

Approval body for construction products
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and
Laender Governments



European Technical Assessment

ETA-21/0359
of 5 August 2024

English translation prepared by DIBt - Original version in German language

General Part

Technical Assessment Body issuing the
European Technical Assessment:

Deutsches Institut für Bautechnik

Trade name of the construction product

ECClos-Flex-I

Product family
to which the construction product belongs

Kit for closure system for conveyor systems
use as curtain-closure of wall openings of conveyor
systems; in the opening area connected or disconnected
conveyor technique

Manufacturer

Stöbich Brandschutz GmbH
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DEUTSCHLAND

Manufacturing plant

Stöbich Brandschutz GmbH
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DEUTSCHLAND

This European Technical Assessment
contains

16 pages including 9 annexes which form an integral part
of this assessment

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

350022-02-1107

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Specific part

1 Technical description of the product

This European technical approval applies for the kit for closure system "ECClos-Flex-I" for conveyor systems, hereinafter referred to as kit "ECClos-Flex-I". The kit "ECClos-Flex-I" is intended for use in walls. It closes vertically from top to bottom and essentially consists of the following components¹:

– movable textile curtain

The approx. 12 mm thick textile curtain consists of 10 layers of three different fabric types, the fabric fastening strips, the lateral guide buttons and the flexible sealing-module at the closing edge.

The individual layers each consist of several vertically arranged fabric webs, which are partially sewn together. The number of stitched fabric webs is limited to five webs. The width of the fabric web must not exceed 1.540 mm.

The layers are fastened to the winding shaft in three fastening groups.

The outer layers are connected to each other in the lower closing edge area via textile strip and form a loop closed at the bottom. The flexible sealing-module made of 4 layers of fabric containing intumescent and endothermic material is sewn to this loop.

The side overlaps of textile curtain and wall are at least 215 mm (see Annex 4). The top overlap of textile curtain and wall is at least 210 mm (see Annex 3).

– fixed panel with clearance for the conveyor

The fixed panel with a depth of 177 mm consists of fire protection panels that are optionally covered with a sheet of steel. It is secured to the wall via brackets.

The side overlaps of fixed panel and wall are at least 285 mm. The lower overlap of fixed panel and wall is at least 80 mm

The clearance in the fixed panel is configured for the respective conveyor technology. Various intumescent materials are used in the necessary functional gaps.

– winding supporting structure

– winding shaft

The winding shaft consists of a steel tube, bearings and the roll-off protection.

– Guide for the curtain

The guide rails arranged on both sides consist of two guide profiles, two cover profiles, locking angles, fastening clips and strips of fire protection panels and intumescent materials.

– Closing device (closing weight system)

The kit "ECClos-Flex-I" will be closed via stored mechanical energy (deadweight of the curtain).

The components and the system setup of the product are given in Annex 1 to 9.

¹ The documents describing the structure of the kit "ECClos-Flex-I" in detail and the product specifications of the building materials used are deposited with DIBt.

2 Specification of the intended use in accordance with the applicable European Assessment Document

In accordance with this European Technical Assessment, the kit "ECClos-Flex-I" was assessed as closure to seal necessary openings of trackbound conveyors (see table 2) in internal walls (see table 1).

The kit "ECClos-Flex-I" is not intended for passenger transportation. The normal position of the closure shall be opened or closed.

The following applies to the kit "ECClos-Flex-I":

- The normally-open closure (open in the normal position; closes in the event of a fire) is equipped with a hold-open system suitable for the closure – where applicable in conjunction with the national regulations.
- The normally-open closure, which cannot be opened from a fixed position (floor, pedestal etc.), is equipped with a drive to open the closure.
- It is ensured that the closing of the closure is not obstructed by conveyed goods or other objects.
- It is ensured that the closed closure cannot be damaged by conveyed goods or other objects.

The performances given in Section 3 are only valid if the kit "ECClos-Flex-I" is used in compliance with the specifications and conditions given in Annex 1 to 9.

The verifications and assessment methods on which this European Technical Assessment is based lead to the assumption of a working life of the kit "ECClos-Flex-I" of at least 10 years. The indications given on the working life cannot be interpreted as a guarantee given by the producer, 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.

NOTE: Other requirements and other EU Directives may be applicable to the kits falling within the scope of this document.

Table 1: Permitted dimensions of the clearance of the component opening

component (supporting construction) in which the closure can be installed ^{a)}	max. fire resistance class ^{b)}	clearance of the wall opening ^{c)}		
		maximum clear width	maximum clear height	maximum area
High-density solid wall Masonry or solid concrete with an overall density of $\geq 800 \text{ kg/m}^3$ and a thickness $\geq 150 \text{ mm}$	EI ₁ 60 EI ₂ 90	6.000 mm	4.400 mm	26,4 m ²
Low-density solid wall Aerated concrete with an overall density of $\geq 450 \text{ kg/m}^3$ and a thickness $\geq 150 \text{ mm}$	EI ₁ 60 EI ₂ 90	6.000 mm	4.400 mm	26,4 m ²
<p>a) Supporting construction to EN 1366-7², section 7.2 or EN 1363-1³, section 7.2</p> <p>b) Fire resistance class per EN 13501-2⁴ in accordance with the Evaluation Report</p> <p>c) Minimum dimension unrestricted</p>				

Table 2: Permitted sealing systems for the continuous conveyor technology

sealing system for	minimum depth of the seal on the fixed panel	minimum depth of the flexible sealing-module at the closing edge	maximum fire resistance class of the sealing system
chain conveyor (continuous steel profile)	177 mm	177 mm	EI 90
roll conveyor between the rollers: 2 x 25 mm webs (Promatect H) or sheet steel angle (fitted with Promaseal PL) (continuous steel profile)	177 mm	177 mm	EI 90
belt conveyor (continuous steel profile)	177 mm	177 mm	EI 90

The conveyor tracks can be continuous or disconnected or disconnected while closing of the closure in the closing area of the curtain. The roller conveyor, the chain conveyor and belt conveyor tracks shall be positioned at the bottom.

