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DMT Test Laboratory for Fire Protection

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Classification of Fire Resistance Performance in accordance with EN 13501-2:2016

- - - - - - - - - -

K-5044-DMT-DO

Customer	Kegro Deuren B.V. Industrieweg 25 6562 AP Groesbeek Netherlands
Compiled by	DMT GmbH & Co. KG DMT Test Laboratory for Fire Protection, Test Body for Fire Protection Hermann-Kemper-Straße 12a 49762 Lathen Germany
Number of notified body	2509
Product	Single or double leaved pivoted solid wood door as fire protection door with and without glazing in various supporting constructions
Product designation	KegaWood ≥ 54mm
Nr. of the report for extended application	K-5044-DMT-DO
Issue number	1
Issue date	18.01.2021
Validity	unlimited

egolf member

Notified Body:
NB 2509

This classification report consists of 9 pages and 25 annexes.

TABLE OF CONTENTS **PAGE**

1 Introduction

This classification report of fire resistance performance and self-closing characteristics defines the classification assigned to a fire protection door with designation „KegaWood ≥ 54mm“, hereafter mentioned as “KegaWood”, in accordance with the procedures given in EN 13501-2:2016.

2 Details of classified product

2.1 General

The building component „KegaWood“ belongs to the product type fire protection doors according to EN 16034.

The building component „KegaWood“ is provided for the appropriation as single- and double-leaved fire protection door. It fulfils specific performance characteristics for fire resistance behaviour according to section 5 of EN 13501-2 when flamed one-sided from the opening or the closing side (section 5.2.2, and 5.2.4).

The product fulfils the requirements of the self-closing characteristics C (section 5.2.6) with the ability to close completely out of the opened position.

An exposed side is not defined, the exposed side can either be the opening side as also the closing side.

2.2 Detailed product description

The product „KegaWood“ is a single and double leaved optionally glazed wood frame door optional with glazed side panels and top panel. The building component is described completely in the test reports and the report of extended application, which are referred to in section 3.1 for verification of classification, as also the annexes 1.0 to 6.4 of this classification report.

3 Test reports / reports of extended classification and test results for verification of classification

3.1 Test reports

3.1.1 Test reports according to EN 1634-1

No.	Name of Laboratory No. of Notified Body	Name of sponsor	Test report no. dated	Test method
F1	DMT GmbH & Co KG NB 2509	Kegro Deuren B.V.	DMT-DO-50-767 09.06.2020	EN 1634-1: 2014+A1:2018 EN 1363-1: 2012
F2	DMT GmbH & Co KG NB 2509	Kegro Deuren B.V.	DMT-DO-50-807 26.05.2020	EN 1634-1: 2014+A1:2018 EN 1363-1: 2012
F3	DMT GmbH & Co KG NB 2509	Kegro Deuren B.V.	DMT-DO-50-768 08.06.2020	EN 1634-1: 2014+A1:2018 EN 1363-1: 2012

The product standard EN 16034:2014 refers to the standards EN 1634-1 release version 2014 and EN 1363 release version 2012.

The test standard EN 1634-1 will be taken into account with its release versions of 2014 and 2018. The product standard refers to the release version of 2014, so that the differences to this version must be evaluated.

The test reports F1 to F3 were tested according to standard EN 1634-1 edition 2014+A1:2018. The changes towards the actual standard are shown in the following list (extract from the preface of the EN 1634-1:2014+A1:2018):

a. Changes of the European foreword;
b. Change of the field of application;
c. Changes in section 2;
d. Changes in section 3;
e. Change in section 5;
f. Change in section 6;
g. Change in section 8;
h. Changes in section 9;
i. Changes in table 2;

j. Changes of the figures 11, 12, 16, 24 and 33;

k. Changes in annex B;

l. Changes in the references.

This is at one side a change of terminologies and concretizations and mainly, regarding for doors in particular, changes in the required distance of thermocouples between frame/blind frame and supporting construction from 20 mm to 15 mm.

None of the differences between the mentioned versions of the EN 1634-1 test standard was relevant for the performance of the tests documented in the test reports F1 to F3 so it can be estimated that the results, which are reached in this tests, also would have been achieved with a test according to standard edition 2014. So the test reports F1 to F3 can be used for this classification report.

The test standard EN 1363-1 will be taken into account with its release versions of 2012 and 2020. The product standard refers to the release version of 2012, so that the differences to this version must be evaluated.

The specimen described in test report F2 was tested according to standard EN 1363-1 edition 2020. In addition to a number of editorial changes and clarifications regarding the evaluation of hot gases escaping during fire testing for the insulation criteria, the main changes in this version affect sustainability criterion “Loadbearing capacity” which is not relevant for this test report for extended application.

None of the differences between the mentioned versions of the EN 1363-1 test standard was relevant for the performance of the test documented in the test report F2 so it can be estimated that the results, which are reached in this test, also would have been achieved with a test according to standard edition 2012. Therefore, the test report F2 can be used for this classification report.

According to EN 15269-3, section 4.4.3 negative test reports can be considered as followed:

„Where it has been possible to identify specific parameter failures, the extended application for all other construction parameter variations can be based on the performance achieved after isolating the premature failure(s).“

In the test described in the report F1 the premature failure of the integrity “E” in test minute 33 was a result of the material of the used seals (TPE). A different seal material would have resulted in category B (see report F3, silicone). The test report F1 will therefore taken into

account for TPE-Seals with “EW” category A and for all other details of the door leaf with “EW” category B.

In the test described in the report F3 the premature failure of the integrity “E” was caused by a failure of the glass of the side screen after 25 test minutes. If the failure of the glass of the side screen is not taken into account, the door would have received the criteria integrity with radiation insulation “EW” up to test minute 37. Therefore, the test report is considered for the determination of the extended application regarding all construction parameters except the glass of the side screen for criteria “EW” for 37 minutes.

3.1.2 Test results of test reports according to EN 1634-1

Test report number Brief description of the test specimen	Parameter	results[min]
(F1) DMT-DO-50-767 **Single-leaved glazed wooden frame door in wooden block frame with a thickness of 54 mm, with an open clearance (W x H) of 1050 mm x 2400 mm, with side screen and top light and frame outside dimensions (W x H) of 1642 mm x 2868 mm. Exposed side opening side / hinges side**	Integrity (cotton pad)	**33**
	Integrity (gap gauge)	**37**
	Integrity (sustained flaming)	**37**
	Insulation I_1	**17**
	Insulation I_2	**17**
	Radiation	**33**
(F3) DMT-DO-50-807 **Double-leaved glazed wooden frame door in wooden block frame with a thickness of 54 mm, with an open clearance (W x H) of 2019 mm x 2415 mm, with side screens and top light and frame outside dimensions (W x H) of 3265 mm x 2887 mm. Exposed side opening side / hinges side**	Integrity (cotton pad)	**39**
	Integrity (gap gauge)	**39**
	Integrity (sustained flaming)	**37**
	Insulation I_1	**14**
	Insulation I_2	**14**
	Radiation	**37**
(F3) DMT-DO-50-768 **Single-leaved glazed wooden frame door in wooden block frame with a thickness of 54 mm, with an open clearance (W x H) of 1044 mm x 2420 mm, with side screen and top light and frame outside dimensions (W x H) of 1662 mm x 2903 mm. Exposed side opening side / hinges side**	Integrity (cotton pad)	**37**
	Integrity (gap gauge)	**37**
	Integrity (sustained flaming)	**25**
	Insulation I_1	**13**
	Insulation I_2	**13**
	Radiation	**37**

3.2 Reports of extended application

Nr.	Test report no. dated	Name of Test Body Notified Body	Name of sponsor	Standard of extended application
E1	E-5030-DMT-DO 24.09.2020	DMT GmbH & Co. KG 2509	Kegro Deuren B.V.	EN 15269-3:2012

4 Classification and field of application

4.1 Reference of classification

This classification was carried out in accordance with EN 13501-2:2016, section 7.5.5 and 7.5.6.

4.2 Classification

The fire protection door of type „KegaWood“ of Kegro Deuren B.V., may be classified according to the following combinations of performance parameters and classes as appropriate.

R	**E**	**I**	**W**		**t**	**t**	**-**	**M**	**S**	**C**	**IncSlow**	**sn**	**ef**	**r**

Fire resistance classification:

EW 30 – C

4.3 Field of application

This classification is valid for the following practical application (final application):

EN 16034

The scope of the classified component with direct and extended field of application is given in the test reports, the reports of extended application and the annexes 1.0 to 6.4 of this classification report.

5 Limitations

This classification document does not represent type approval or certification of the product.

Lathen, 18.01.2021

Kruse
(deputy head of test lab)

DMT-Prüfstelle für Brandschutz DMT

Mertens
(case worker)

Annotations

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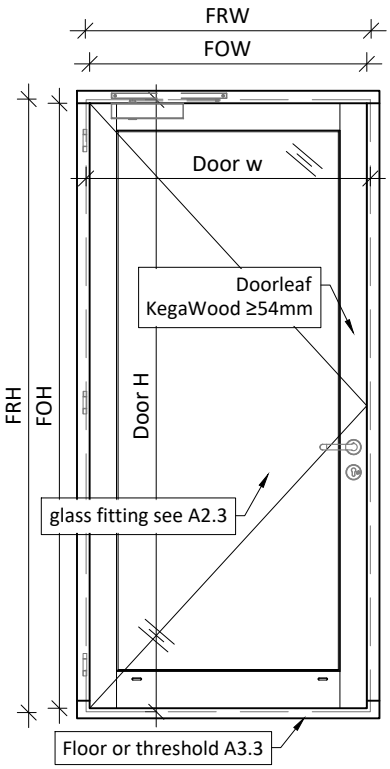
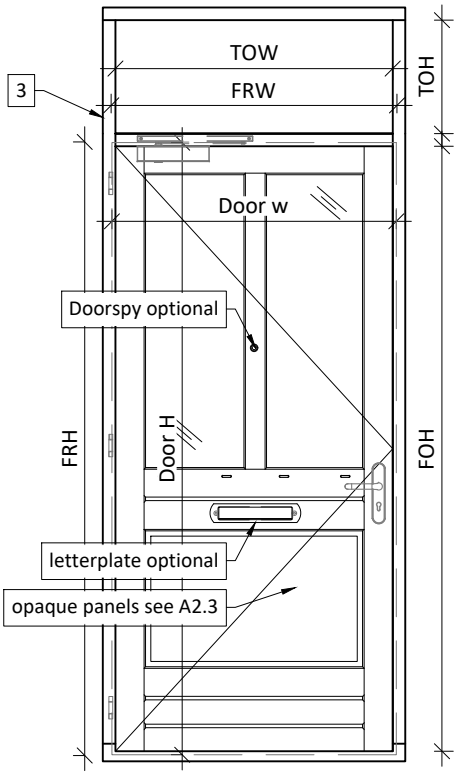
A publication requires the written approval of DMT GmbH & Co. KG, Test Body for Fire Protection.

Translations of this classification report have to include the annotation „Translation of the german original version not proven by DMT GmbH & Co. KG, Test Body for Fire Protection“. In cases of doubt the german original version of the report is valid.

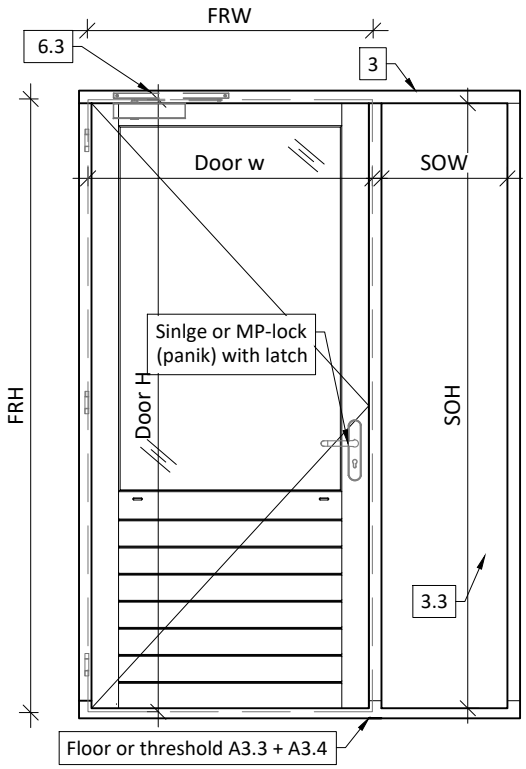
1.0 Overview of doorset configuration and sizes
SINGLE LEAF DOORSET



3 or 4 sides simple frame
(see annex 3)



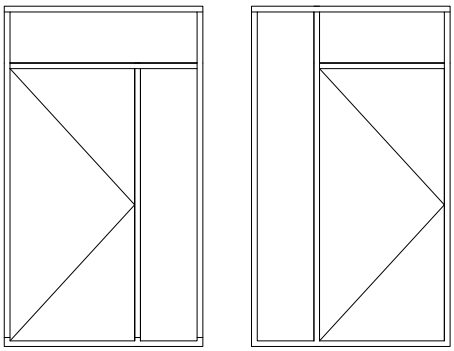
3 or 4 sides frame with
topscreen and transom



3 or 4 sides frame with
sidescreen(s) and mullion

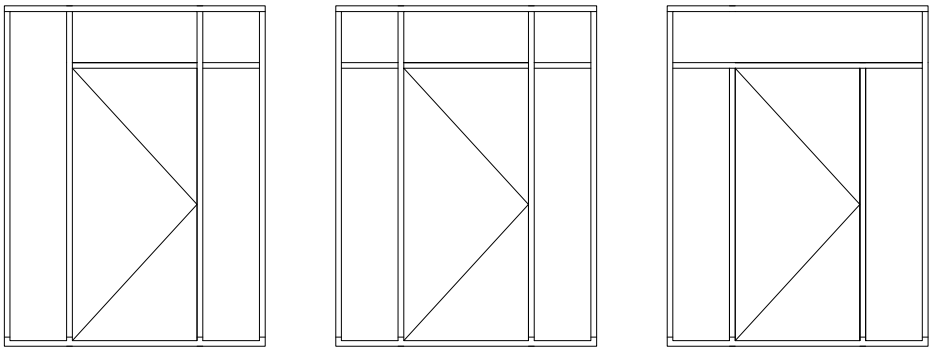
Allowable size for single door sets

	Width mm	Heigth mm	Area m²
Doorleaf*	≤ 1229	≤ 2791	≤ 3,126
Frame opening size	≤ 1200	≤ 2783	≤ 3,031
Frame rebate size	≤ 1234	≤ 2800	≤ 3,152
Toplight opening size	≤ 2973	≤ 345	≤ 0,930
Side screen opening size	≤ 575	≤ 2760	≤ 1,440



** : Doorleaf KegaWood ≥54mm*
in softwood ≥450kg/m³ (Model serie "LX" only)
in hardwood ≥550kg/m³

additonal configurations, sizes accordingly



FRH: Frame rebate height
FOH: Frame opening height
TOH: Top light opening height
SOH: Sidescreen opening height
FRW: Frame rebate width
FOW: Frame opening width
TOW: Top light opening width
SOW: Sidescreen opening width

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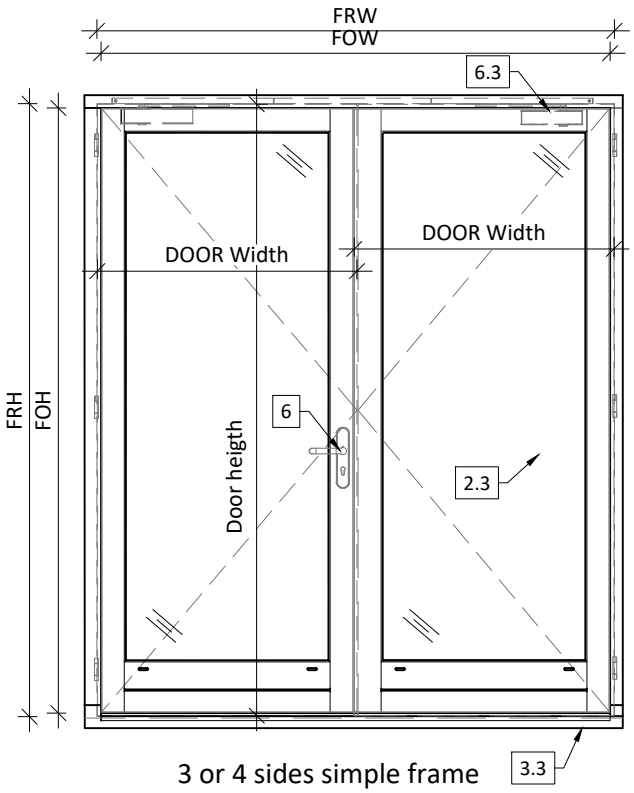
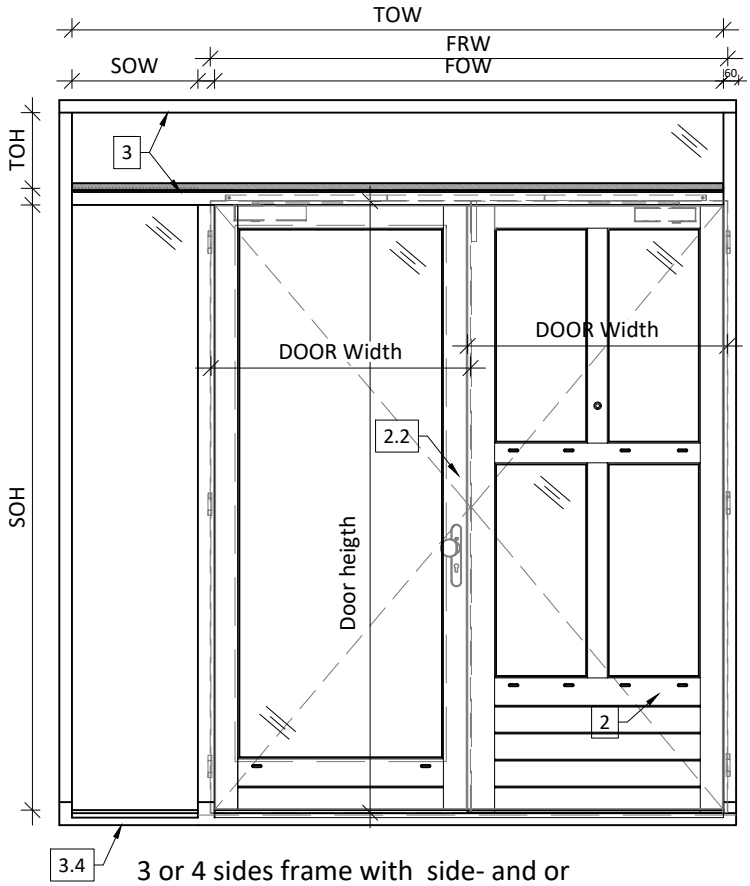
18. Jan. 2021

