

**Classification of Fire
Resistance Performance
in accordance with
EN 13501-2:2023**

K-5074-DMT-DO

| | |
|---|---|
| Customer | Kegro Deuren B.V. Industrieweg 25 6562 AP Groesbeek The 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 wooden composite door as fire protection door with and without glazing in various supporting constructions |
| Product designation | KegaPro 38 mm, KegaComfort VS 39/41 mm and KegaComfort dB 41 mm |
| Nr. of the classification report | K-5074-DMT-DO |
| Issue number | 1 |
| Issue date | 01.03.2024 |
| Validity | unlimited |

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1 Introduction

This classification report of fire resistance performance defines the classification assigned to a fire protection door with designation "KegaPro 38 mm, KegaComfort VS 39/41 mm and KegaComfort dB 41 mm", in accordance with the procedures given in EN 13501-2:2023.

2 Details of classified product

2.1 General

The building component "KegaPro 38 mm, KegaComfort VS 39/41 mm and KegaComfort dB 41 mm" belongs to the product type fire protection doors according to EN 16034.

The building component "KegaPro 38 mm, KegaComfort VS 39/41 mm and KegaComfort dB 41 mm" 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 "KegaPro 38 mm, KegaComfort VS 39/41 mm and KegaComfort dB 41 mm" is a single and double leaved optionally glazed wooden composite door optional with side panel 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 for verification of classification, as also the annexes 1.0 to 6.5 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 / 2509 | Kegro Deuren B.V. | DMT-DO-50-1017 01.12.2021 | EN 1634-1: 2014+A1:2018 EN 1363-1: 2020 |
| F2 | DMT GmbH & Co. KG / 2509 | Kegro Deuren B.V. | DMT-DO-50-1020 01.12.2021 | EN 1634-1: 2014+A1:2018 EN 1363-1: 2020 |
| F3 | DMT GmbH & Co. KG / 2509 | Kegro Deuren B.V. | DMT-DO-50-1021 01.12.2021 | EN 1634-1: 2014+A1:2018 EN 1363-1: 2020 |
| F4 | Peutz B.V. / 2264 | Kegro Deuren B.V. | Y 2546-3E-RA 10.03.2022 | EN 1634-1: 2014+A1:2018 EN 1363-1: 2020 |
| F5 | DMT GmbH & Co. KG / 2509 | Kegro Deuren B.V. | DMT-DO-50-1080 31.05.2022 | EN 1634-1: 2014+A1:2018 EN 1363-1: 2020 |
| F6 | DMT GmbH & Co. KG / 2509 | Kegro Deuren B.V. | DMT-DO-50-1079 31.05.2022 | EN 1634-1: 2014+A1:2018 EN 1363-1: 2020 |
| F7 | Peutz B.V. / Y 2546-4E-RA | Kegro Deuren B.V. | Y 2546-4E-RA 10.03.2022 | EN 1634-1: 2014+A1:2018 EN 1363-1: 2020 |
| F8 | DMT GmbH & Co. KG / 2509 | Kegro Deuren B.V. | DMT-DO-50-767 09.06.2020 | EN 1634-1: 2014+A1:2018 EN 1363-1: 2012 |
| F9 | DMT GmbH & Co. KG / 2509 | Kegro Deuren B.V. | DMT-DO-50-807 26.05.2020 | EN 1634-1: 2014+A1:2018 EN 1363-1: 2020 |
| F10 | DMT GmbH & Co. KG / 2509 | Kegro Deuren B.V. | DMT-DO-50-812 03.07.2020 | EN 1634-1: 2014+A1:2018 EN 1363-1: 2020 |
| F11 | DMT GmbH & Co. KG / 2509 | Kegro Deuren B.V. | DMT-DO-50-775 25.06.2020 | EN 1634-1: 2014+A1:2018 EN 1363-1: 2020 |

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 version of 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 F11 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 DIN 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 version of the EN 1634-1 test standard was relevant for the performance of the tests documented in the test reports F1 to F11 so it can be estimated that the results, which are reached in these tests, also would have been achieved with a test according to standard edition 2014. Therefore, the test reports F1 to F11 may be used for this classification report.