² EN 1366-7:2004 Fire resistance tests for service installations – Part 7: Conveyor systems and their closures

³ EN 1363-1:1999 Fire resistance tests – Part 1: General requirements

⁴ EN 13501-2:2007 Fire classification of construction products and building elements – Part 2: Classification using data from fire resistance tests, excluding ventilation services

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

3.1 Safety in case of fire (BWR 2)

Essential characteristic	Performance
Fire resistance (EN 13501-2)	see clause 2, table 1 and 2
Mechanical durability of self-closing (EN 13501-2)	Installation in walls: – vertical closing direction: C0
Reaction to fire (EN 13501-1)	see following table 3

Table 3: Reaction to fire of the used materials

Component	Material	Class according to EN 13501-1
Curtain	Ecotex 1100	A2
	Protex 1100S AL 20 HT	A2
	BloX 700/260L AL	A2
	EneX 1800/260L AL	A2
	Protex 600.1 A2	A2
Fixed panel	steel sheet	A1
	calcium silicate boards	A1
	gypsum boards	A2-s1, d0
	Empe adhesive	A1
Guide	steel	A1
Seal system	intumescent material – Promaseal PL – Tenmat Firefly 102	at least class E
Closing device	steel	A1
Fixing material	steel	A1

3.2 Hygiene, health and the environment (BWR 3)

No performance assessed.

4 Assessment and verification of constancy of performance (AVCP) system applied, with reference to its legal base

In accordance with EAD No. 350022-02-1107, the applicable European legal act is: 1999/454/EG.

The system to be applied is: 1

In addition, with regard to e. g. reaction to fire of components and materials for products covered by this EAD the applicable European legal act is: 1999/454/EG.

The systems to be applied are: 1 / 3 / 4 (dependent on classes of reaction to fire)

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 with Deutsches Institut für Bautechnik.

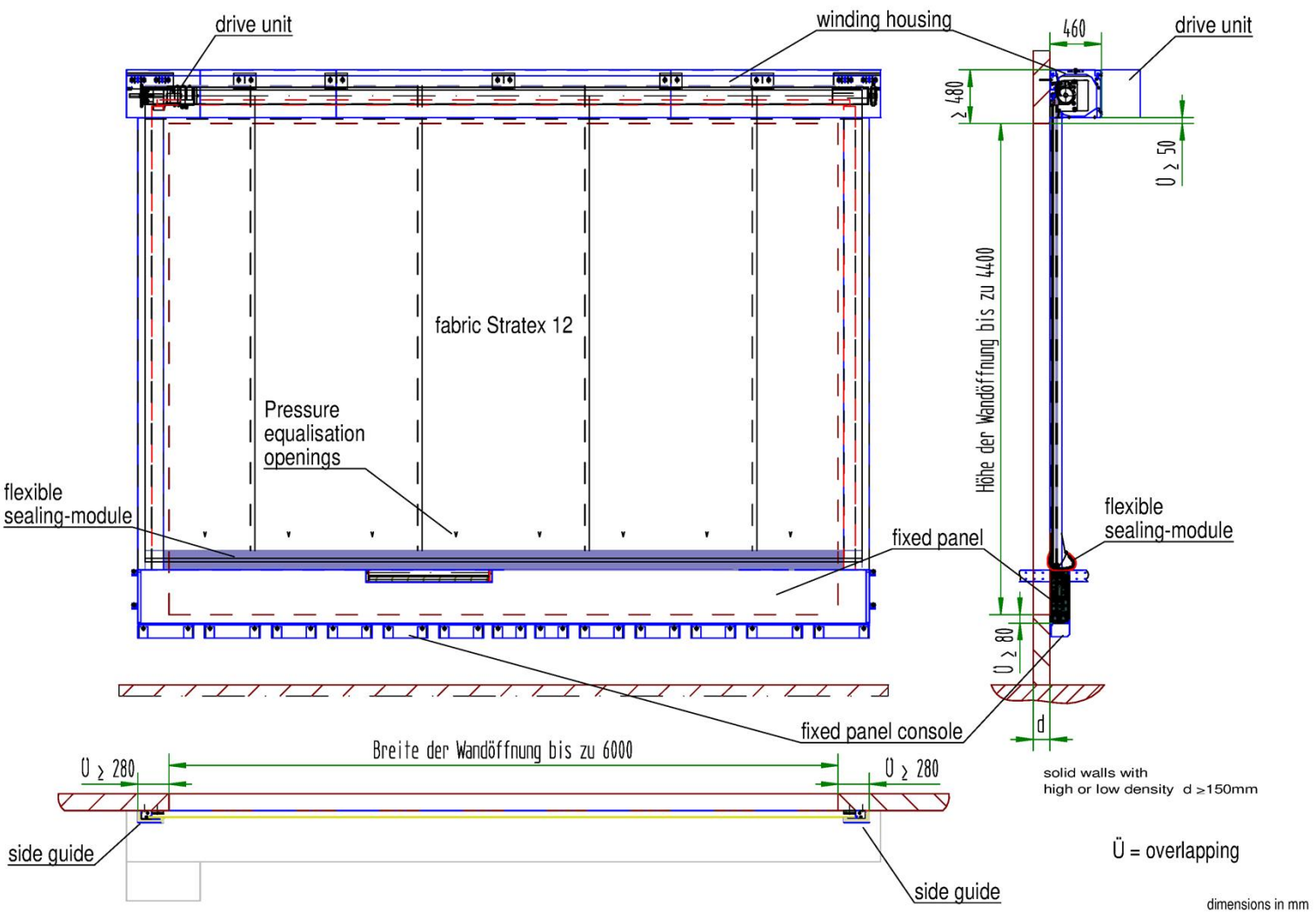
The manufacturer shall provide installation instructions and maintenance instructions for every "ECClos-Flex-I". The maintenance instructions shall clearly indicate which work is to be performed to ensure that the installed closure system continues to perform its task after long-term use.