Front view non exposed face	annex 1.0
DMT GmbH & Co. KG Plant for Product Safety Test Body for Fire Protection	report no. K-5044-DMT-DO

1.1 Overview of doorset configuration and sizes
DOUBLE LEAF DOORSET



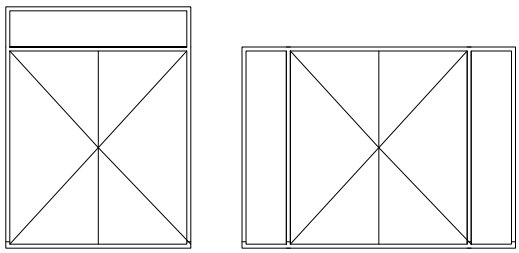
3 or 4 sides simple frame
(see annex 3)



3 or 4 sides frame with side- and or overheadscreen(s), frame with transom and mullion

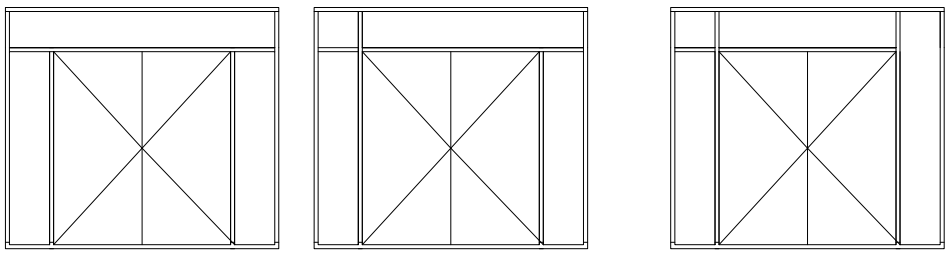
Allowable size for double doorsets

	Width mm	Heigth mm	Area m²
Doorleaf (each) *	≤ 1185	≤ 2790	≤ 2,998
Frame opening size	≤ 2322	≤ 2760	≤ 5,814
Frame rebate size	≤ 2356	≤ 2777	≤ 5,996
Toplight opening size	≤ 2973	≤ 345	≤ 0,930
Side screen opening size	≤ 575	≤ 2760	≤ 1,440



** : Doorleaf KegaWood ≥54mm*
in softwood ≥450kg/m³ (Model serie "LX" only)
in hardwood ≥550kg/m³

additonal configurations, sizes accordingly



FRH: Frame rebate height
FOH: Frame opening height
TOH: Top light opening height
SOH: Sidescreen opening height
FRW: Frame rebate width
FOW: Frame opening width
TOW: Top light opening width
SOW: Sidescreen opening width

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DMT
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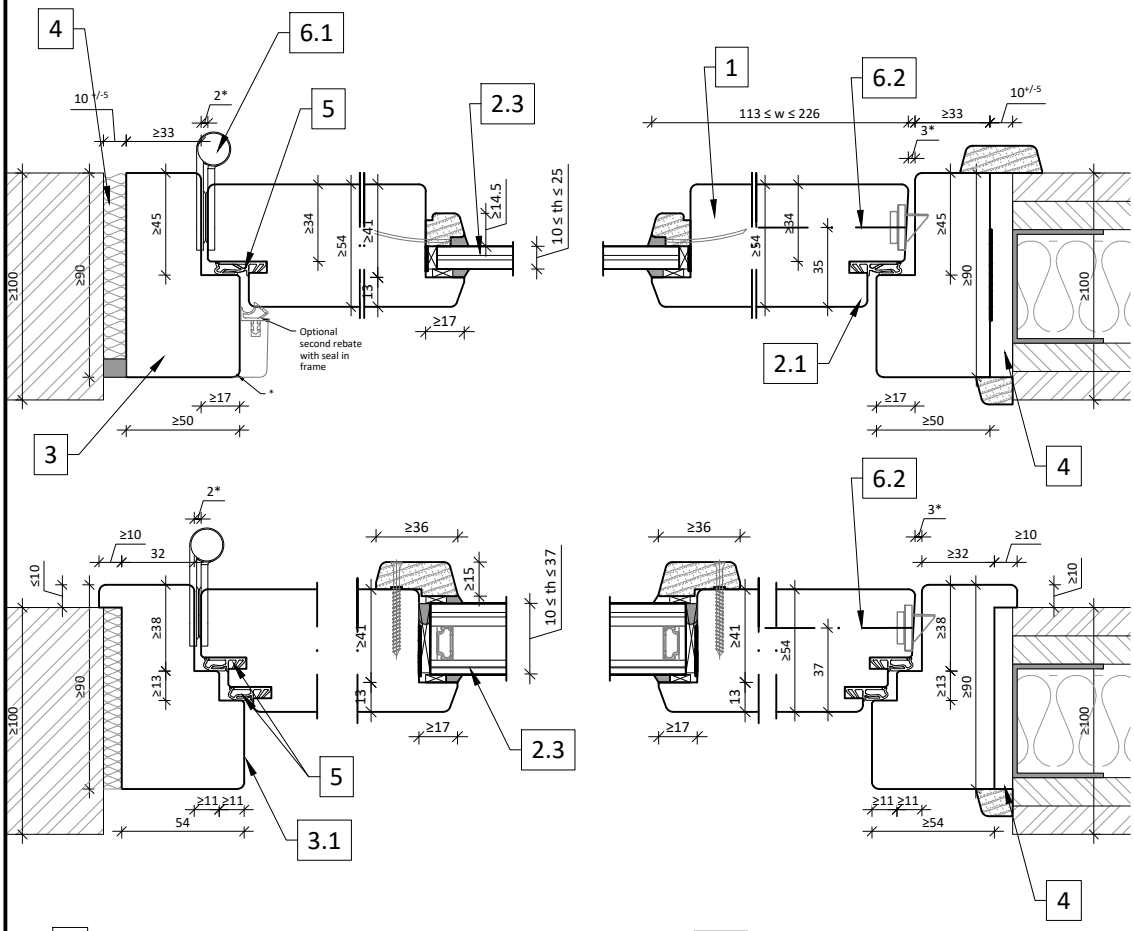
Double doorsets overview	annex 1.1
DMT GmbH & Co. KG Plant for Product Safety Test Body for Fire Protection	report no. K-5044-DMT-DO

1.2 Basic principle horizontal sections of single doorssets with or without sidescreen



Details see Annex:

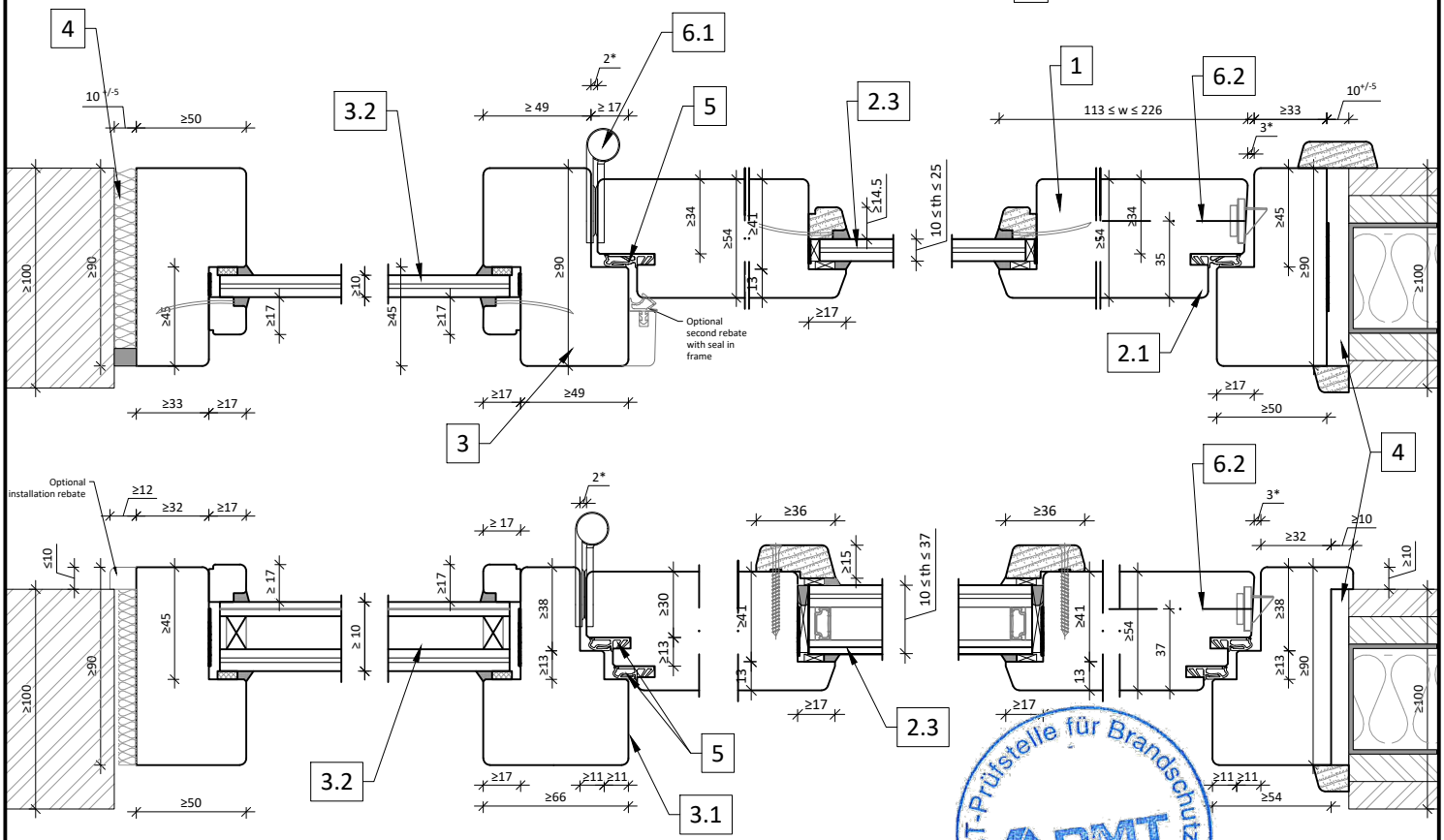
2. Doorleaf construction
- 2.1. edge profiles and rebates
- 2.2. meeting edge double doors
- 2.3. glass fitting
- 2.4. kick plates

3. Frame construction
- 3.1. rebates
- 3.2. side and overhead panels
- 3.3. thresholds

4. Wall-Frame meeting edge and fixation
- 4.1. meeting edge details

5. Seals and intumescent

6. Door hardware
- 6.1. hinges
- 6.2. locks
- 6.3. doorclosers
- 6.4. Furniture



*Gap size	nominal mm	maximum mm
Hinge side edge	2	≤ 4,5
Lock side edge	3	≤ 5,5

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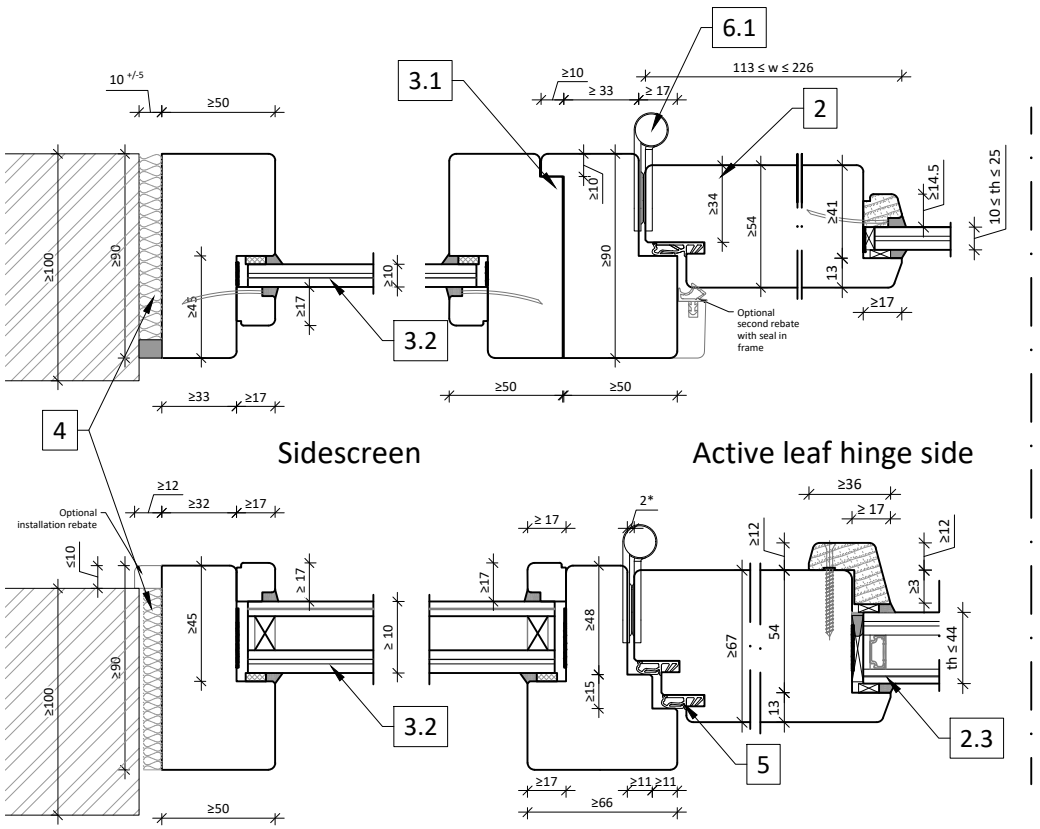
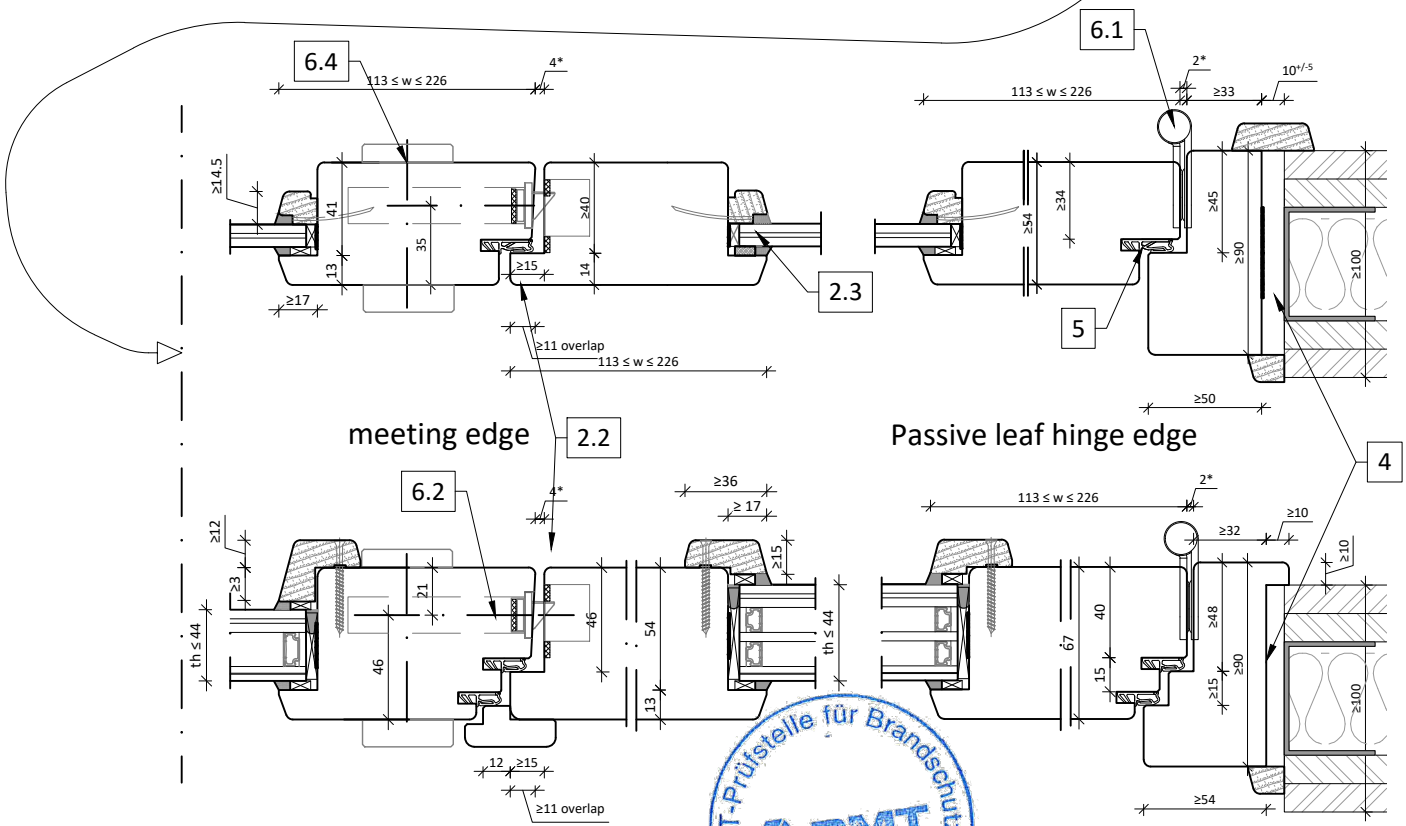
Horizontal section single doorset	annex 1.2
DMT GmbH & Co. KG Plant for Product Safety Test Body for Fire Protection	report no. K-5044-DMT-DO