The test standard EN 1363-1 will be taken into account with its release version 2020 for test reports F1 to F7, F9, F10 and F11 and release version 2012 for test report F8. 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 reports F1 to F7, F9, F10 and F11 were tested according to standard EN 1363-1 edition 2020. In addition to several 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 classification report.

None of the differences between the mentioned versions of the EN 1363-1 test standard were relevant for the performance of the test documented in the test reports F1 to F11 so it can be estimated that the results, which are reached in these tests, also would have been achieved with a test according to standard edition 2012. Therefore, the test reports F1 to F11 will 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).“

The test described in test report F2 failed because of a small flame on the surface of a glass pane in test minute 17. Besides this failure of the glazing all other elements of the door were positive up to test minute 33. The same glass pane was also positive tested in report F6 in slightly smaller dimensions. The test report F2 will therefore be taken into account for EW 30 for all elements besides the door leaf glazing.

Test F6 failed in test minute 29 because of a small flame at the threshold. The threshold was made of glasfiber pultrusion composite. Besides this failure of the threshold all other elements of the door were positive up to test minute 32. The test report F6 will therefore be taken into account for EW 30 for all elements besides the composite threshold.

In the test described in test report F8 the premature failure of the integrity "E" in test minute 33 was a result of the material of the used seals. The top light did show no failure up to test Minute 37. The test report F8 will therefore be taken into account for EW 30 category B of EN 1364-1 regarding the top light.

In the test described in the report F10 the premature failure of the integrity "E" in test minute 32 was a result of the double door leaf opening on the hinge side. The top light did show no failure up to test Minute 34. The test report F10 will therefore be taken into account for EW 30 category A of EN 1364-1 regarding the top light.

In the test described in the report F11 the premature failure of the integrity "E" was caused by the failure of the Letterplate "AMI EP 975" in combination with the "Sauerland 11VL chipboard" inlay after 26 test minutes. If the failure of the Letterplate is not taken into account, the door would have received the criteria integrity with radiation insulation "EW" up to test minute 32.

Therefore, the test report is considered for the determination of the extended application regarding all construction parameters except the Letterplate in combination with the multilayer inlay “Sauerland 11VL chipboard” for criteria “EW” for 32 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-50-1017 Single-leaved glazed wooden composite door in wooden block frame with a thickness of 39 mm, with an open clearance (W x H) of 980 mm x 2370 mm, with top light and side light and frame outside dimensions (W x H) of 1630 mm x 3016 mm. Exposed side opening face / hinges side | Integrity (cotton pad) | 36 |
| | Integrity (gap gauge) | 36 |
| | Integrity (sustained flaming) | 36 |
| | Insulation I ₁ | 13 |
| | Insulation I ₂ | 13 |
| | Radiation | 36 |
| (F2) DMT-DO-50-1020 Double-leaved glazed wooden composite door in wooden block frame with a thickness of 39 mm, with an open clearance (W x H) of 2020 mm x 2350 mm, with top light and frame outside dimensions (W x H) of 2140 mm x 2966 mm. Exposed side opening side / hinges side | Integrity (cotton pad) | 17 |
| | Integrity (gap gauge) | 34 |
| | Integrity (sustained flaming) | 17 |
| | Insulation I ₁ | 14 |
| | Insulation I ₂ | 14 |
| | Radiation | 17 |
| (F3) DMT-DO-50-1021 Single-leaved glazed wooden composite door in wooden block frame with a thickness of 38 mm, with an open clearance (W x H) of 1050 mm x 2353 mm, with top light and frame outside dimensions (W x H) of 1182 mm x 2966 mm mm. Exposed side opening side / hinges side | Integrity (cotton pad) | 29 |
| | Integrity (gap gauge) | 34 |
| | Integrity (sustained flaming) | 34 |
| | Insulation I ₁ | 16 |
| | Insulation I ₂ | 16 |
| | Radiation | 34 |
| (F4) Y 2546-3E-RA Single-leaved glazed wooden composite door in wooden block frame with a thickness of 39 mm, with an open clearance (W x H) of 910 mm x 2200 mm, with top light and frame outside dimensions (W x H) of 1014 mm x 2779 mm. Exposed side opening side / hinges side | Integrity (cotton pad) | 38 |
| | Integrity (gap gauge) | 38 |
| | Integrity (sustained flaming) | 35 |
| | Insulation I ₁ | 28 |
| | Insulation I ₂ | 28 |
| | Radiation | 35 |