The manufacturer shall provide instructions on processing, packaging, transport, storage and use, maintenance and repair of the construction product.

Issued in Berlin on 5 August 2024 by Deutsches Institut für Bautechnik

Christina Pritzkow
Head of Section

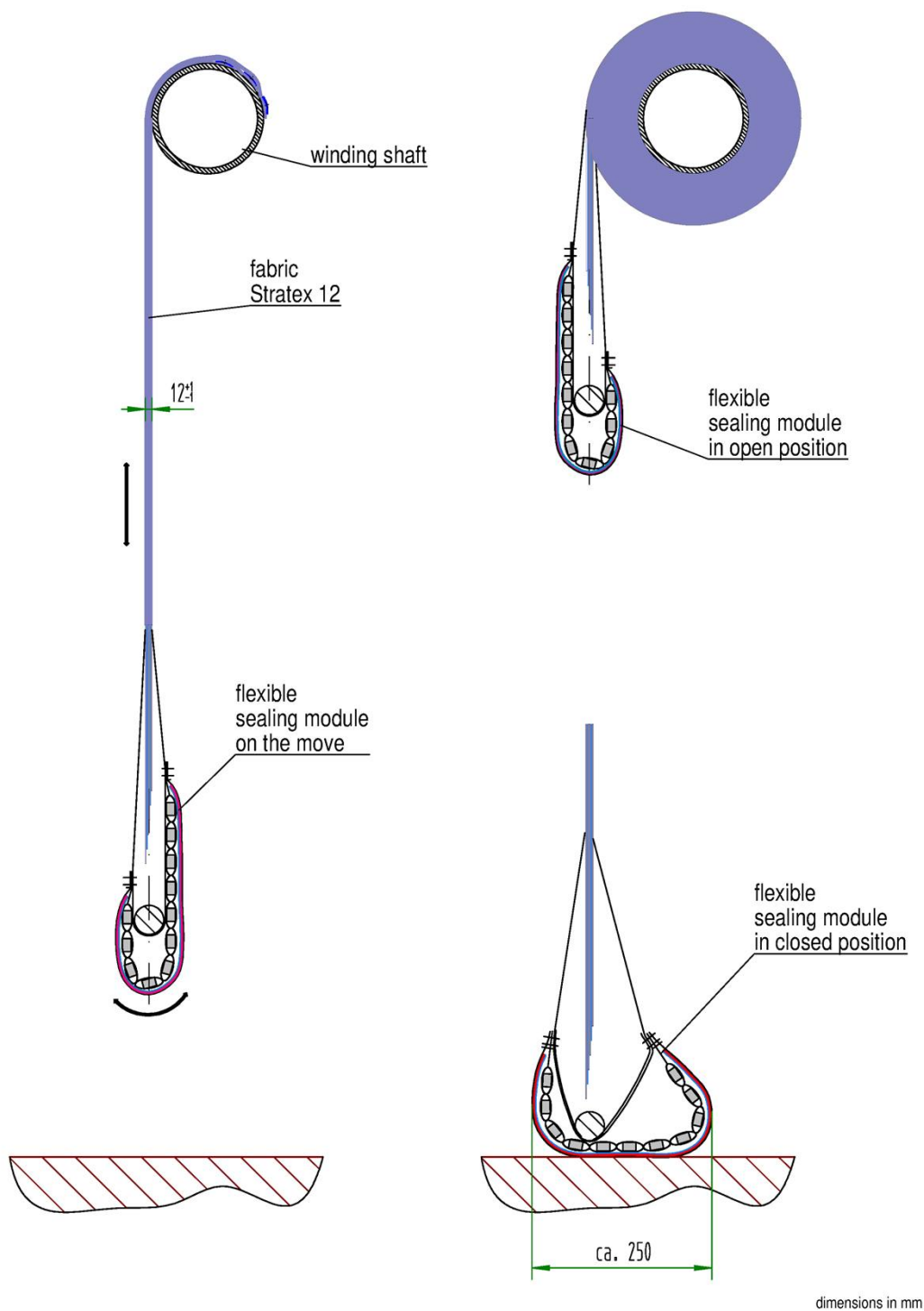
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Biedermann