1.3 Basic principle horizontal sections of double d
without sidescreen





Details see Annex:

*Gap size	nominal mm	maximum mm
Hinge side edge	2	≤ 4,5
Lock side edge	3	≤ 5,5
Meeting style (middle)	4	≤ 7,5

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Horizontal section double doorset	annex 1.3
DMT GmbH & Co. KG Plant for Product Safety Test Body for Fire Protection	report no. K-5044-DMT-DO

1.4 Basic principle vertical sections of doorssets with or without top and sidescreen

Details see Annex:

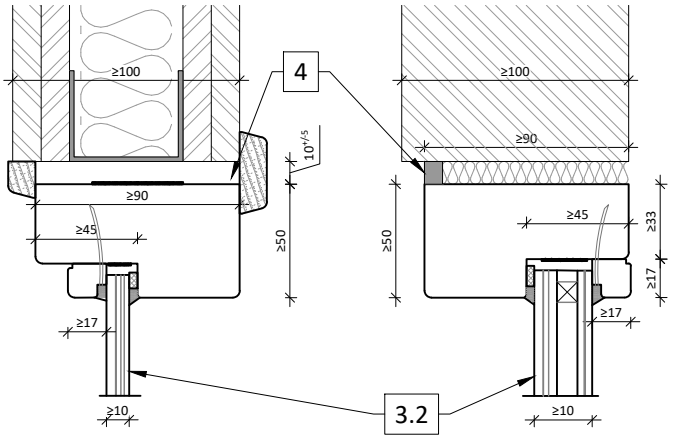
2. Doorleaf construction
- 2.1. edge profiles and rebates
- 2.2. meeting edge double doors
- 2.3. glass fitting
- 2.4. kick plates

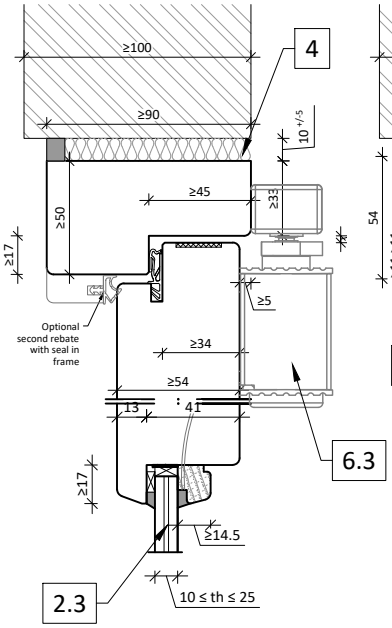
3. Frame construction
- 3.1. rebates
- 3.2. side and overhead panels
- 3.3. Thresholds

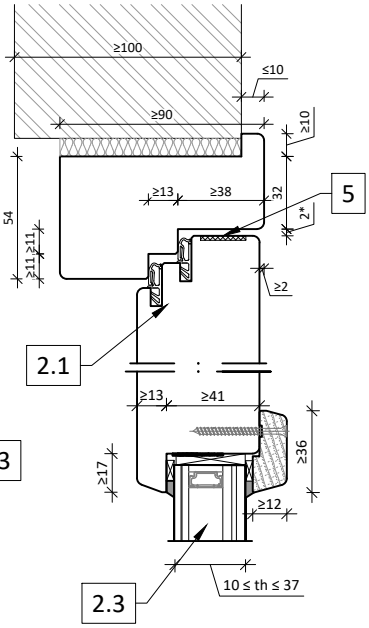
4. Wall-Frame meeting edge and fixation
- 4.1. meeting edge details

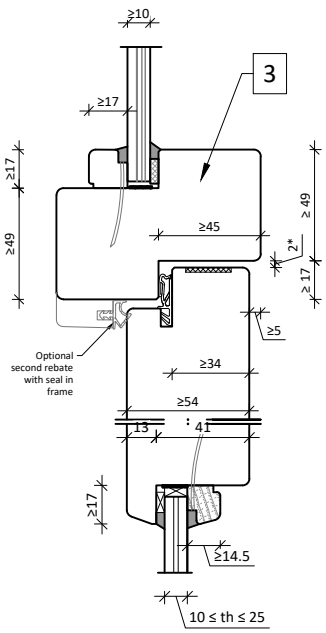
5. Seals and intumescent

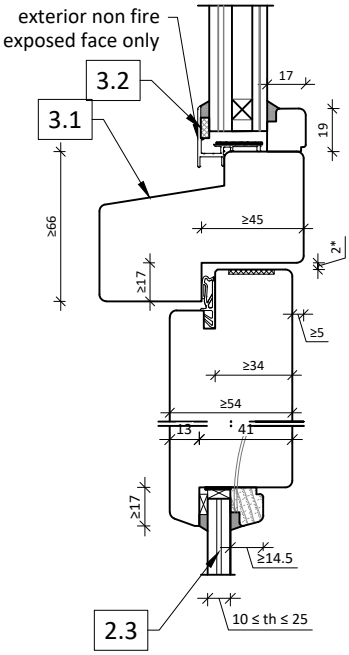
6. Door hardware
- 6.1. hinges
- 6.2. locks
- 6.3. doorclosers
- 6.4. furniture



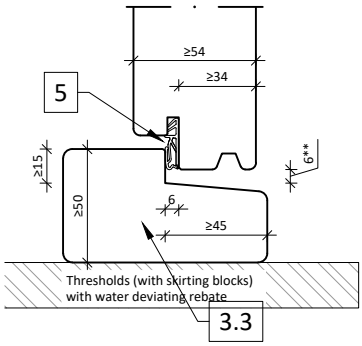


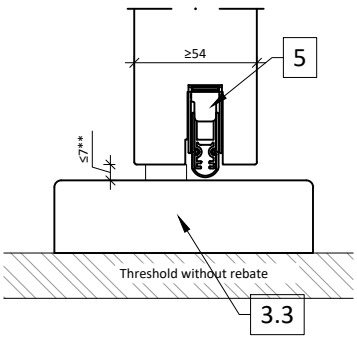


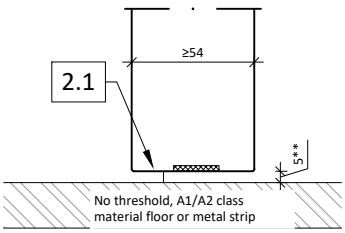


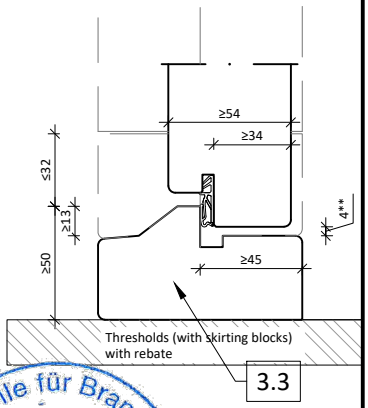


* Gap size	nominal mm	maximum mm
Head of the door	2	≤ 5,0









** Gap size	nominal mm	maximum mm
Bottom no threshold/ no rebate without dropseal	5	≤ 8,0
Bottom no threshold/ no rebate with dropseal	7	≤ 12,0
Bottom threshold with rebate	4	≤ 8,0

DMT-Prüfstelle für Brandschutz DMT 18. Jan. 2021

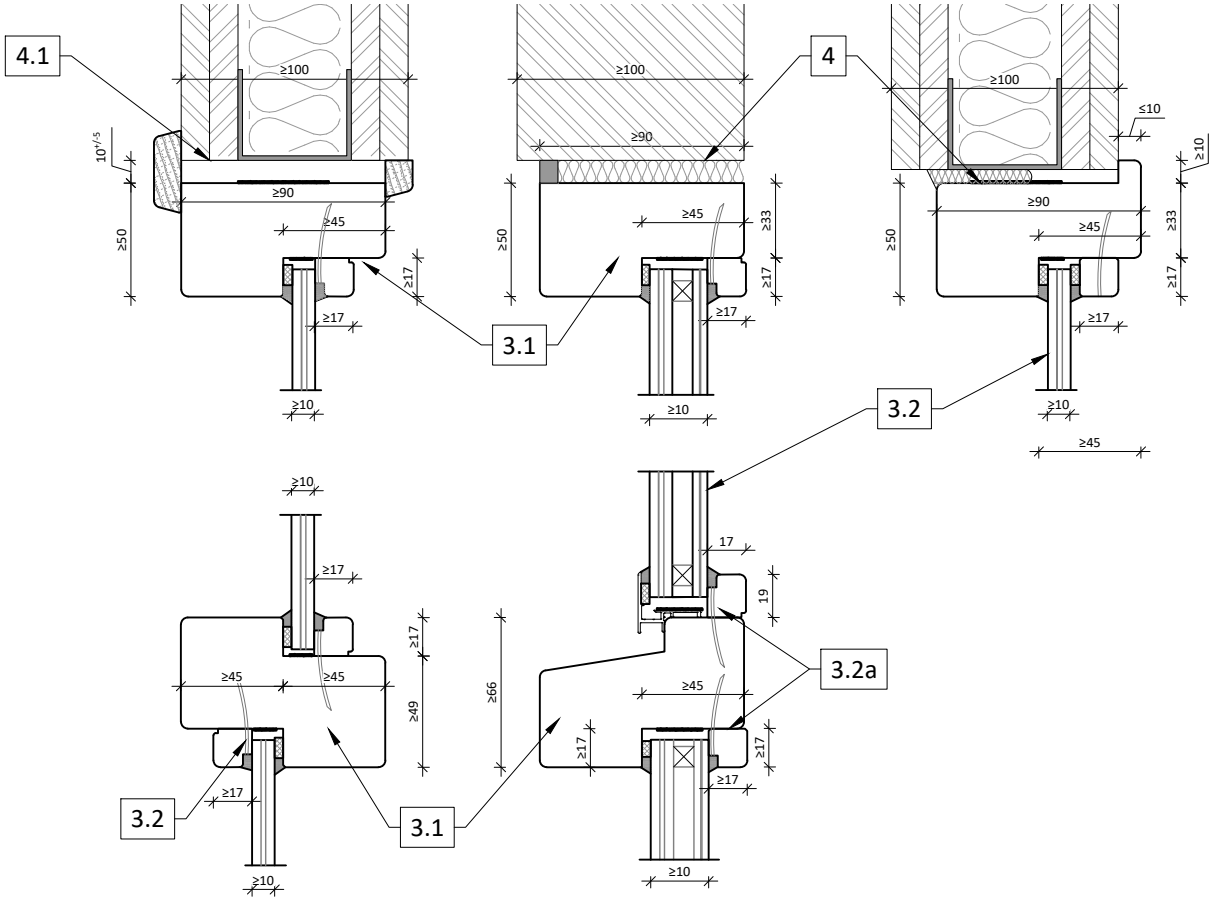
Vertical section doorset	annex 1.4
DMT GmbH & Co. KG Plant for Product Safety Test Body for Fire Protection	report no. K-5044-DMT-DO

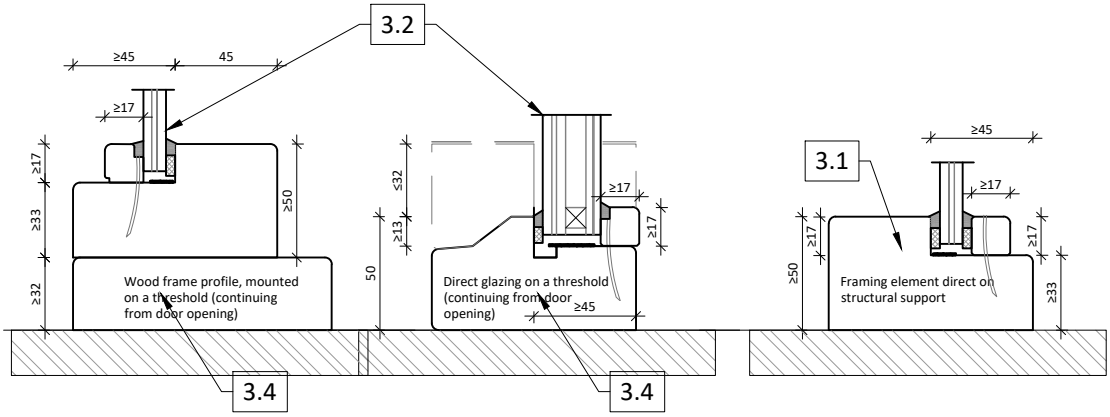
1.5 Basic principle vertical sections of sidescreens with or without transom

Details see Annex:

3. Frame construction
- 3.1. rebates
- 3.2. side and overhead panels
  - 3.2a: details glass fitting
- 3.3. thresholds
- 3.4. sidescreen thresholds

4. Wall-Frame meeting edge and fixation
- 4.1. Detail frame to wall meeting edge

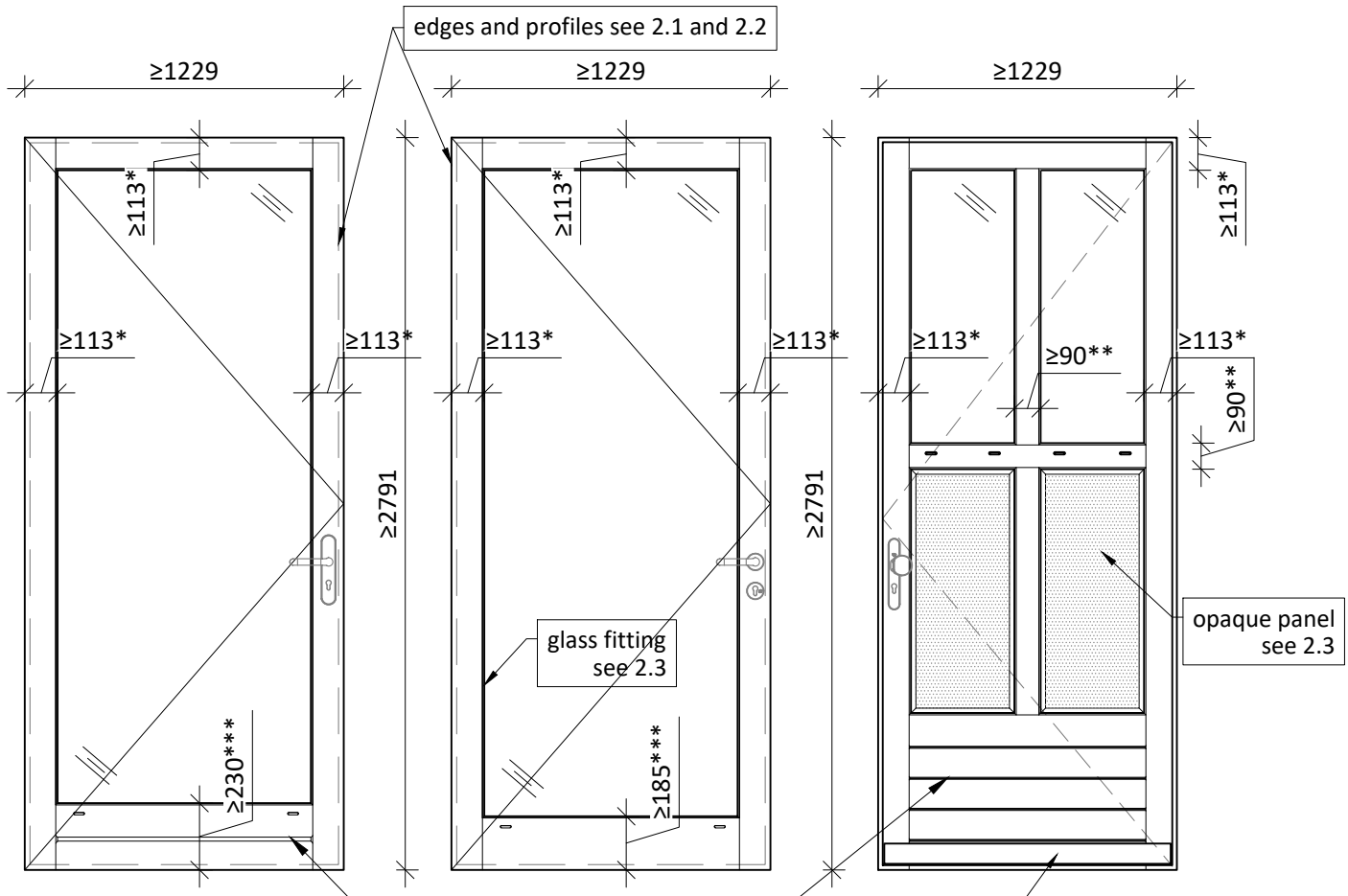




DMT-Prüfstelle für Brandschutz DMT 18. Jan. 2021

Vertical section sidescreen + toplight	annex 1.5
DMT GmbH & Co. KG Plant for Product Safety Test Body for Fire Protection	report no. K-5044-DMT-DO