| | | |
|---|-------------------------------|-----------|
| <p>(F5) DMT-DO-50-1080 Single-leaved wooden composite door in wooden block frame with a thickness of 41 mm, with an open clearance (W x H) of 980 mm x 2346 mm, with top panel and side light and frame outside dimensions (W x H) of 1630 mm x 3016 mm. Exposed side opening side / hinges side</p> | Integrity (cotton pad) | 32 |
| | Integrity (gap gauge) | 32 |
| | Integrity (sustained flaming) | 32 |
| | Insulation I ₁ | 23 |
| | Insulation I ₂ | 23 |
| | Radiation | 32 |
| <p>(F6) DMT-DO-50-1079 Single-leaved glazed wooden composite door in wooden block frame with a thickness of 39 mm, with an open clearance (W x H) of 980 mm x 2370 mm, with top light and side light and frame outside dimensions (W x H) of 1636 mm x 3041 mm. Exposed side opening side / hinges side</p> | Integrity (cotton pad) | 32 |
| | Integrity (gap gauge) | 32 |
| | Integrity (sustained flaming) | 29 |
| | Insulation I ₁ | 14 |
| | Insulation I ₂ | 14 |
| | Radiation | 29 |
| <p>(F7) Y 2546-4E-RA Single-leaved glazed wooden composite door in wooden block frame with a thickness of 54 mm, with an open clearance (W x H) of 980 mm x 2229 mm, with top light and side light and frame outside dimensions (W x H) of 1760 mm x 2766 mm. Exposed side opening side / hinges side</p> | Integrity (cotton pad) | 38 |
| | Integrity (gap gauge) | 38 |
| | Integrity (sustained flaming) | 38 |
| | Insulation I ₁ | 19 |
| | Insulation I ₂ | 19 |
| | Radiation | 38 |
| <p>(F8) DMT-DO-50-767 Single-leaved glazed wooden 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 top light and side light and frame outside dimensions (W x H) of 1642 mm x 2868 mm. Exposed side opening side / hinges side</p> | Integrity (cotton pad) | 33 |
| | Integrity (gap gauge) | 37 |
| | Integrity (sustained flaming) | 33 |
| | Insulation I ₁ | 17 |
| | Insulation I ₂ | 17 |
| | Radiation | 33 |
| <p>(F9) DMT-DO-50-807 Double-leaved glazed wooden 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 top light and side light and frame outside dimensions (W x H) of 3246 mm x 2887 mm. Exposed side opening side / hinges side</p> | Integrity (cotton pad) | 39 |
| | Integrity (gap gauge) | 39 |
| | Integrity (sustained flaming) | 37 |
| | Insulation I ₁ | 14 |
| | Insulation I ₂ | 14 |
| | Radiation | 37 |

| | | |
|--|-------------------------------|-----------|
| (F10) DMT-DO-50-812 Double-leaved glazed wooden composite door in wooden block frame with a thickness of 54 mm, with an open clearance (W x H) of 2012 mm x 2400 mm, with top light and frame outside dimensions (W x H) of 2112 mm x 2526 mm. Exposed side opening side / hinges side | Integrity (cotton pad) | 32 |
| | Integrity (gap gauge) | 32 |
| | Integrity (sustained flaming) | 34 |
| | Insulation I ₁ | 5 |
| | Insulation I ₂ | 5 |
| | Radiation | 32 |
| (F11) DMT-DO-50-775 Single-leaved glazed wooden composite 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 1166 mm x 2518 mm. Exposed side opening side / hinges side | Integrity (cotton pad) | 32 |
| | Integrity (gap gauge) | 26 |
| | Integrity (sustained flaming) | 32 |
| | Insulation I ₁ | 15 |
| | Insulation I ₂ | 15 |
| | Radiation | 26 |

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-5052-DMT-DO 27.02.2024 | 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 types "KegaPro 38 mm, KegaComfort VS 39/41 mm and Kega-Comfort dB 41 mm" 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 6.5 of this classification report.