ECCLos-Flex-I

Overview – view and cross sections

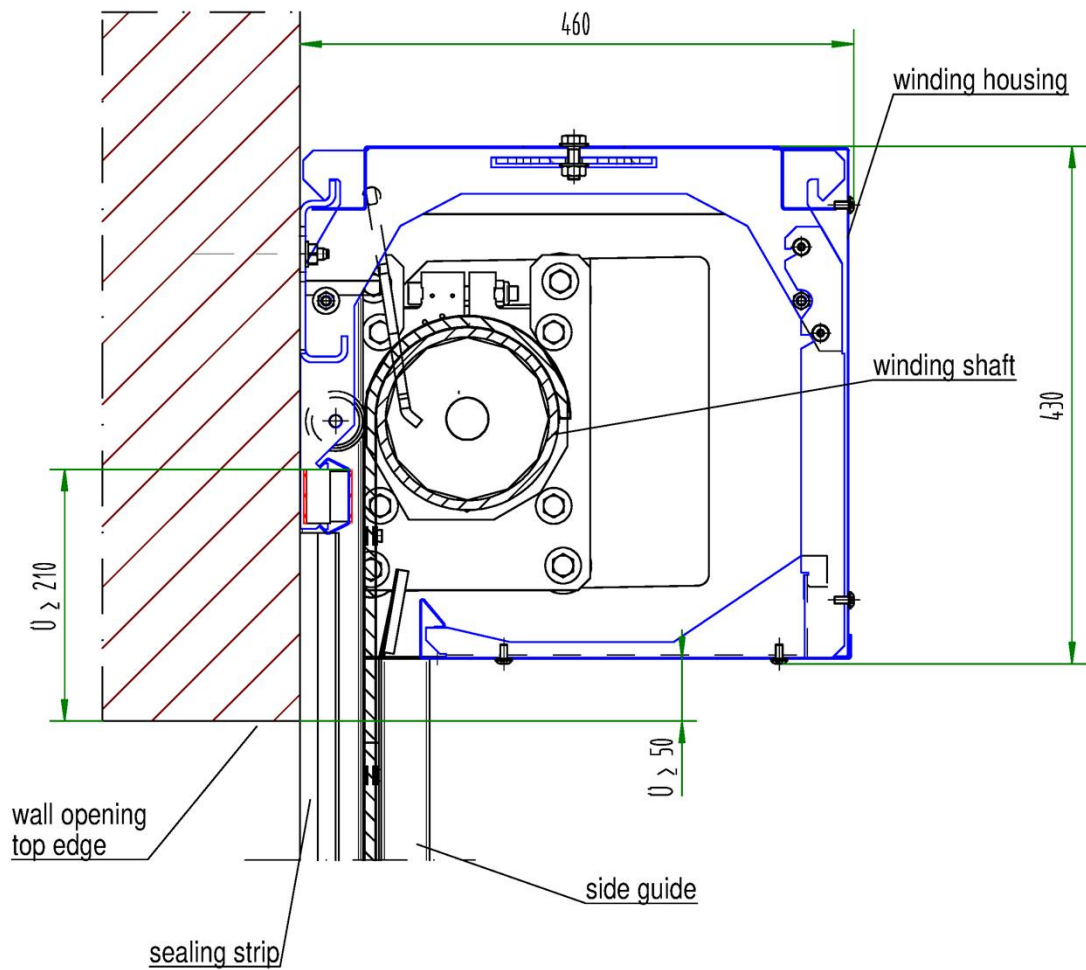
Annex 1



ECClos-Flex-I

Structure of the textile curtain with sealing module

Annex 2



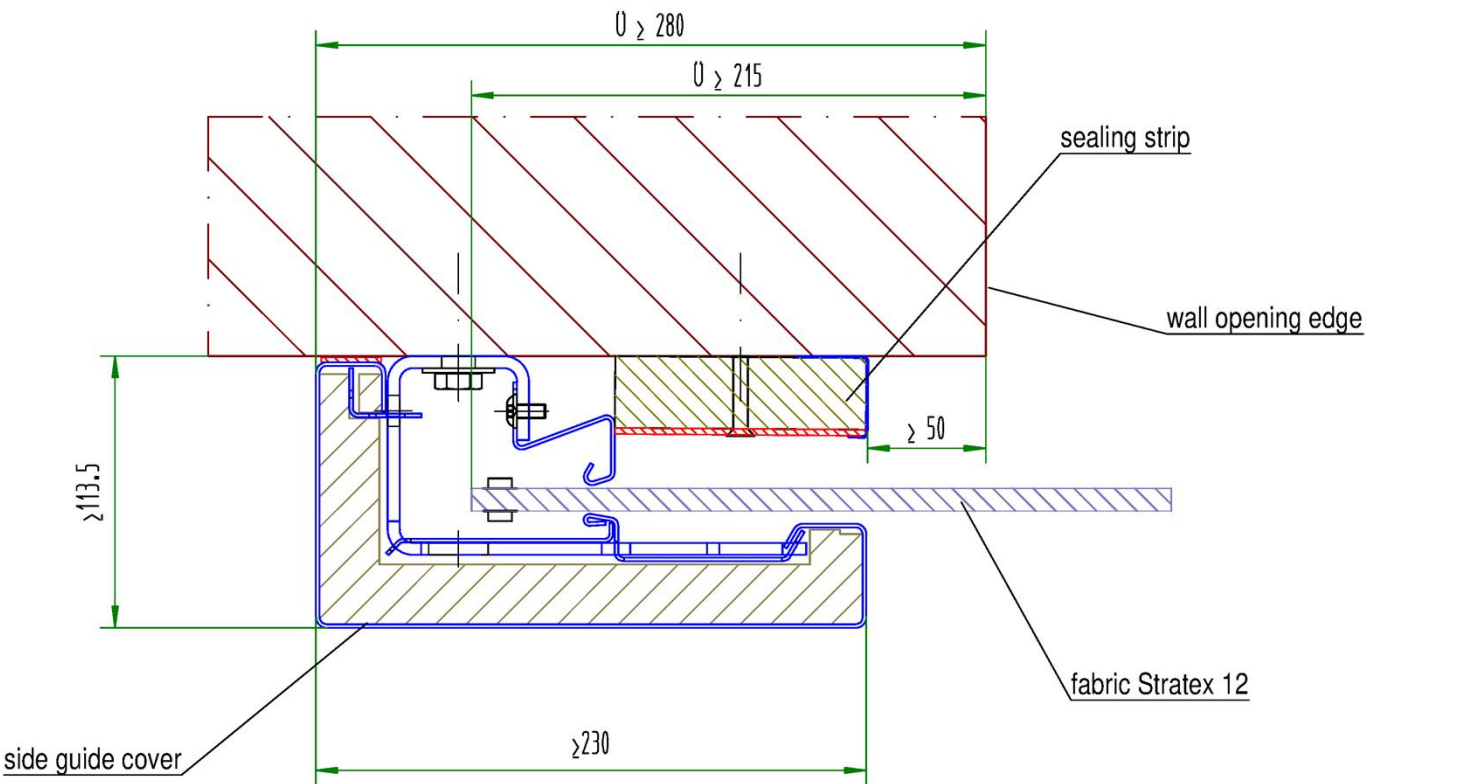