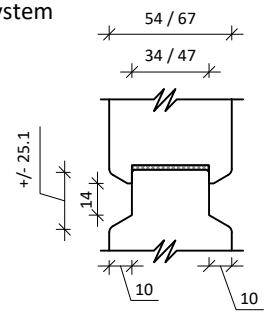
2 - KegaWood doorleaf construction



*: rails and stiles perimeter 113 - 226 mm
**: rails and styles intermediate 90 - 180 mm
***: bottom rail 185 - 370 mm if in 1 piece,
if coupled 113 - 226 mm + 117 - 234 rails (≥2pc)

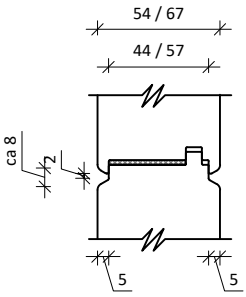
Doorleaf optionally with added mouldings or decoration, wood based material.
≥25% of surface area, total leaf weight ≥117kg

Standard rebate for stacking rail system



KegaWood Sipo (FSC)
KegaWood Merbau (FSC)
KegaWood Swietenia FSC
KegaWood Meranti (FSC)
or other hardwood ≥ 550kg/m³

LX rebate for stacking rail system



KegaWood Dural
KegaWood Sipo (FSC)
KegaWood Merbau (FSC)
KegaWood Swietenia FSC
KegaWood Meranti (FSC)
or other soft/hardwood ≥450kg/m³

Possible model range also as "T" series:
"Achterdeuren/balkondeuren"
7519N -- 7589N;
7619N -- 7695N;
7522LX -- 7598LX;
7627LX -- 7692LX;
"Voordeuren":
2616N -- 2632N;
6601N--6603N; 6607N; 6611N; 6612N;
6661N--6664N;
9602N--9604N; 9607N--9609N; 9614N;
9615N; 9619N; 9624N;
9627N;9628N;9631N; 9645N

Or custom models as based on rules.

doorleaf size, see annex 1.0 and 1.1	**Width** mm	**Heigth** mm	**Area** m²
KegaWood 54 single door	≤ 1229	≤ 2791	≤ 3,126
KegaWood 54 double door per leaf	≤ 1185	≤ 2790	≤ 2,998

Doorleaf weight incl glass/panel ≥47kg/m² or 117kg

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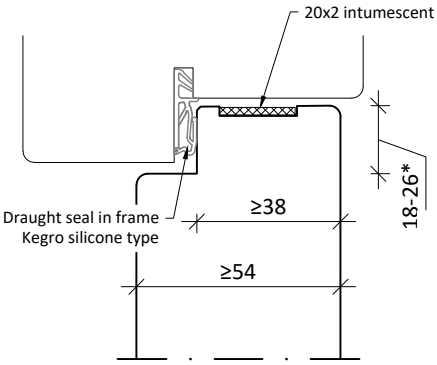
Doorleaf construction and overview	annex 2.0
DMT GmbH & Co. KG Plant for Product Safety Test Body for Fire Protection	report no. K-5044-DMT-DO

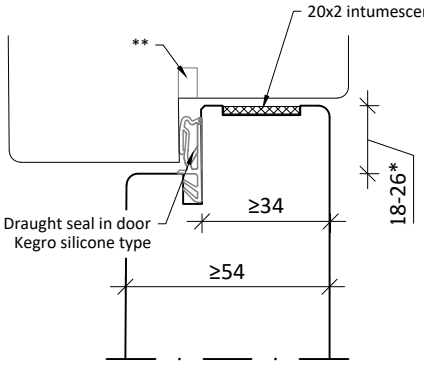
2.1 Profiles for Door-Frame meeting edge rebate

for corresponing doorframe see annex 3.1

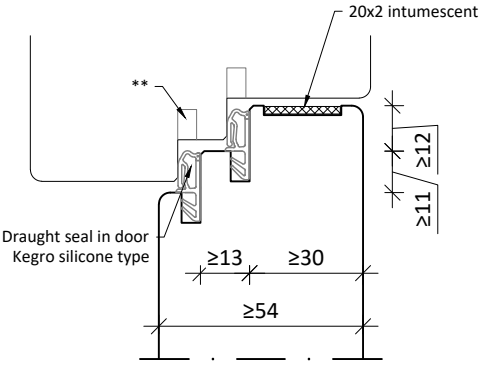
Head of door



Plain edge innerrebate for seal in frame
(NL: Verjoning sponning)

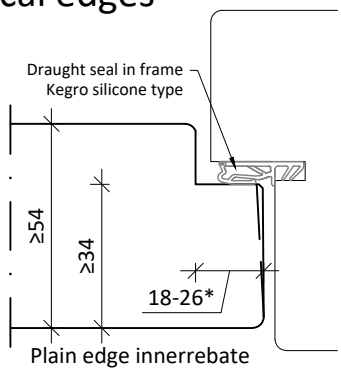


Plain edge with inner rebate integrated seal
(NL: Kaderprofilering)

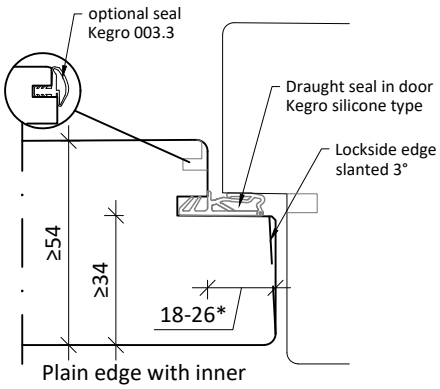


Double rebate plain edge, integrated seals (optionally seals in frame)
(NL: Dubbele kaderprofilering)

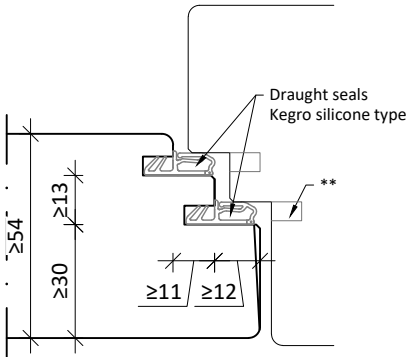
Vertical edges



Plain edge innerrebate for seal in frame
(NL: Verjonging sponning)

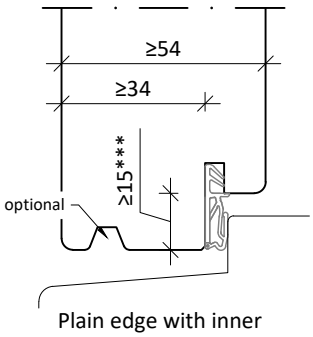


Plain edge with inner rebate integrated seal
(NL: Kaderprofilering)

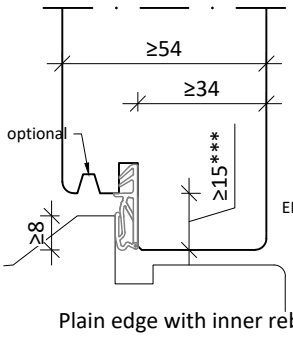


Double rebate plain edge, integrated seals (optionally seals in frame)
(NL: Dubbele kaderprofilering)

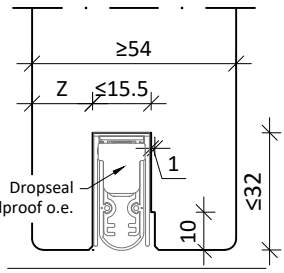
Bottom edges



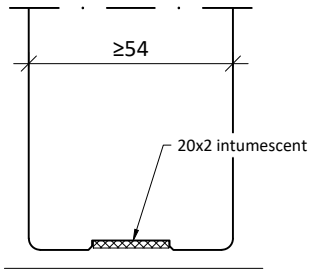
Plain edge with inner rebate integrated seal incl. (NL: Kaderprofilering met waterhol optioneel)



Plain edge with inner rebate, intergrated seal.
(NL: Kaderprofilering, optioneel met waterholletje)



Plain with notch for threshold dropseal
(NL: vlak met valdorpel)



Plain with intumescent without rebated threshold
(NL: vlak zonder aanslag of dichting onder)

*: width of rebate to be in relation to frame rebate. Frame rebate +1mm is door rebate.
**: notch for smoke/draught seal optionally omitted if the seal is to be incorporated in the frame
***: width of rebate under side of door to be in relation to threshold rebate. Threshold rebate - door rebate = ≤ 3

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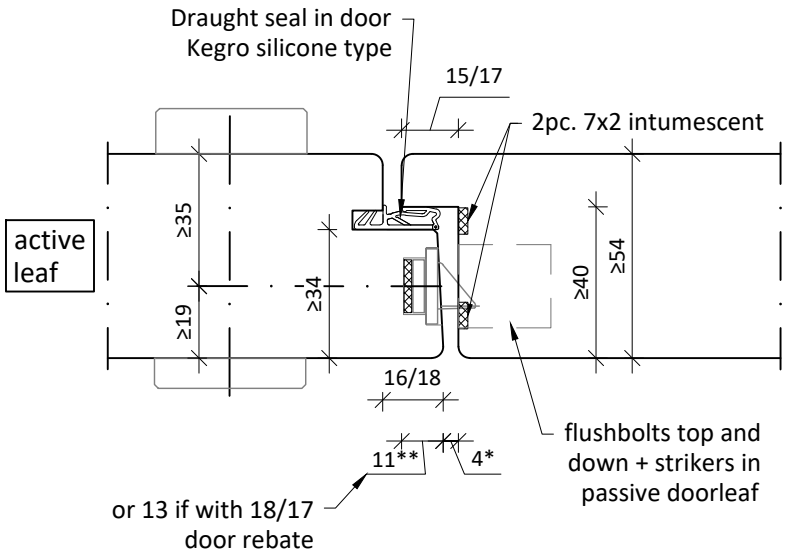
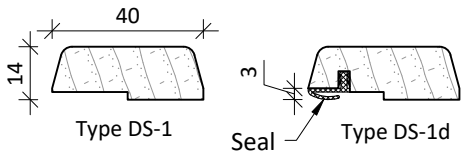
Doorleaf - frame meeting edge profiles	annex 2.1
DMT GmbH & Co. KG Plant for Product Safety Test Body for Fire Protection	report no. K-5044-DMT-DO

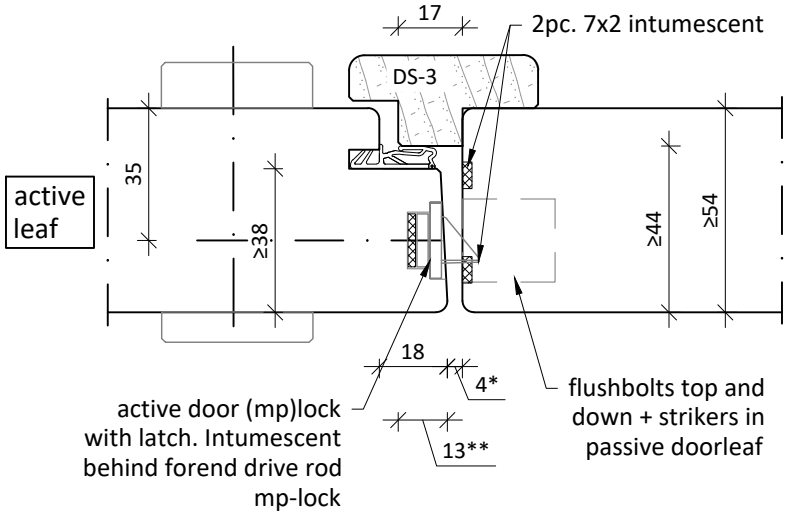
2.2 Profiles for double doorset meeting edge



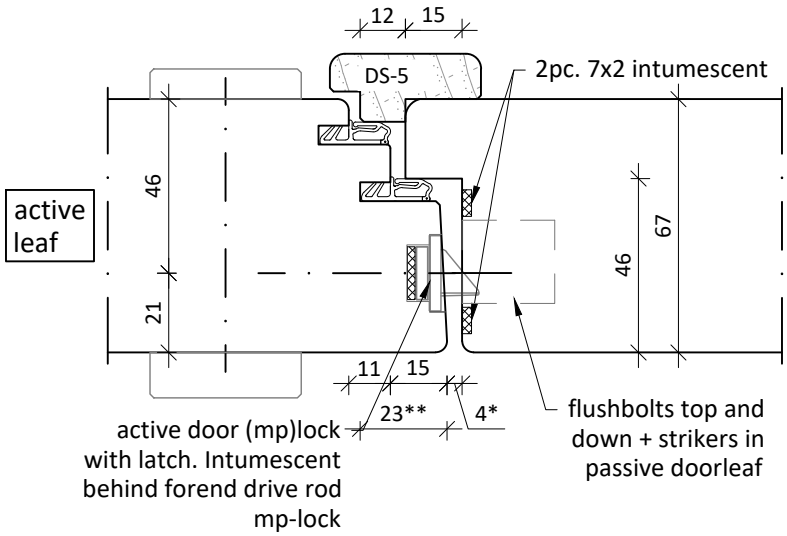
"Rebate - counter rebate situation"
Optionally with Astragals both sides

all sitiuations optionally with additional astragal.
Material: wood ≥500kg.
Astragal optionally with integrated seal





"Rebate-plain edge with 1 astragal situation"
Optionally with aditional astragal on active leave



"Double seal double rebate meeting edge"
67mm doors only.
Optionally with aditional astragal on active leave

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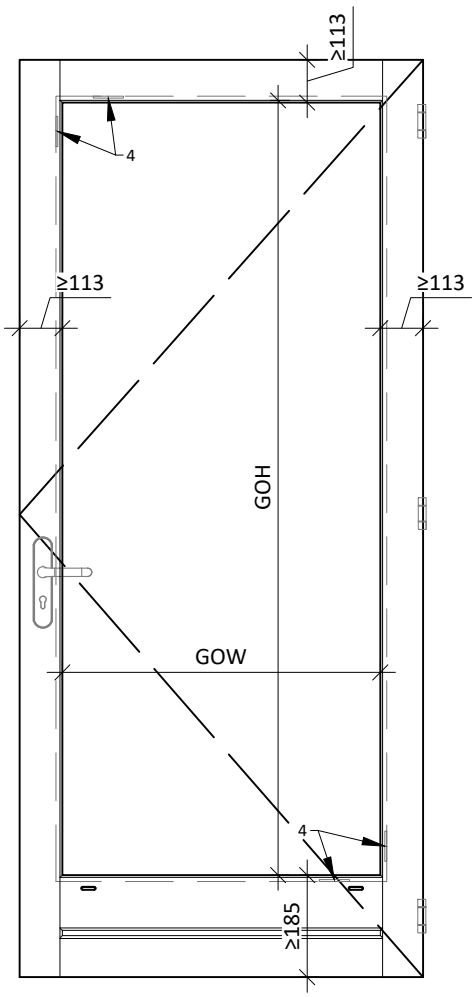
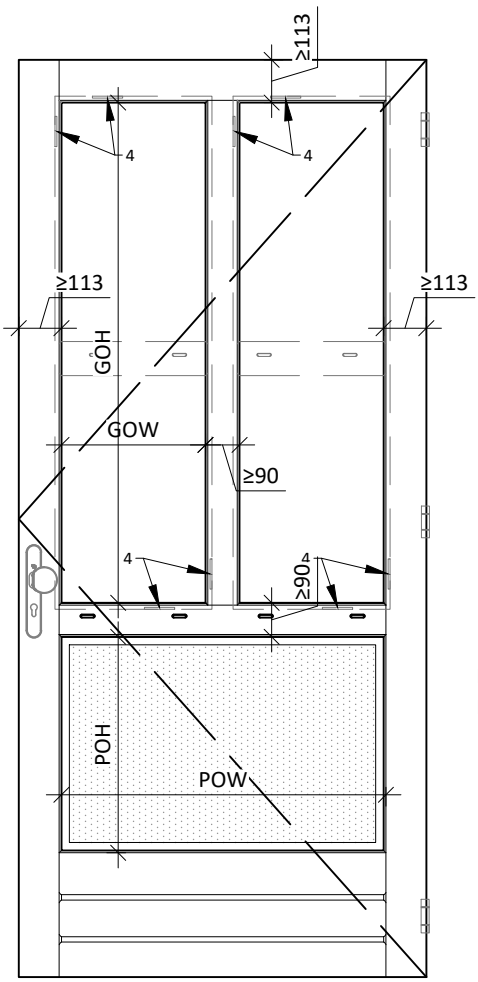
*: nominal gap, allowed deviation max. 6,5 mm / min. 2 mm
**: effective overlap active on passive doorleaf

double door meeting stile profiles	annex 2.2
DMT GmbH & Co. KG Plant for Product Safety Test Body for Fire Protection	report no. K-5044-DMT-DO

2.3 Glazing and opaque panel fitting





Single squared glass opening or multiple glazings fitted possible. Glass fitting detail see annex 2.3a

Index:

GOW: glazing opening width
GOH: glazing opening height
= glass size - 24mm
see table below

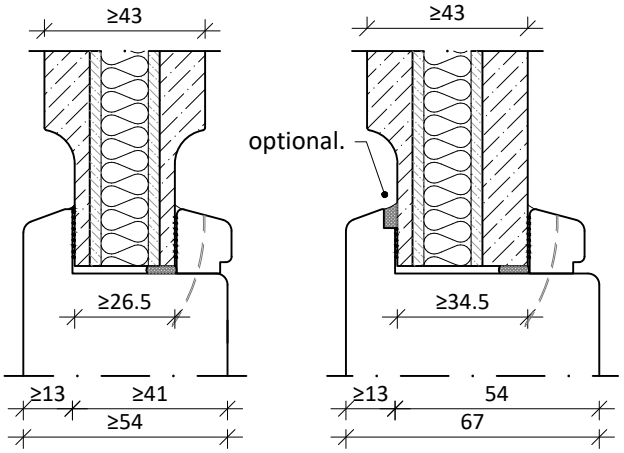
POW: panel opening width
POH: panel opening height
= panel size - 30mm
see table below