5 Limitations

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

Lathen, 01.03.2024



Kruse
(deputy head of test
lab)

A circular blue ink stamp with the text "DMT-Prüfstelle für Brandschutz" around the perimeter and the "DMT" logo in the center.



Mertens
(case worker)

DMT GmbH & Co. KG

DMT-Test Laboratory for Fire Protection - Test Body for Fire Protection
Classification report K-5074-DMT-DO
01.03.2024



Annotations

Documents without stamp and sign have no validity. The cover page and the sign page of this document are signed with the stamp.

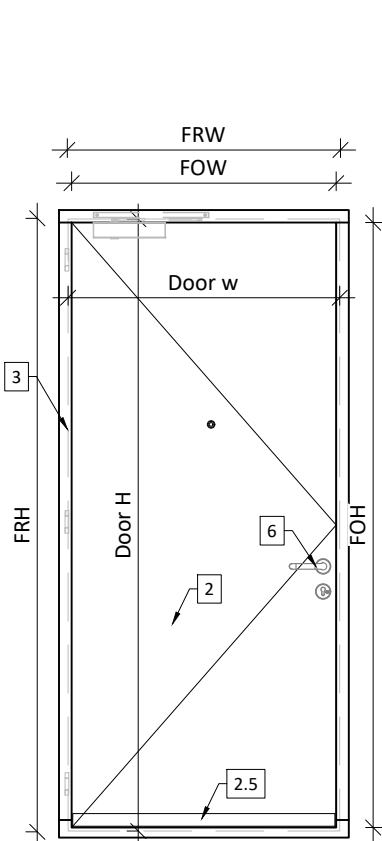
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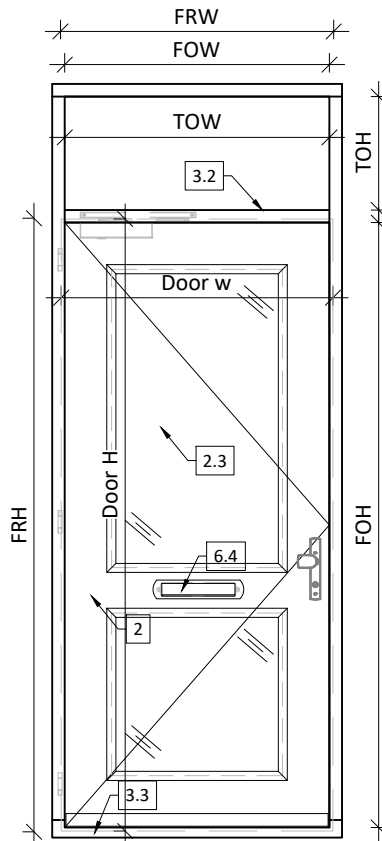
Translations of this classification report have to include the annotation „Translation of the german original version not proven by DMT GmbH & Co. KG, Test Body for Fire Protection“. In cases of doubt the german original version of the report is valid.