Ü = overlapping

dimensions in mm

ECClos-Flex-I

Vertical cross section
- Detail upper overlap and winding supporting structure

Annex 3



Ü = overlapping

dimensions in mm

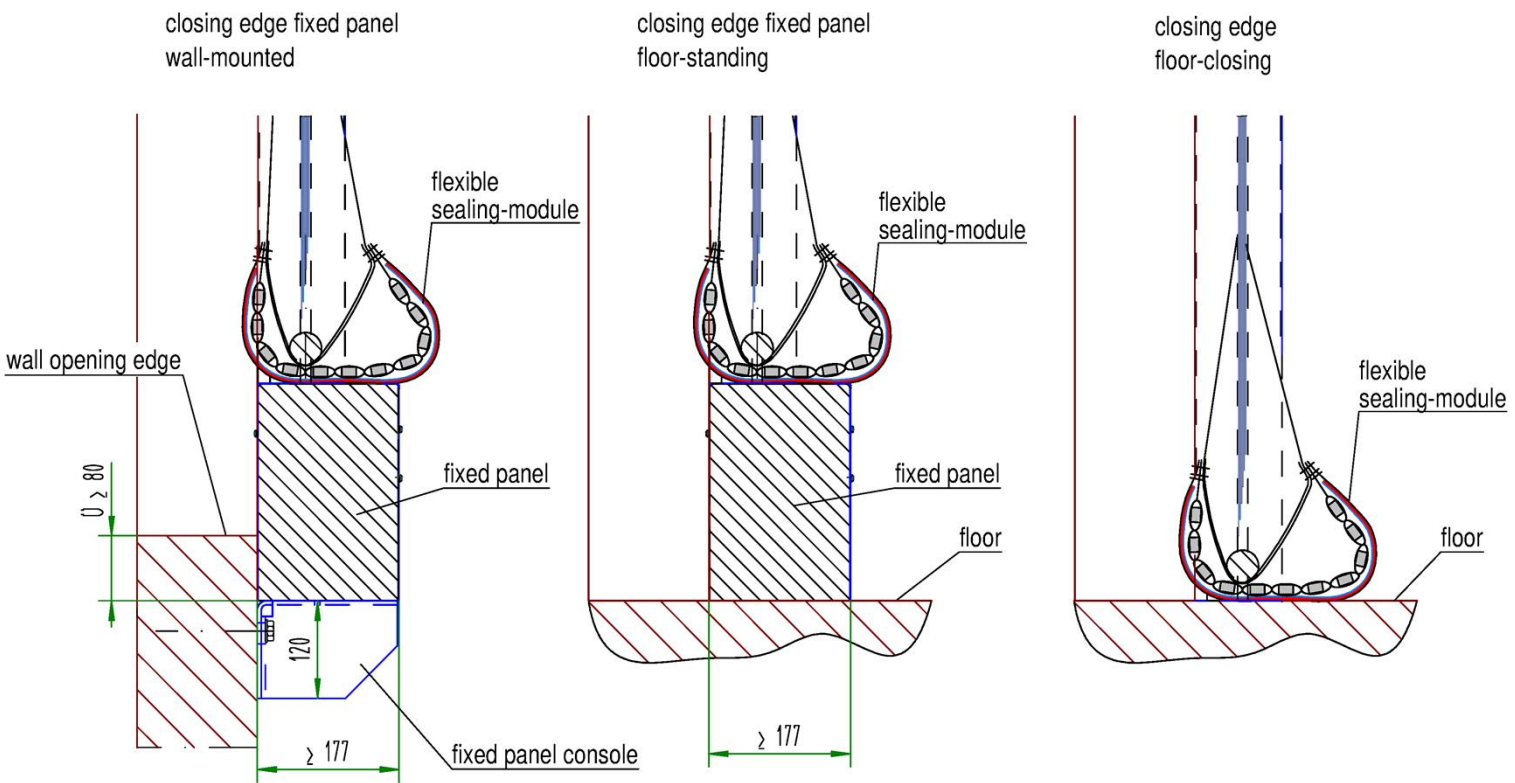
ECCIOS-Flex-I

Horizontal cross section
- Detail lateral overlap

Annex 4

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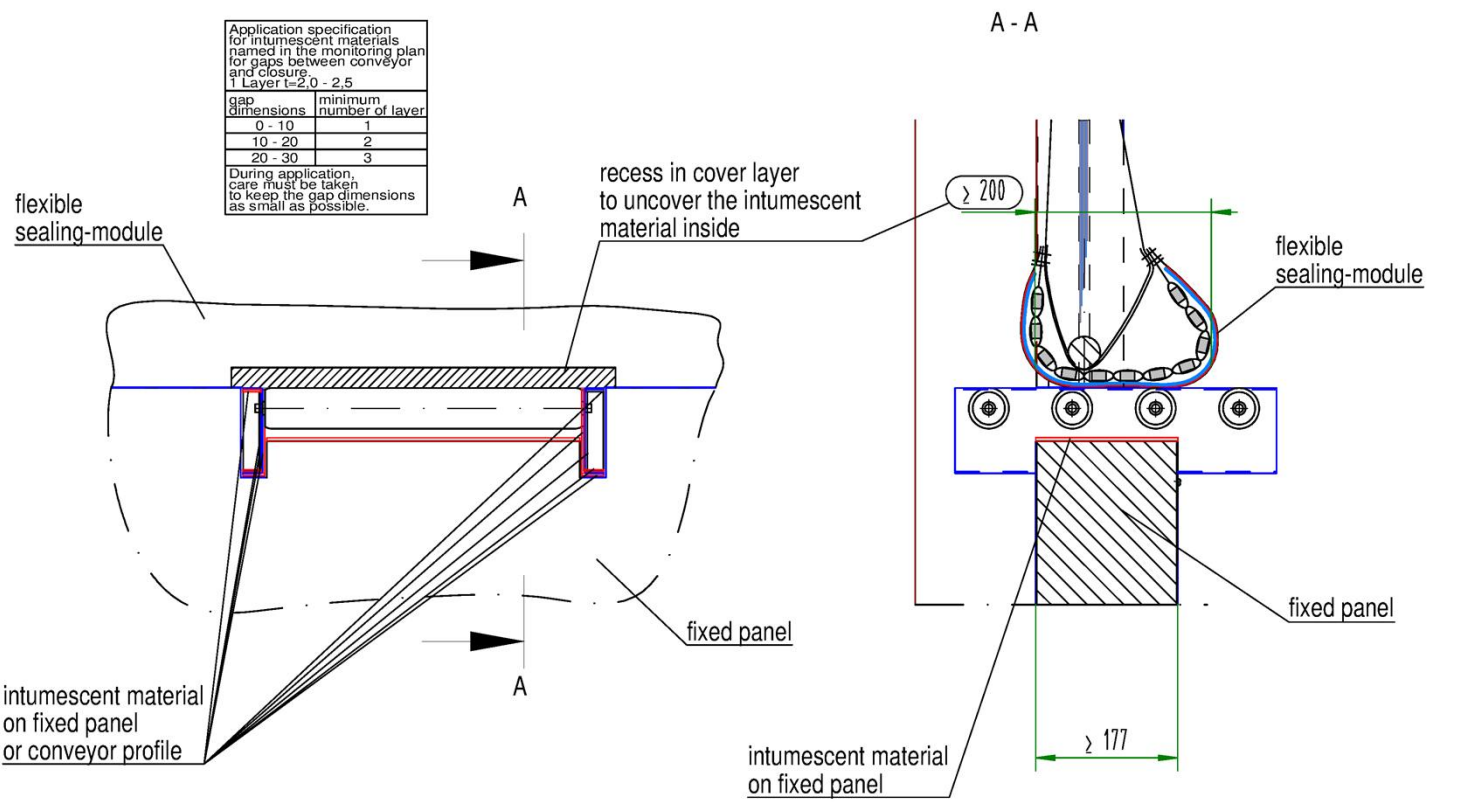
Ü = overlapping