4. : Glazing setting block position, see 2.3a

Allowed panel and glass sizes:

Glastype in door	type	th. (mm)	interior/exterior use	width (mm)	height (mm)	surface (m²)
PyroDur plus 30-106	SGU	10	Interior	≤ 1012	≤ 2483	≤ 2,280
PyroDur plus 30-186/ 30-176	DGU	23 - 33	Interior			
PyroDur 30-203 / 30-200	SGU	11 / 14	Exterior			
PyroDur 30-283 / 30-273 / 30-383 / 30-373	DGU	24 - 34	Exterior			
PyroDur 30-283 / 30-273 / 30-383 / 30-373	TGU	38 - 47*	Exterior			

** max thickness depending on door thickness, see 2.3a*



Opaque panel details

Insulated Kegro fire panel Tricoya MDF surface optionally with mouldings./
Allowed panel size:

th. (mm)	width (mm)	height (mm)	surface (m²)
≥43	≤ 1049	≤ 684	≤ 0,718

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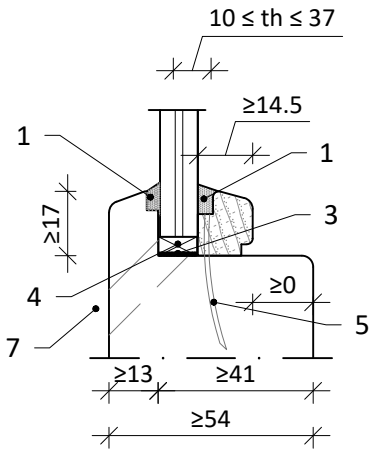
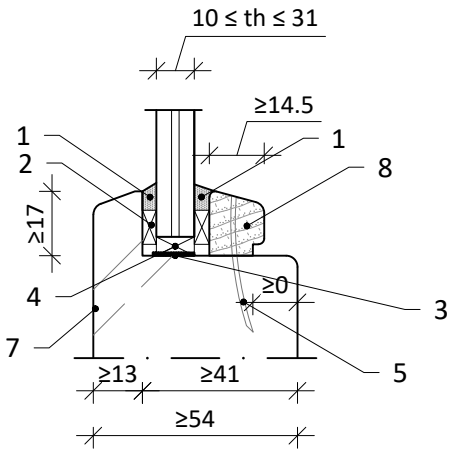
doorleaf glazing and panel overview	annex 2.3
DMT GmbH & Co. KG Plant for Product Safety Test Body for Fire Protection	report no. K-5044-DMT-DO

2.3a Glass fitting in doorleaf

With in rebate glass bead:

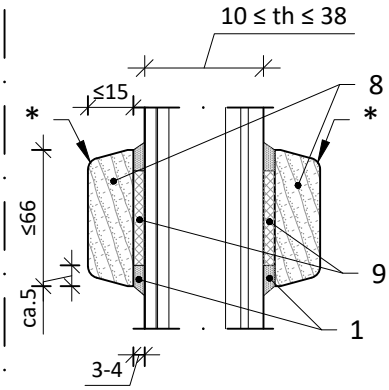


Type "kitsponning" rebate



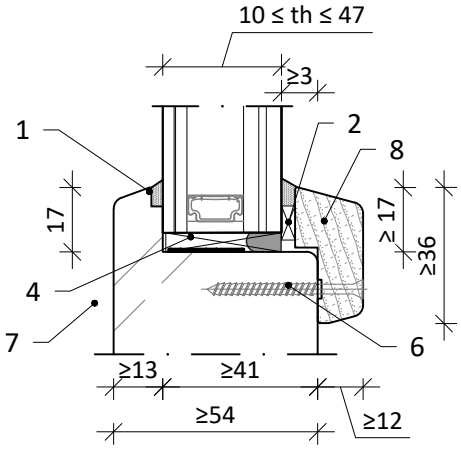
Type "standard" rebate

Glued on design glazing mouldings and bars:

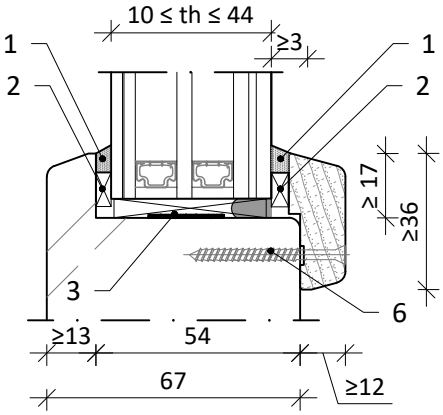


*: radius, or design moulding optional

With rebated glass bead:



Type "kitsponning" rebate



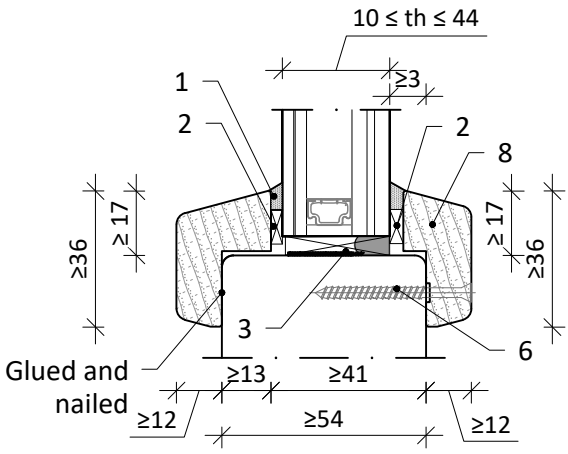
Type "standard" rebate

DGU or TGU* fitted with fireprotective glass on the fire exposed side.

*: DGU: double glass unit
TGU: tripple glass unit

With 2-sides rebated glass beads:

Allowed glass types and sizes see annex 2.3



Materials:

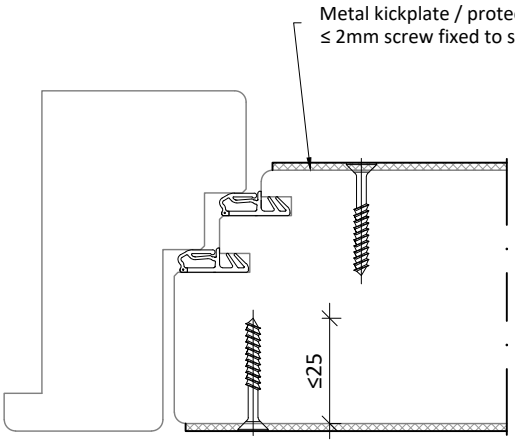
1. Glazing sealant silicon based o.e.
2. Ceramic backing size $4^{+/-1}$x ≥ 9mm
3. Intumescent 0.8x10 (single glass) or 0.8x20 (for insulated glass)
4. Setting blocks ≥A2 class material
5. Steel nail 1.2x30mm distance $50^{+/-10}$mm from corner and ≤150mm apart.
6. Glass bead screw Ø3.5x40 distance $50^{+/-10}$mm from corner and ≤250mm apart.
7. Optionally ventilation ducts 8x50mm 60mm from glass corner
8. Glass bead hardwood ≥ 550kg/m³
9. Double sided PE cellular tape

DMT-Prüfstelle für Brandschutz DMT 18. Jan. 2021

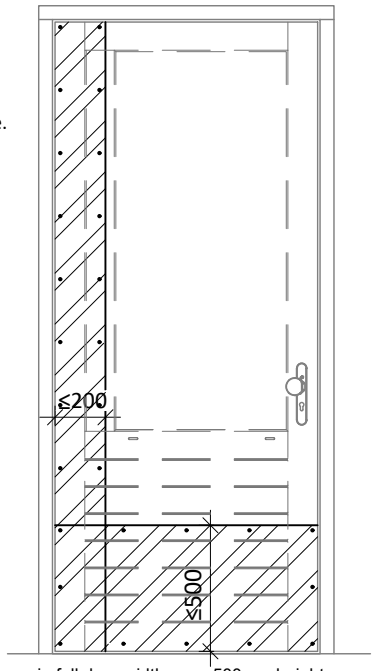
doorleaf glass fitting detail	annex 2.3a
DMT GmbH & Co. KG Plant for Product Safety Test Body for Fire Protection	report no. K-5044-DMT-DO

2.4 Kickplates on doorleaf

allowed size off doorleaf covering depending on fixation type

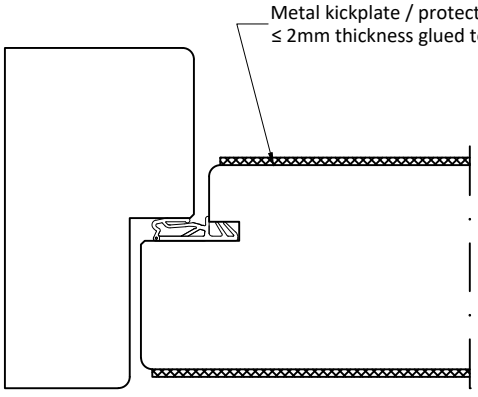


Screw fixation length ≤25mm
distance 200-300mm apart

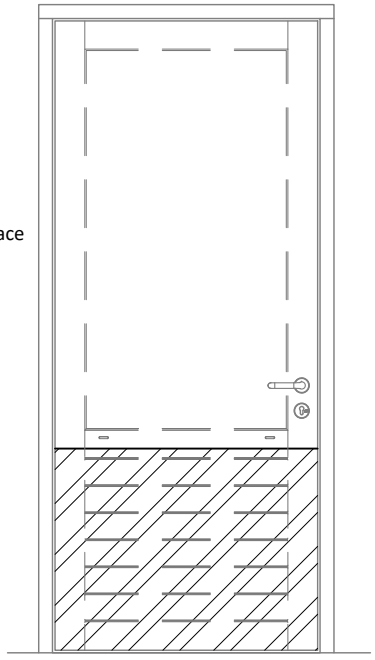


optionally in parts
considering total size
criteria

in full door width, max 500mm height
in full door heigth, max 200mm wide.
total covering max 40% and 1m^2

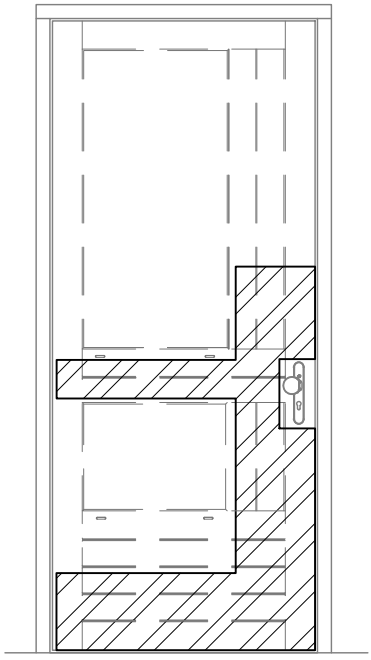


Glue or tape fixation



max 40% leaf area.
example:
if opening size frame 900x2300:

- in full door width, max 920mm height
- in full door height, max 360mm wide



free form, ≤ 40% surface.
free from any screw fixation like
door furniture

DMT-Prüfstelle für Brandschutz
DMT
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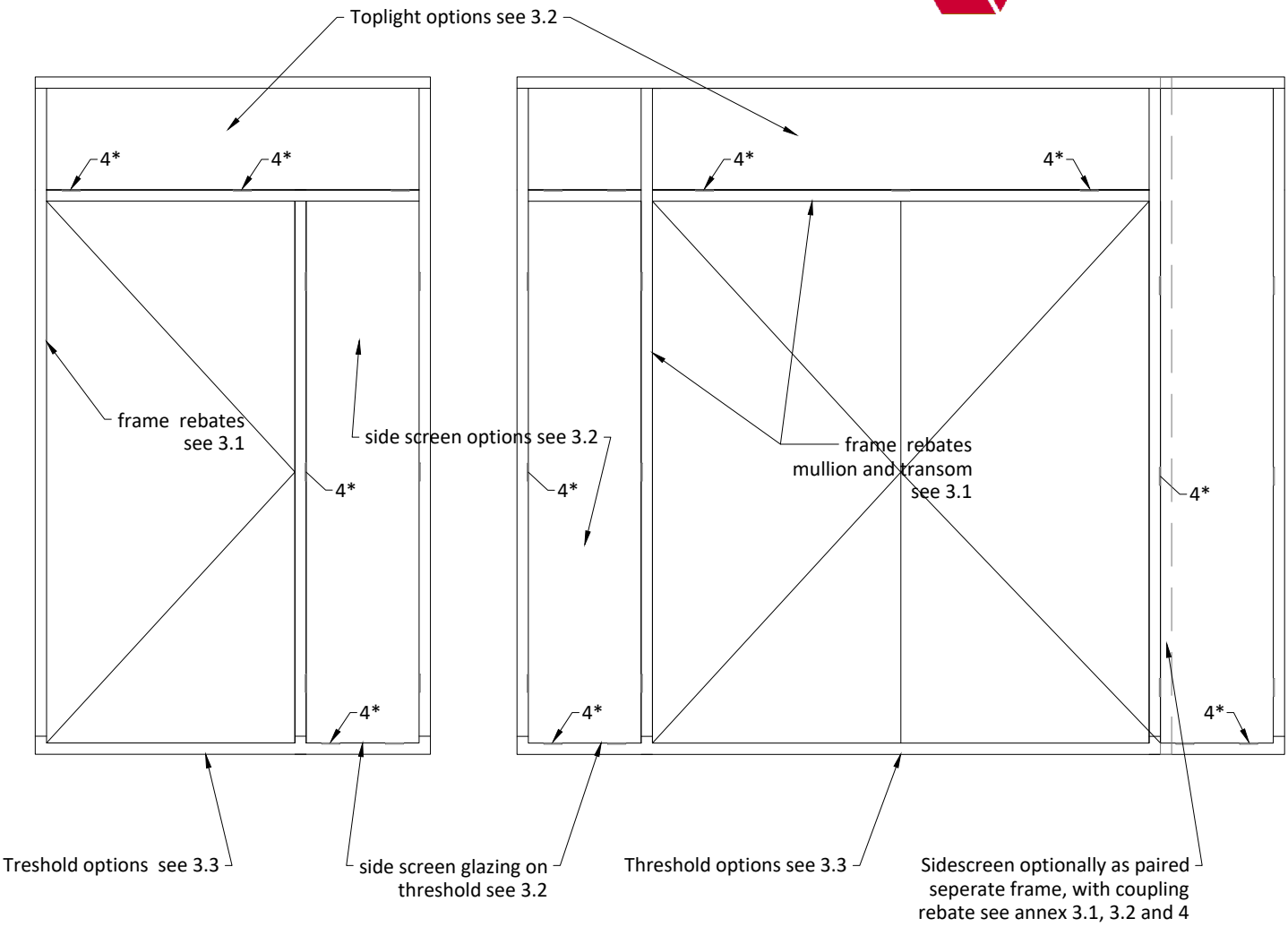
doorleaf kick and protective plates	annex 2.4
DMT GmbH & Co. KG Plant for Product Safety Test Body for Fire Protection	report no. K-5044-DMT-DO

3 Frame construction



Wooden timber frames

- wood species soft- or hardwood (excluding beech) ≥500kg/m³

Corner joint connections:

- Butt jointed with ≥2pc dowels hardwood ≥Ø14x80
- Mortise and tenon
- Glued with "0819 kozijnlijm" o.e.

Meeting edge with support construction and fixation see annex 4

4*: position of setting blocks glazing. See annex 3.2. Vertical setting blocks generally in area of lock points and hinges.