1.0 Overview of doorset configuration and sizes

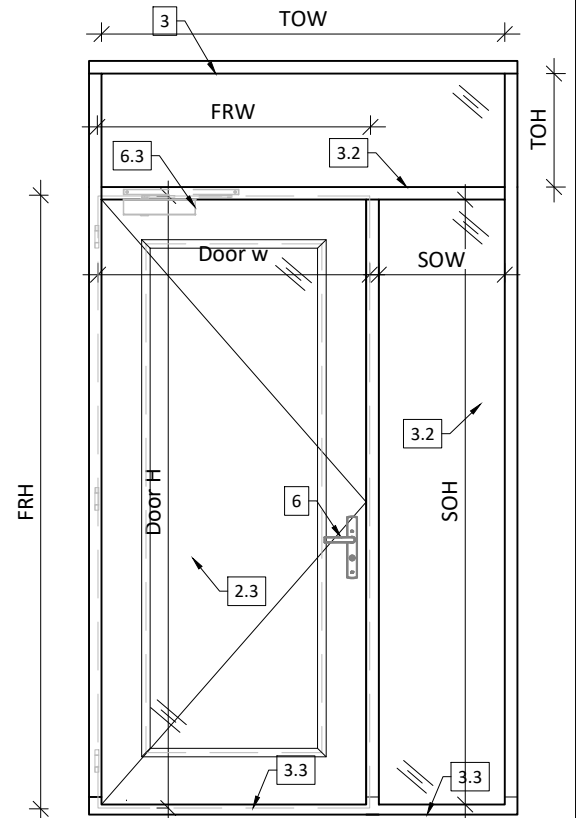
SINGLE LEAF DOORSET



3 or 4 sides simple timber frame (see annex 3)



3 or 4 sides timber frame with overheadscreen (see annex 3)



3 or 4 sides timber frame with side- and overheadscreen(s) (see annex 3)

Allowable size for single door sets

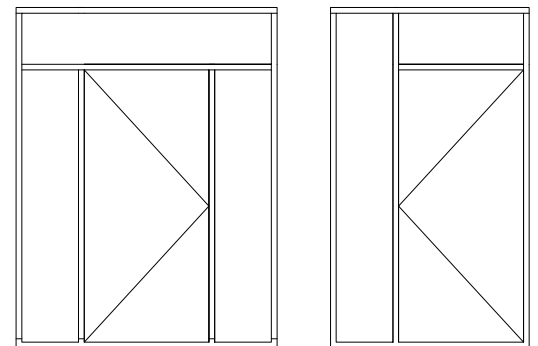
| | Width (mm) | Height (mm) | Area (m ²) |
|-----------------------------|------------|-------------|------------------------|
| Doorleaf type 1* | ≤ 1152 | ≤ 2539 | ≤ 2,742 |
| Doorleaf type 2* | ≤ 1026 | ≤ 2419 | ≤ 2,429 |
| Doorleaf type 2g* | ≤ 1104 | ≤ 2613 | ≤ 2,623 |
| Doorleaf type 3* | ≤ 1026 | ≤ 2419 | ≤ 2,429 |
| Frame opening size | ≤ 1120 | ≤ 2607 | ≤ 2,635 |
| Frame rebate size | ≤ 1111 | ≤ 2624 | ≤ 2,760 |
| Overheadscreen opening size | ≤ 2121 | ≤ 550 | ≤ 1,061 |
| Overhead panel opening size | ≤ 1002 | ≤ 515 | ≤ 0,505 |
| Side screen opening size | ≤ 690 | ≤ 3213 | ≤ 1,920 |

*: Doorleaf size depending on doorleaf type and glass opening sizes. See annex 2 for doorleaf specific rules

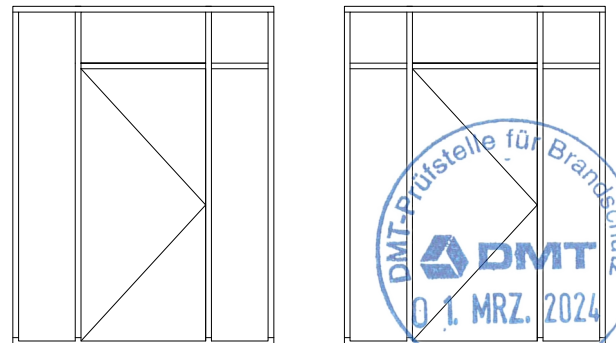
| | Product group name | intended use | glass opening |
|--------------------------|------------------------|---------------------|-------------------------|
| Doorleaf type 1: | KegaPro 38mm | Exterior door | optional, max 20% |
| Doorleaf type 2: | KegaComfort VS 39/41mm | Interior door | optional, maximum 25% |
| Doorleaf type 2g: | KegaComfort VS 39/41mm | Interior glass door | obligatory, minimum 25% |
| Doorleaf type 3: | KegaComfort dB 41mm | Interior sound door | - |