dimensions in mm

ECCIOS-Flex-I

Vertical cross section
 - Detail sealing-module and fixed panel

Annex 5

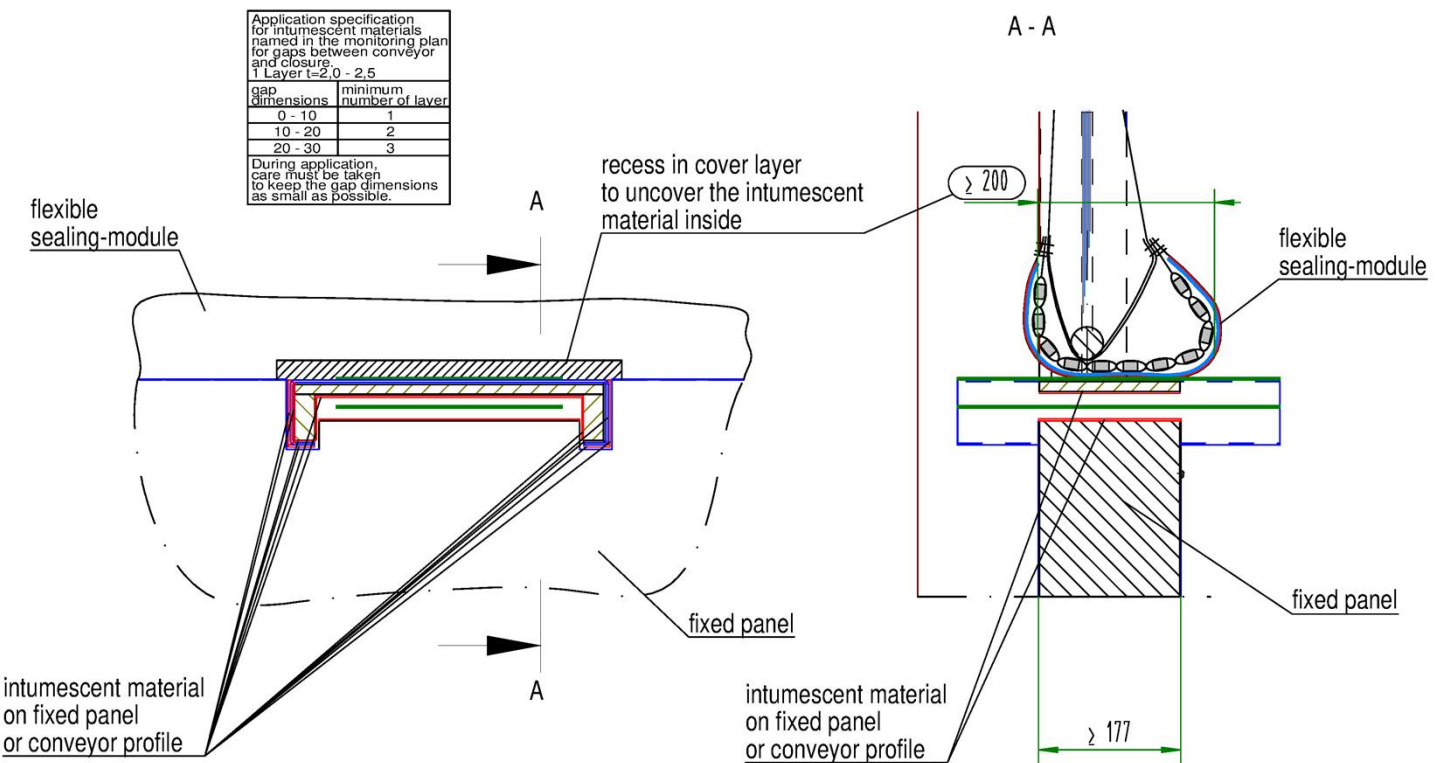


dimensions in mm

ECCIOS-Flex-I

Vertical section
 - Detail sealing of the continuous conveyor technique (roller conveyor)