Side and overhead glazing panels see annex 3.2 for details of fixing and rebates

Sidescreen glazing type and allowed sizes

Glastype side screen	type	th. (mm)	width (mm)	height (mm)	surface (m²)
PyroDur plus 30-106	SGU	10	≤ 545	≤ 2787	≤ 1,379
PyroDur plus 30-186/ 30-176	DGU	23 - 33	≤ 603	≤ 2791	≤ 1,526
PyroDur 30-203 / 30-200	SGU	11 / 14	≤ 545	≤ 2787	≤ 1,379
PyroDur 30-283 / 30-273 *	DGU	24 - 34	≤ 603	≤ 2791	≤ 1,526
Pyrodur 30-283/ 30-273 *	TGU	≥38	≤ 603	≤ 2791	≤ 1,526

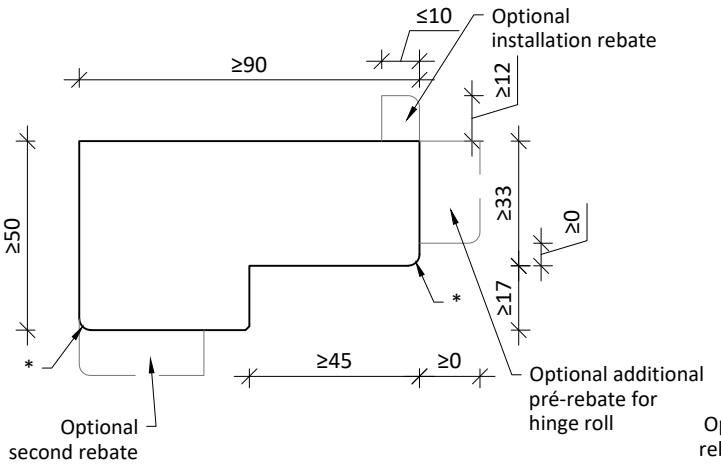
Overhead top light glazing type and allowed sizes

Glastype overhead	type	th. (mm)	width (mm)	height (mm)	surface (m²)
PyroDur plus 30-106	SGU	10	≤ 1801	≤ 324	≤ 0,609
PyroDur plus 30-186/ 30-176	DGU	23 - 33	≤ 3000	≤ 351	≤ 0,955
PyroDur 30-203 / 30-200	SGU	11 / 14	≤ 1801	≤ 324	≤ 0,609
PyroDur 30-283 / 30-273 *	DGU	24 - 34	≤ 3000	≤ 351	≤ 0,955
Pyrodur 30-283/ 30-273 *	TGU	≥38	≤ 3000	≤ 351	≤ 0,955

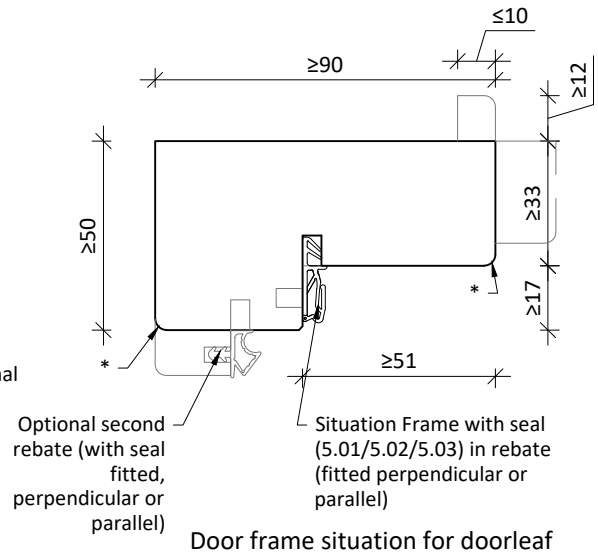
* or PyroDur 30-383 and 30-373 from equal productfamily

DMT-Prüfstelle für Brandschutz DMT 18. Jan. 2021

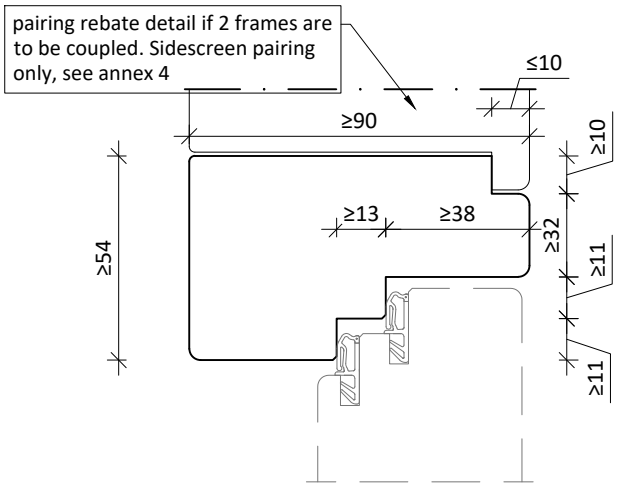
3.1 Doorframe rebates



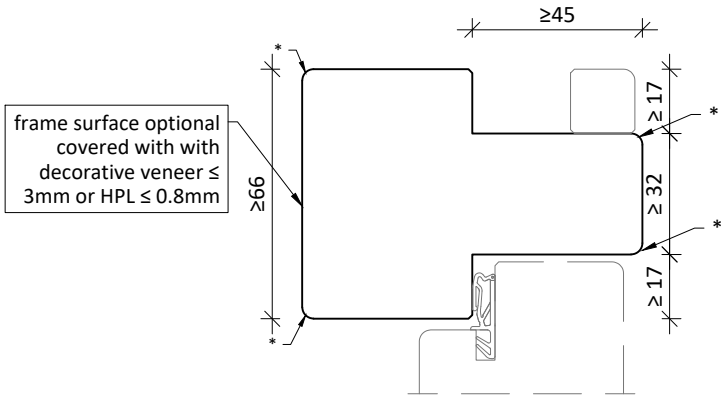
Door frame situation for doorleaf with draught seal incorporated in doorleaf. or Side/overhead glazing



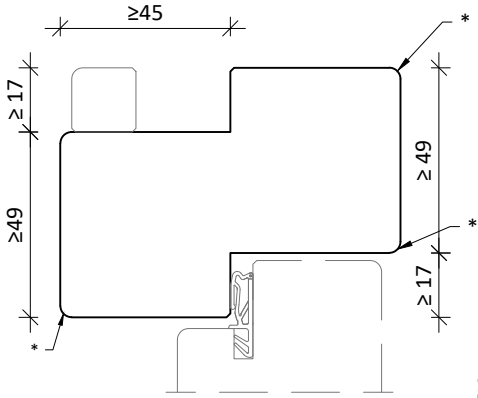
Door frame situation for doorleaf with rebate without draught seal in doorleaf.



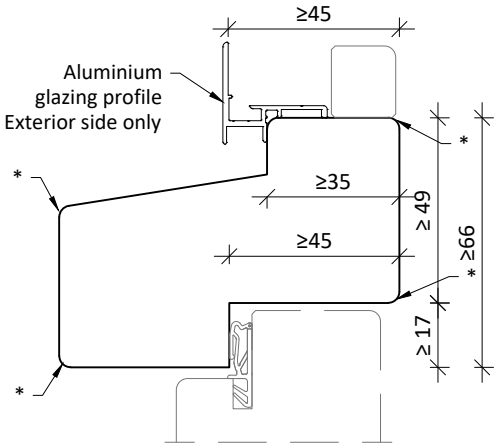
Door frame situation for doorleaf with double draught seal incorporated in doorleaf.



Door frame transom/ mullion overhead/side sreen situation.



Door frame transom/mullion in overhead/sidescreen situation, rebate opposite side.



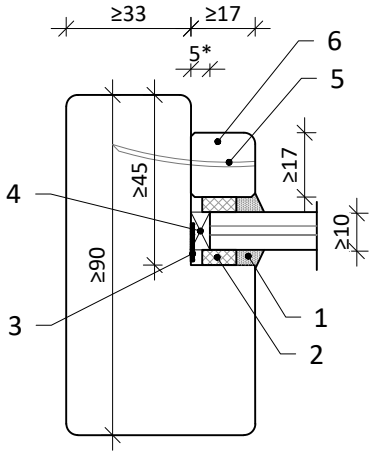
Door frame transom overhead situation, exterior glazing profile and slanted rebate

**: Edge chamfered ≤3 , Radius ≤5 , or square.*

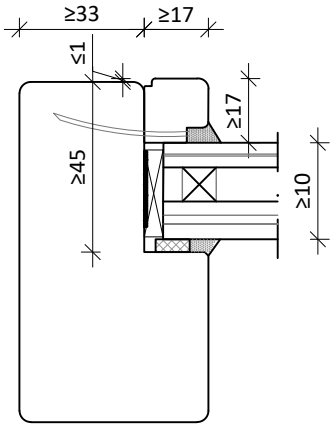
Timber frame rebates	annex 3.1
DMT GmbH & Co. KG Plant for Product Safety Test Body for Fire Protection	report no. K-5044-DMT-DO

3.2 Frame glazing overhead and side panel

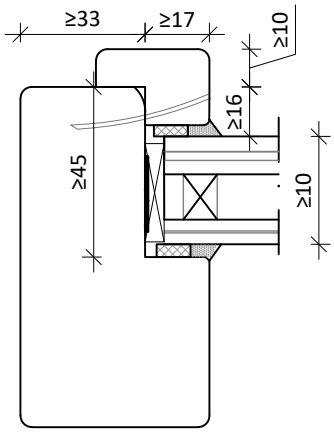
Glass with frame rebate overlap to be 12 $^{+/-1}$ mm



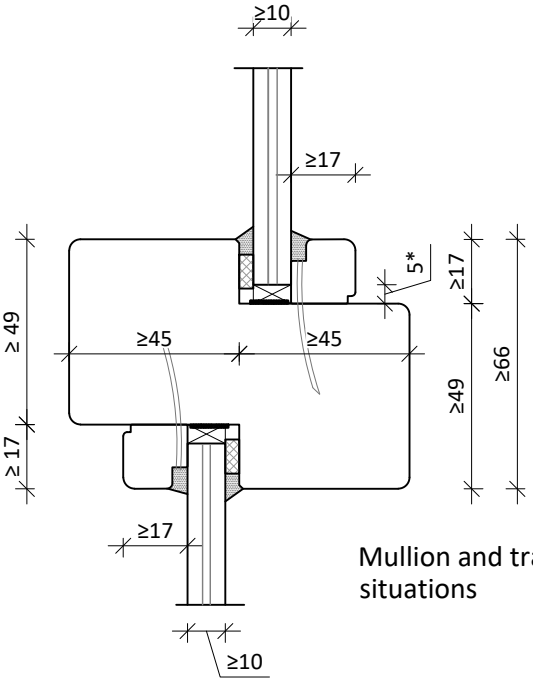
timber frame glass bead
2-sided backing



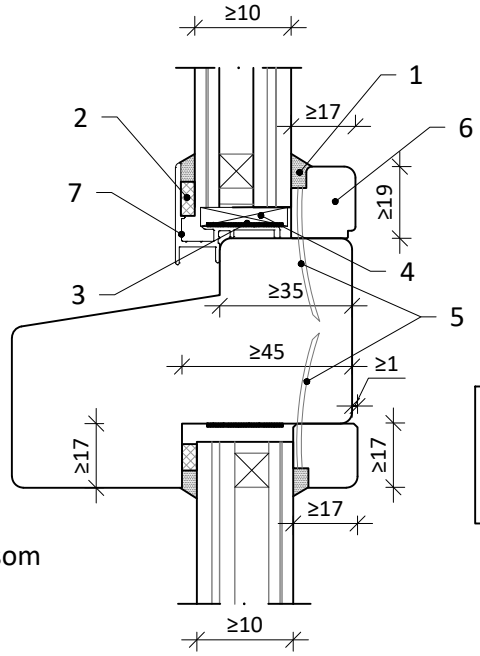
timber frame glass bead
nailed concealed, 1-sided
backing



timber frame with rebated
glass bead 1, or 2-sided backing



Mullion and transom
situations

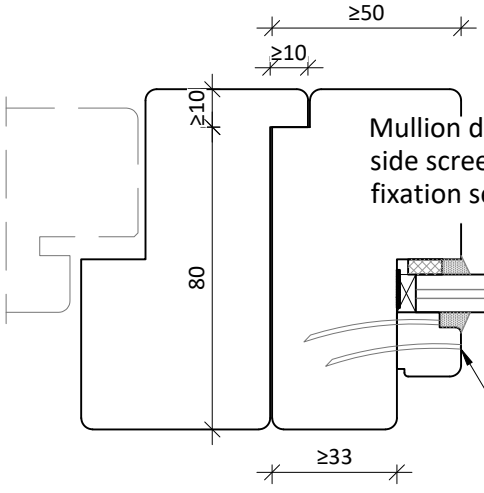


Aluminium glazing
profile on non-fire
exposed face only

DGU or TGU*,
Fireprotective glass
pane to be placed
on the fire side.

*: DGU: double glass unit
TGU: triple glass unit

Glass type and allowed sizes see 3.0



Mullion detail if as paired
side screen frame
fixation see annex 4.1

in all cases
optionally nailed or
screwed in visible
bead surface

Materials:

1. Glazing sealant silicon based o.e.
2. Ceramic backing size $4^{+/-1}$x ≥ 9mm
3. Intumescent 0.8x10 (single glass) or 0.8x20 (for insulated glass)
4. Setting blocks class A2 material o.e.
5. Steel nail 1.2x30mm or screw Ø3.5x40 distance $50^{+/-10}$mm from corner and ≤200mm apart.
6. Glass bead soft or hardwood ≥ 500kg/m³
7. Aluminium glazing profile with integrated ventilation ducts, type LU-G5-3 o.e..

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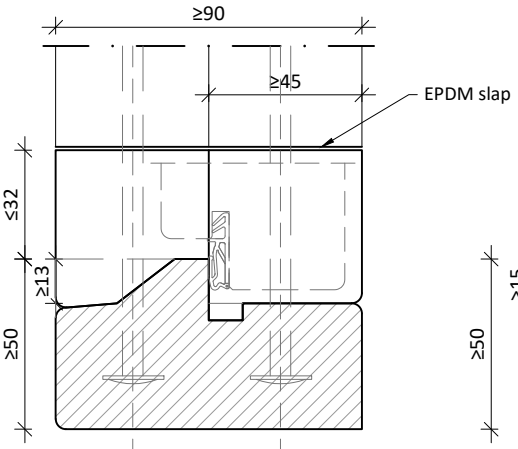
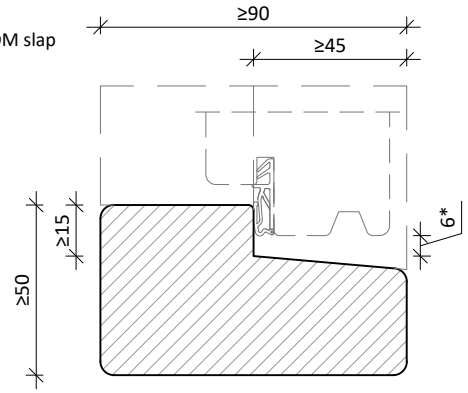
*: nominal glass to frame rebate gap 5mm $^{+/-2}$

Setting block size:
thickness: 3 - 5 mm
length: 80 mm
width : glass thickness - 0 to 5 mm

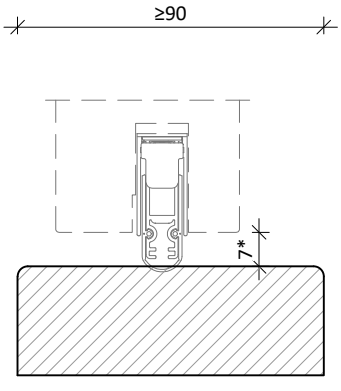
3.3 Frame thresholds



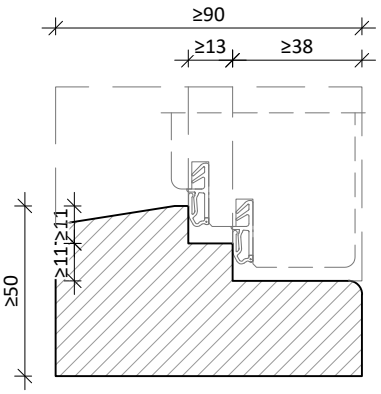
Solid material [I] with 1 rebate with skirting blocks [II]



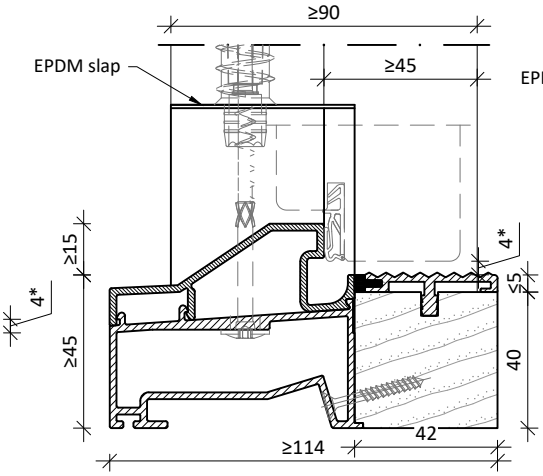
Solid material [I] with 1 rebate slanted, optionally with skirting blocks [II]



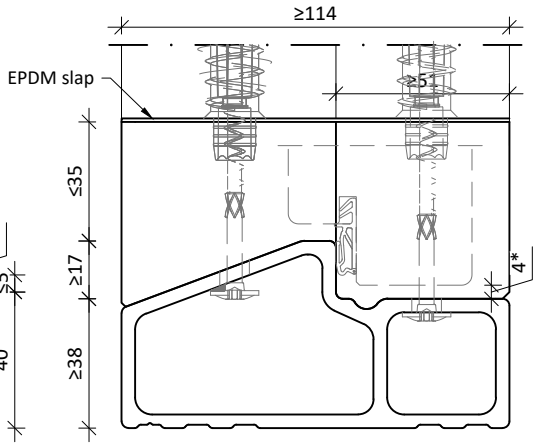
Solid material [I] unrebated.



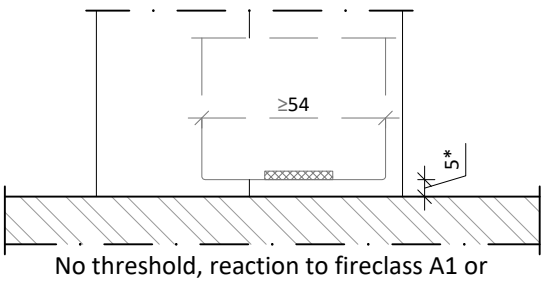
Solid material [I] with double rebate, with skirting blocks [II]



Hybride type threshold with 1 rebate. Hollow aluminium[III] profile combined with wood* and a half skirting block[II]



Composite type threshold with 1 rebate. Hollow profiles glassfiber reínforced[IV] with skirting block[II]



No threshold, reaction to fireclass A1 or A2, or metal strip in door rebate.

