤ 12,5 mm²