Annex 6



dimensions in mm

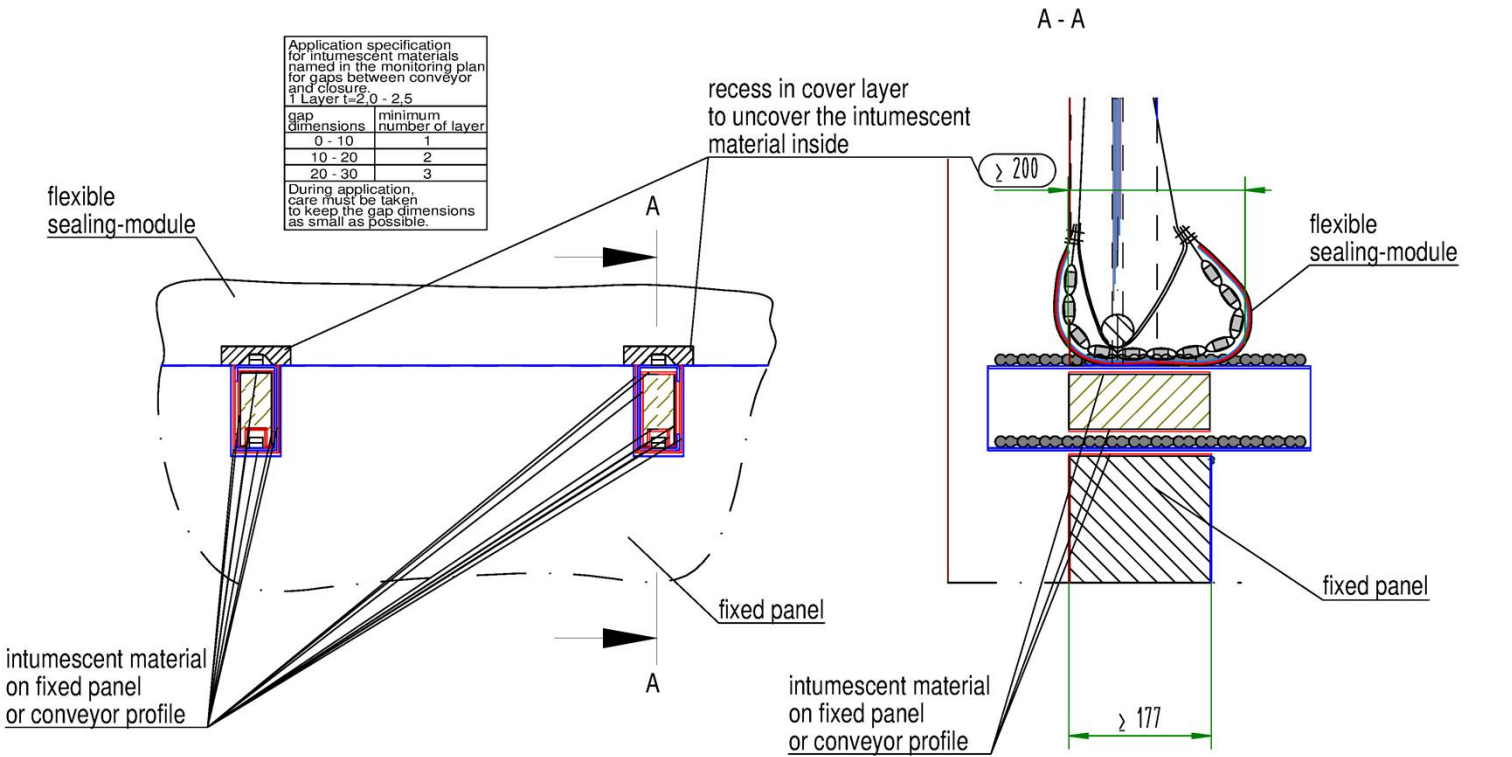
ECCIOS-Flex-I

Vertical cross section
- Detail sealing of the continuous conveyor technique (belt conveyor)

Annex 7

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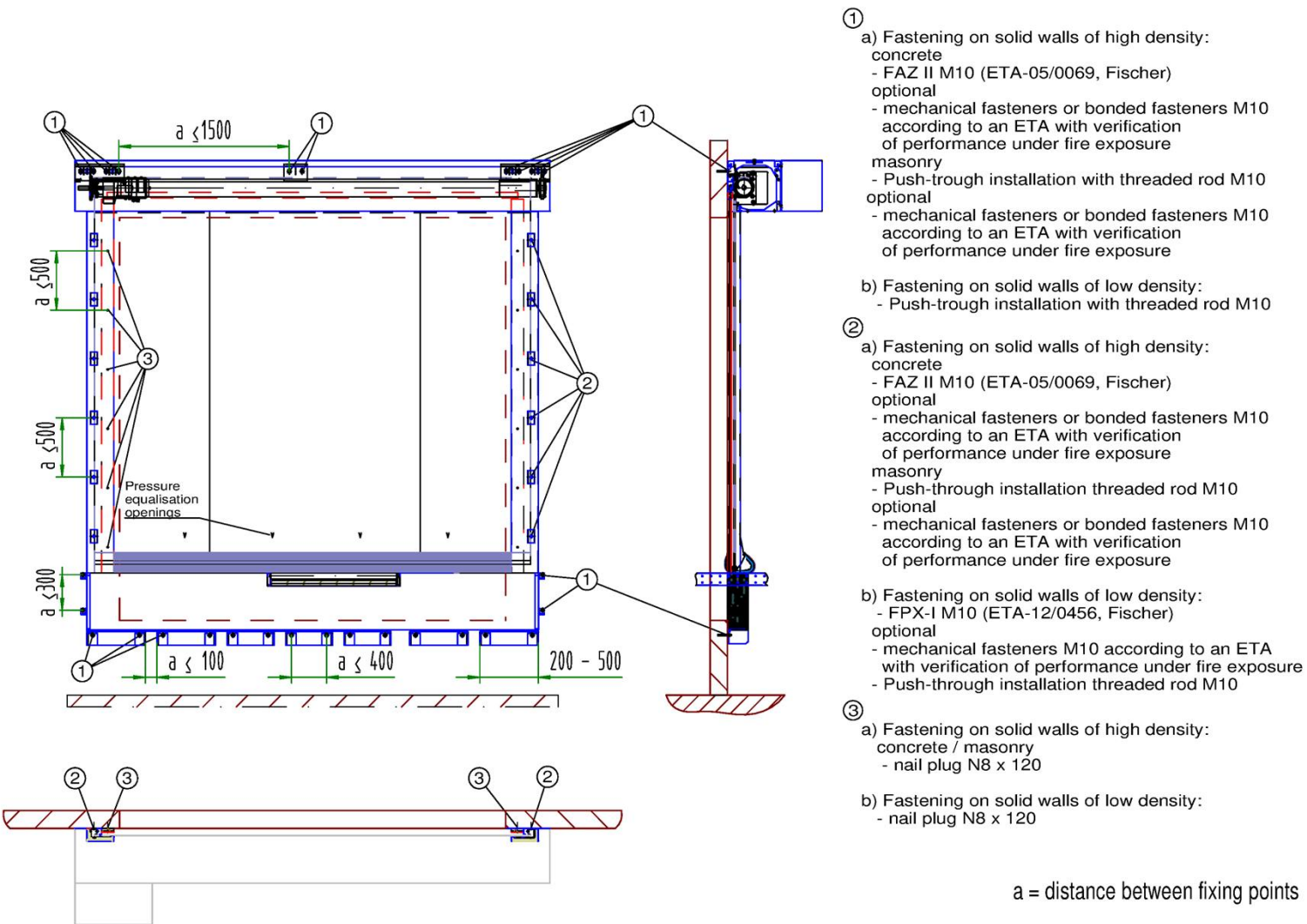


dimensions in mm

ECCIOS-Flex-I

Vertical cross section
- Detail sealing of the continuous conveyor technique (chain conveyor)

Annex 8



ECCLos-Flex-I

Fasteners

Annex 9