Sidesrceen glazing on threshold see annex 3.4

Fixation of threshold to frame, including skirting blocks if relevant, with PVC dowels and screw ca 8x120mm according manufacturers instruction

*: nominal gap under the door

	nominal mm	**maximum** mm
no threshold or no rebate without dropseal	5	≤ 8,0
no threshold or no rebate with dropseal	7	≤ 12,0
threshold with rebate	4	≤ 8,0

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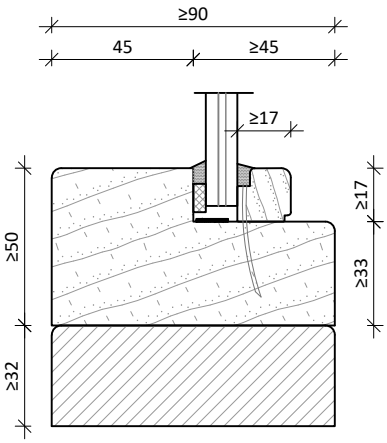
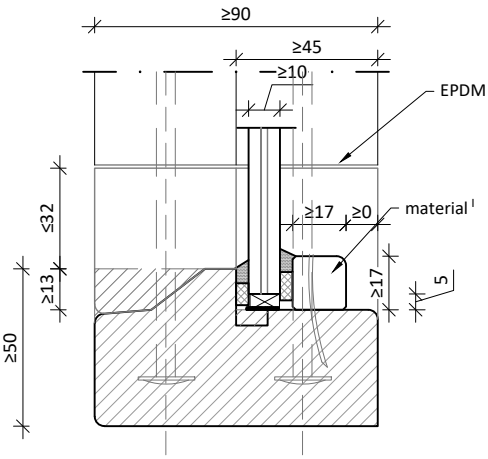
Materials:
I: Wood ≥500kg/m³, HMPE, quarz epoxy resin artifical stone (Holonite).
II: HMPE, quarz epoxy resin artifical stone (Holonite)
III: extruded aluminium profile system Venstertechniek EEFD o.e., steel, stainless steel
IV: Glassfiber reinforced pulltrusion profiles

Frame thresholds (under door)	annex 3.3
DMT GmbH & Co. KG Plant for Product Safety Test Body for Fire Protection	report no. K-5044-DMT-DO

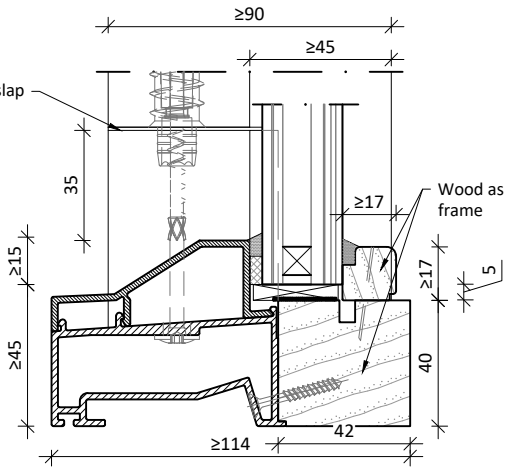
3.4 Frame thresholds under sidescreen



Wood frame profile, mounted on a threshold solid material [I] (continuing from door opening)



Direct glazing on a threshold solid material [I] (continuing from door opening) optionally with skirting blocks [II]



Hybride type threshold with rebate. Hollow aluminium[III] profile combined with wood as frame and a half skirting block[II]

Glazing rules and materials see annex 3.2

Fixation of threshold to frame, including skirting blocks if relevant, with PVC dowels and screw ca 8x120mm according manufacturers instruction

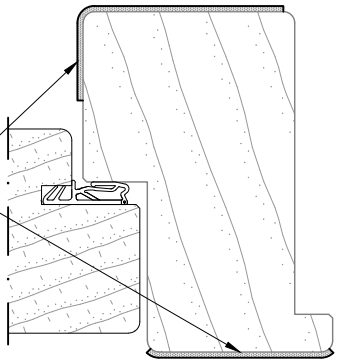
Materials:
I: Wood ≥500kg/m³, HMPE, quarz epoxy resin artifical stone (Holonite).
II: HMPE, quarz epoxy resin artifical stone (Holonite)
III: extruded aluminium profile system Venstertechniek EEFD o.e., steel, stainless steel

3.4 A: Frame protection

adding surface fixed frame protection possible

Frame protection (metal or composite) glued or screwfixed to surface.

Not in rebate or area of doorleaf meeting edge.



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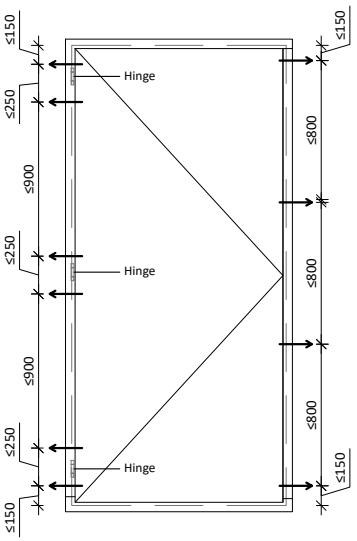
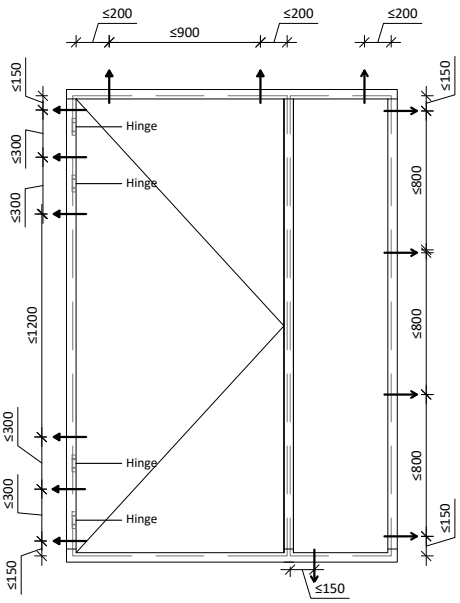
Frame sidescreen thresholds and protection	annex 3.4 / 3.4a
DMT GmbH & Co. KG Plant for Product Safety Test Body for Fire Protection	report no. K-5044-DMT-DO

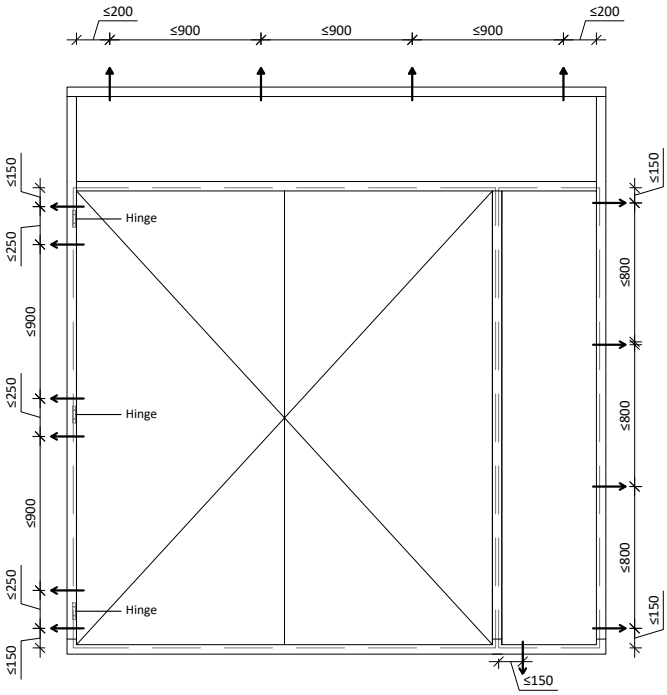
4 Frame fixation to support construction



Fixation points of timber doorframes in support construction. Details of wall-to-frame meeting edge and fixation see annex 4.1

positioning in wall opening only



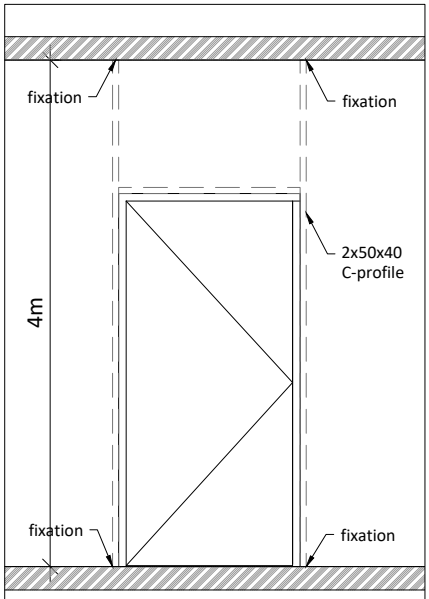


Support construction:
Rigid ≥100mm density ≥650kg/m³ according EN 1363-1 such as:

- Aerated concrete
- Concrete
- masonary brcked wall
- limestone

Flexible partition ≥100mm EI60 classified according EN 1363-1

- max 4m height
- to support door weight, prescription metal-stud wall:
  ≥2mm U-profile 40x50mm around doorframe
  fixated to structural floor and ceiling construction
  double gypsum board ≥12.5mm



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Frame fixation in support construction	annex 4.0
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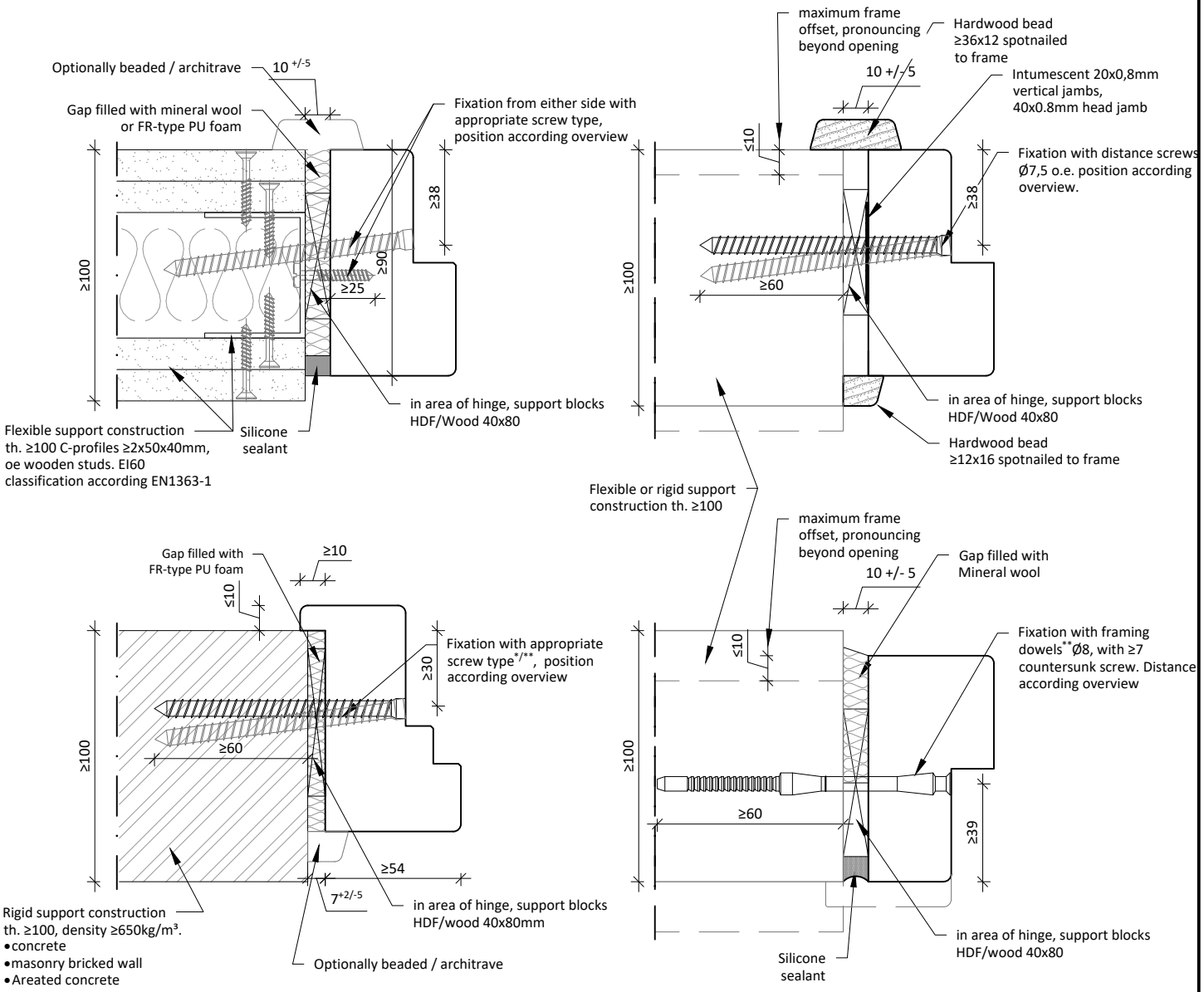
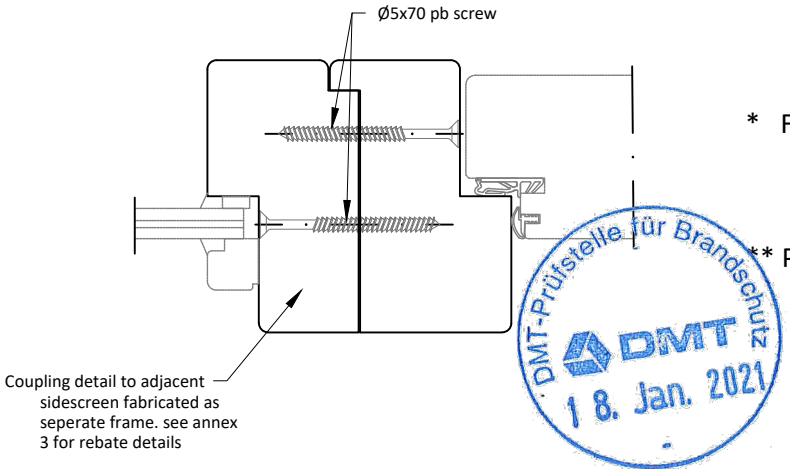
4.1 Meeting edge with and fixation to support construction

Fixation points of timber doorframes in support construction see Annex 4.0
Examples of fixation and meeting to support construction, all are interchangeable



Frame details see annex 3



* Frame fixation (distance) steel screw Ø7,5 such as:
Würth AMO III,
Berner Betofix
Fischer FFS

** PVC framing dowel Ø8 with steel countersunk screw such as:
Fisher FXR
Würth W-UR
Berner BXRfix

Frame - support construction meeting edge	annex 4.1
DMT GmbH & Co. KG Plant for Product Safety Test Body for Fire Protection	report no. K-5044-DMT-DO

5 Seals

Non-intumescent smoke, draught, acoustic seals

Seal	material	hieight	thickness	gap size	position
KD 1505 / KD 1005 series	Silicone rubber	15/ 10	10,5	6	rebate door or frame stop, rebate height ≥11mm
KD 1501 / KD 1201 series	Silicone rubber	15 / 12	10	6	rebate door or frame stop, rebate height ≥12mm
SKF 5434 / SKF 5455 series	Silicone rubber	15 / 12	9	6	rebate door or frame stop, rebate height ≥11mm
KDA-01	Silicone rubber	10	4	2	Astragal double doors
KD 003.3	TPE-rubber	8	5	4	door edge to reveal of frame stop

Other smoke / draught seals possible if:
- ≥≤ 20% size and gap size as tested above
- material as tested or same or better reaction to fire class

Intumescent seals

Intumescent	material	width	thickness*	position
Fitherm GSi	Graphite + PVC cover	20	2	Head of door
		20	2	Bottom of door if no rebate
		6,5	2	Meeting edge double doors
Fitherm GH	Graphite	14	2	Behind MP lock forend driving rod
Fitherm GB	Graphite	10	0,8	glassrebate single glass
Fitherm GB	Graphite	10	0,8	cable canal doorleaf
Fitherm GB	Graphite	20	0,8	glass rebate insulation glass
Fitherm GB	Graphite	20	0,8	frame-wall meeting edge vertical (optional version see Annex 4.1)
Fitherm GB	Graphite	40	0,8	frame head to wall meeting edge (optional version see Annex 4.1)
Fitherm GXf	Graphite	40	4	Mail slot

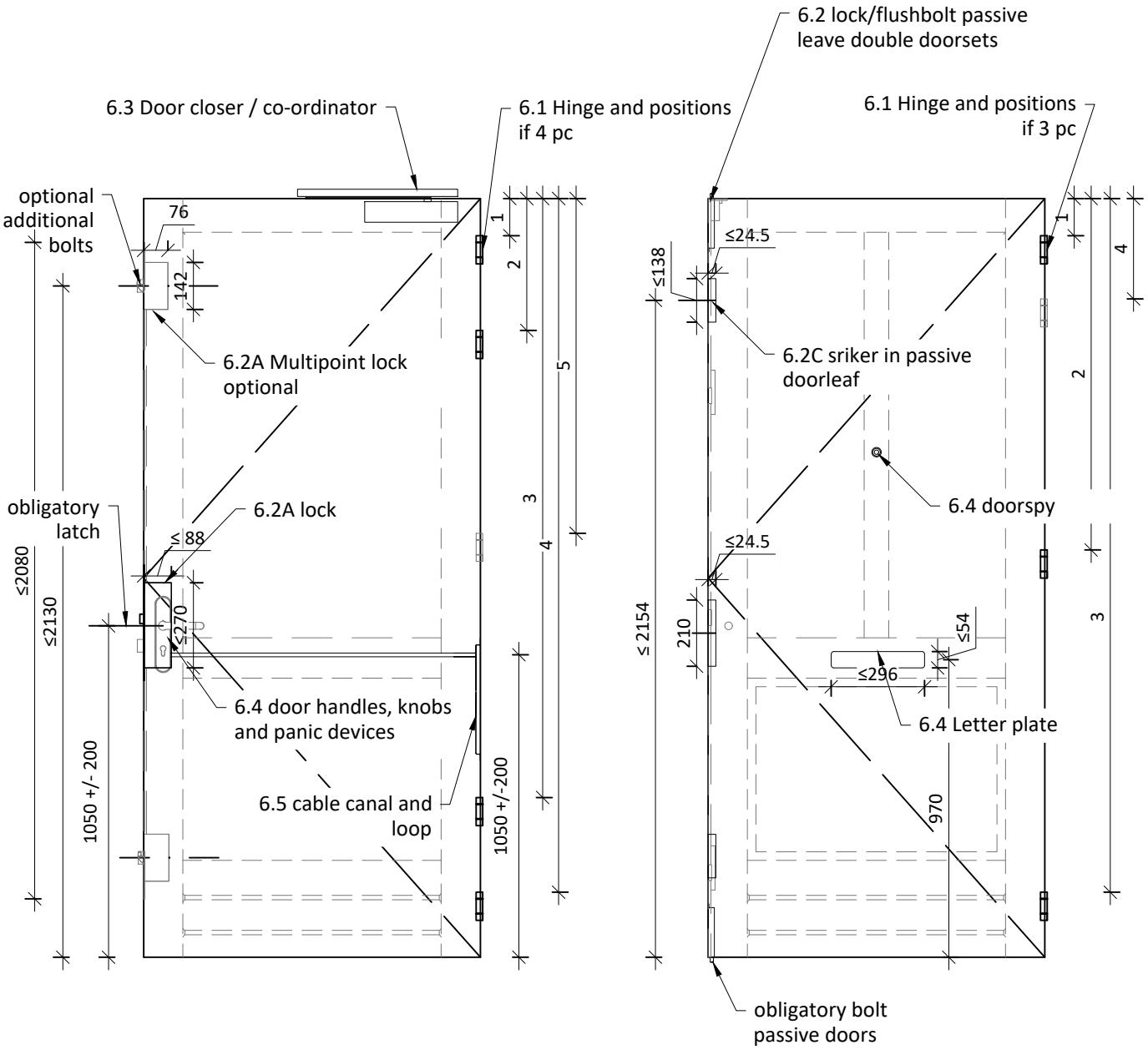
*: thickness excluding optional PVC cover
Size can be increased by max 10%
Size can be increased proportionally with doorleaf thickness / rebate depth

Automatic drop seals

Seal	material	hieight	thickness	position
EllenMatic Soundproof	Aluminium profile with silicone rubber and plastic composite parts	30	15	underside of the door in notch ≤15,5x32

Or other dropseals with test evidence in similar construction

6. Hardware positions and index



6.1 Hinges and position
see Annex for list

6.2 Locks, flushbolts and strikers
see Annex for list

6.3 Door closers and co-ordinators
see Annex for list

6.4 Door furniture, handles, letterplates, doorviewers
see Annex for list

6.5 Cable loop:
type M1188
Canal through door:
Ø18mm fitted with intumescent 10x0,8

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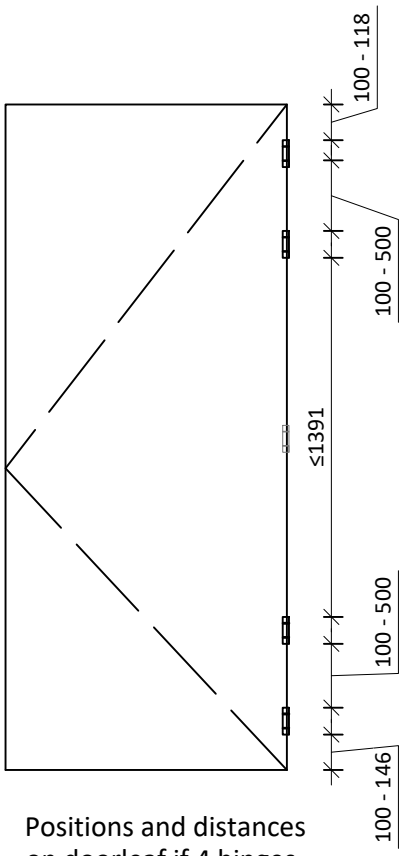
Hardware overview and positions	annex 6.0
DMT GmbH & Co. KG Plant for Product Safety Test Body for Fire Protection	report no. K-5044-DMT-DO

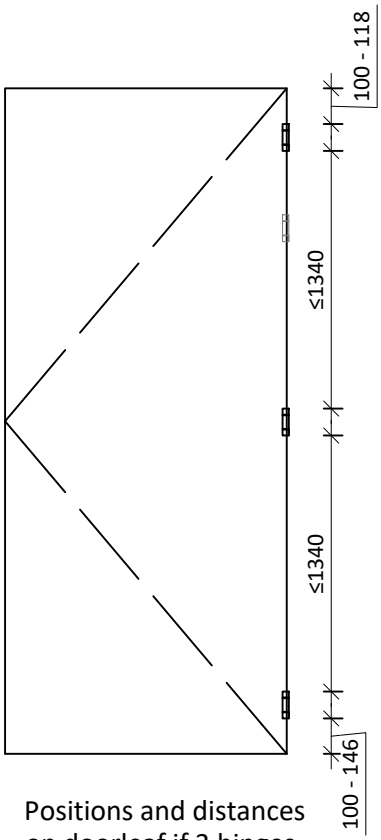
6.1 Hinges and hinge positions

product	producer	knot diameter	height	width	leaf th	description	fixation
S2 Ultimaxx	Themans BV	15	89	89	3	galvanised steel butt hinge with integrated security and composite bushings	8pc Ø4x40 pb. screw
S2 HMR089	Themans BV	15	89	89	3	galvanised steel butt hinge with composite bushings	8pc Ø4x40 pb. screw
Atlas inside	Buva BV	15	89	89	3	galvanised steel butt hinge with integrated security and composite bushings	8pc Ø4x40 pb. screw

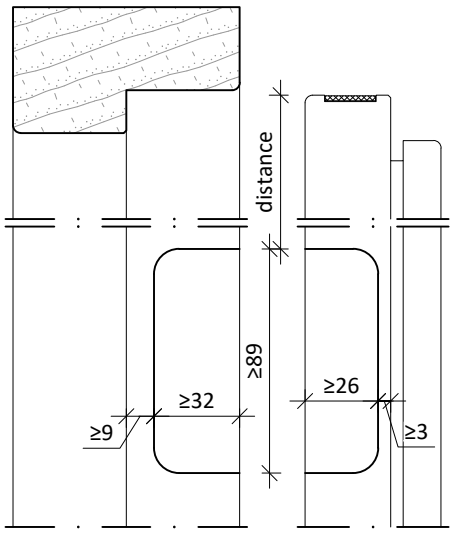
all steel-/stainless steel butt hinges according to EN1935 with test evidence in similar timber doorset construction for ≥EW30, can be used if size not smaller then listed above.

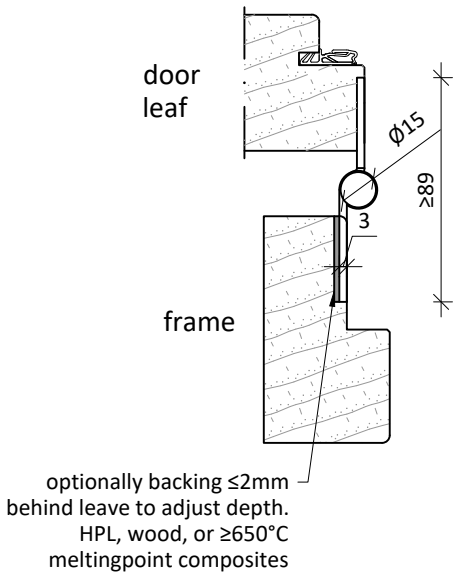


Positions and distances on doorleaf if 4 hinges (optionally 5)



Positions and distances on doorleaf if 3 hinges (optionally 4)





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Hinges and positions	annex 6.1
DMT GmbH & Co. KG Plant for Product Safety Test Body for Fire Protection	report no. K-5044-DMT-DO

6.2 Locks and lock system index

A : Locks (multipoint locks)

lock type	product examples	leafcutout size main lockcase (w x d x h)	leafcutout size top lockcase	Backset	Forend size	lever height	top lockcase height in doorleaf
Multipoint lock	KAI 10600-31/32/33 S2 H542 V0203/V0207 BUVA MF C/K 2090 BUVA 6220/7220 KFV AS 2502 F20 W268/W270 FUHR 833P	≤ 18 x 88 x 270	≤18 x 76 x 142 or ≤16 x 51 x 169	≤ 65	≤ 3x20x2090	1050 +/- 200	≤2144
Mortise lock	Any according DIN 18250/18251	≤ 18 x 88 x 270	-	≤ 65	≤ 20x2090	1050 +/- 200	-

- MP-Lock: behind forend drive rod (between lockcases) Intumescent 2x14mm fitted
- All locks and multipoint locks with at least 1 latch point, if material and size as listed above and EN 1634-1 test evidence comparable timber doorsets are possibly allowed after review by Kegro Deuren
- Position of lock center (axis) according Annex 1.2 and 1.3

B : Strikers to be fixed in frame

product	producer	type	frame cutout size (w x h x d)	max height position in door frame	material	fixation
Buvalux 6025+MF	Buva	Box type main striker with stainless steel 1,5mm forend	25,5 x 185,5 x 24,5	as main lock positon	Zamac box, stainless steel forend	Ø4x40 pb. screw + Ø4x30 pb screw
Inline +	Buva	Box type additonal striker	25,5 x 110.5 x 24.5	≤2130	ite box, with steel	Ø4x40 pb. screw
KAI 10600 + LL40	Kegro / Themans BV	Box type main striker with zink latch strike	24 x 190 x 23	as main lock positon	Steel box, Zamac latchplate	Ø4x30 pb screw
KAI 10600	Kegro / Themans BV	Box type additional striker	24 x 104 x 9 + 24 x 42 x 21	≤2143	Steel	Ø4x40 pb. screw + Ø4x30 pb screw
KFV 881-083 + 402-031	KFV Karl Fliether GmbH & Co. KG	Box type main striker with latch plate	22,5 x 210,5 x 24,5	as main lock positon	Zamac box, steel latchplate	Ø4x40 pb. screw
KFV 2500-267-2W	KFV Karl Fliether GmbH & Co. KG	Box type additional striker	22,5 x 138,5 x 24,5	≤2154	Zamac box, stainless steel forend	Ø4x40 pb. screw
Maasland S50-UR E-strike	Maasland BV	Electric strike on stainlesssteel faceplate	22 x 67 x 28,5 + 25 x 192 x 1,5	as main lock positon	Steel and stainless steel	Ø4x30 pb. screw

- other strikes allowed if ≤ cut out size and material not of lower melting point
- Main stricker for latch should be of steel, stainless steel of metal melting point>650°C

C : Passive doorleaf lock systems double doorsets

type	products	producer	lock system	cutout size (w x h x d)	fixation
Automatic Flushbolt	2pc Olda 28HZ + strikers from list	Olda (flushbolts)	Steel bolt 20xØ10mm, 1.5mm steel strikeplate	25 x 155/168 x 20	Ø3,5x40 pb. Screw
Manual flushbolt	2pc Olda 30HZ + strikers from list	Olda (flushbolts)	Steel bolt 20xØ10mm, 1.5mm steel strikeplate	25 x 155/168 x 20	Ø3,5x40 pb. Screw

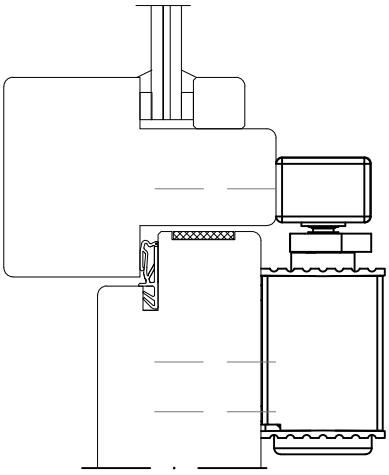
- Equal lock systems allowed after review by Kegro Deuren. Considering ≤ cut out size and material not of lower melting point. Lock to be succesfully tested in EN 1634-1 similar timber doorset.

6.3 Door closers and coordinators

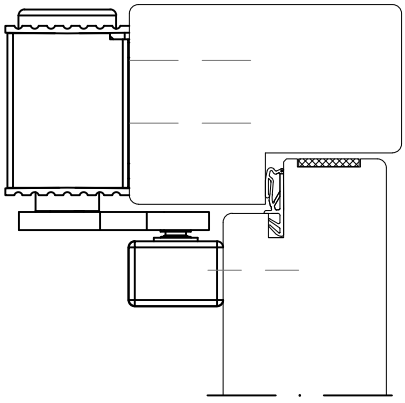
list of door closers and coordinators

type	product	producer	housing size	rail or arm	EN 1154 size	installation
closer	ECO TS 41	Eco Schulte GmbH	242 x 56 x 41	rail GS-B	EN 2-4	face fixed
closer	ECO TS 61	Eco Schulte GmbH	287 x 62 x 49	rail GS	EN 2-5	face fixed
closer free swing	Abloy FD 440	Assa Abloy	395 x 68 x 62	rail FD 494	EN 3-6	face fixed
closer with elec. meachinical hold open device	Abloy DC250	Assa Abloy	305 x 71 x 66	rail FD 450	EN 1-6	face fixed
closer free swing	TS 5000 EFS	GEZE	325 x 60 x 47	rail	EN 3-6	face fixed
closing coordinator	ECO SR III	Eco Schulte GmbH	21 x 31 x length	rail GS	-	face fixed
closing coordinator	ISM	GEZE	40 x 31 x length	rail	-	face fixed

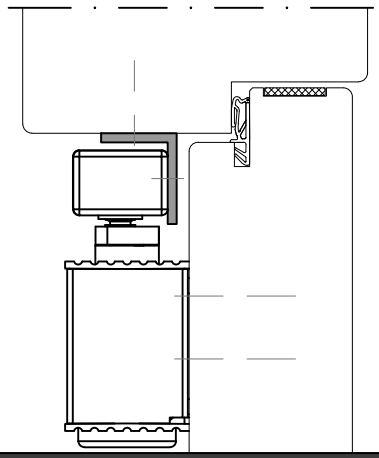
- all closers with EN 1154 and EN 1634-1 testevidence are allowed, considering size ≤ above, equal position and fixation
- Face fixed on doorleaf or frame, on both opening and closing face possible



normal instalation closing face (hinge side)



instalation opening face (non-hinge side) optionally on corner console



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6.4 Door furniture, handles and mails slots.

leversets, handles and pushplates

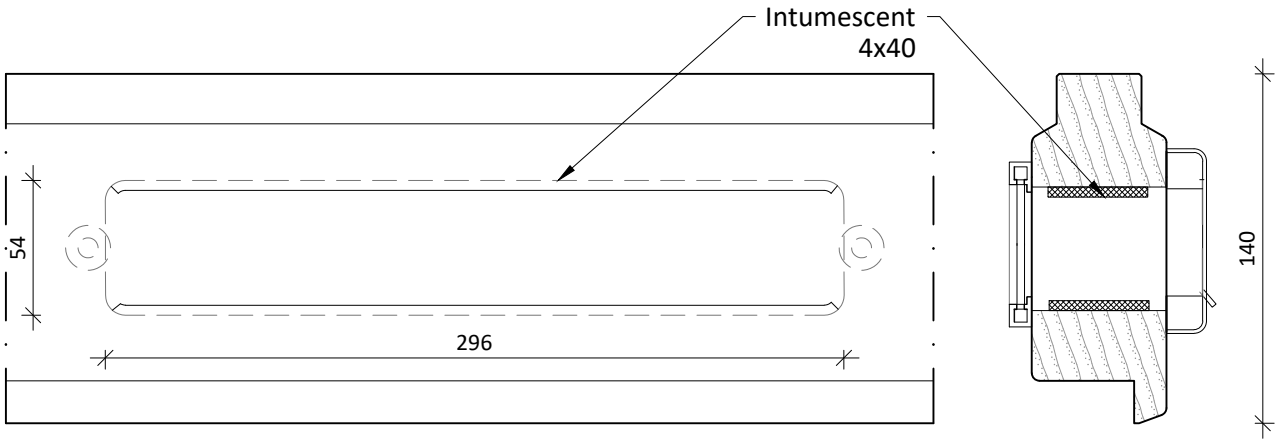
type	product	producer	face plate size	material	installation
leverset of faceplate	Buvalux U-form lever on KT3500	Buva bv	50 x 240 x 15/10	Aluminium solid	3pc M6 threaded screws
leverset on rose	Ansa U19-8 Leverset on security rose	Themans BV	Ø56 x 10/4	Stainless stee	2pc M6 threaded screws
cilinder rose	Ansa KT security rose SKG**	Themans BV	Ø56 x 16/8	Stainless stee	2pc M6 threaded screws
Lever-push handle on faceplate	S2 402921KT SKG***	Themans BV	40 x 246 x 15/8	Aluminium solid	2pc M6 threaded screws

- all handles and furniture can be changed for other furniture with testevidence considering material, size ≤ above and fixation

mail slots/letter plates

type	product	producer	Cut-out size	material	installation
Inside + outside mailbox slot	AMI EP-960 / 970	Ami BV	54 x 296	Aluminium solid	2pc M6 threaded screws
outside mailbox slot + Inside mailbox brush seal	AMI EP965 / 975	Ami BV	54 x 296	Aluminium solid	2pc M6 threaded screws
	Kegro BBA-01	Kegro BV		aluminium icm POM	2 pc Ø3,5x25mm pb screw

- intumescent in cut-out (see figure), position height in door see Annex 6.0
- other letterplates possible regarding intumescent, and leaf cutout ≤ as tested



Door viewer

type	product	producer	Cut-out size	material	installation
Door spy / door viewer	DX- DRS 2140B	Dulimex	Ø15	plastic lens + brass	screwed on door

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