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

see annex 2.0 for explanation of doorleaf types



Allowed doorset configurations as show and sit 1.0 - 8.5 from Annex B, figure B.2, EN 15269-3:2022



Overview single doorsets

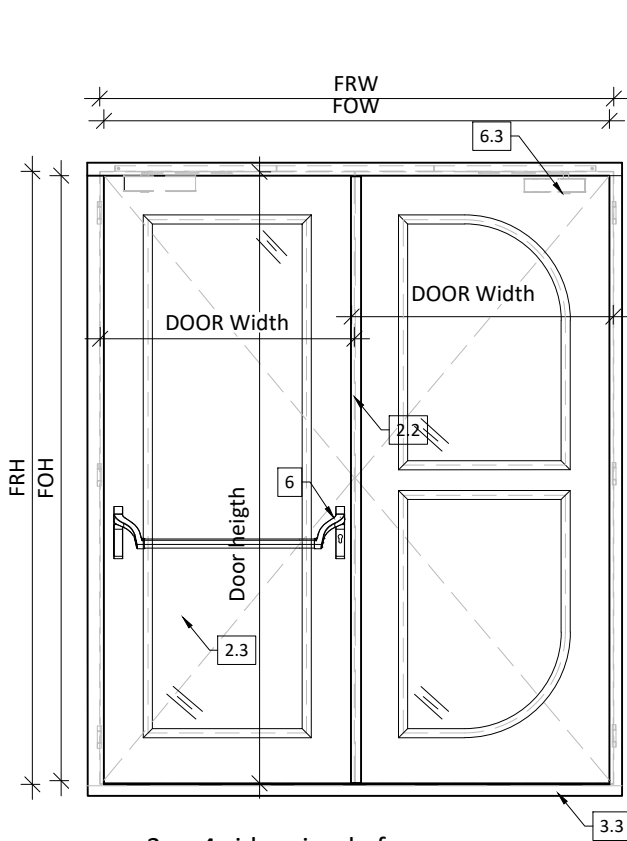
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annex 1.0

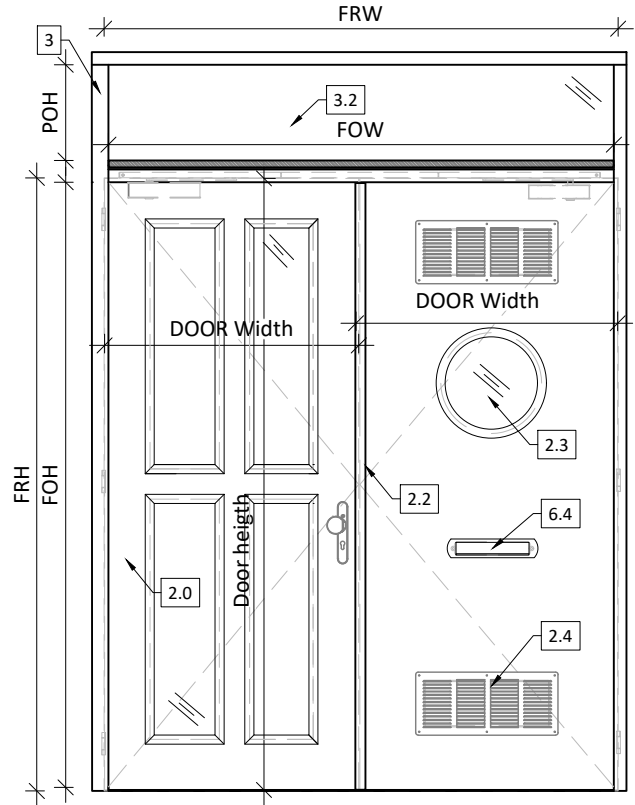
report no.
 K-5074-DMT-DO

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 overheadscreen(s), frame with transom.

Allowable size for double doorsets

| | Width (mm) | Height (mm) | Area (m ²) |
|--|------------|-------------|------------------------|
| Doorleaf type 2/2g* (active leaf and passive leaf equal) | ≤ 1072 | ≤ 2474 | ≤ 2,526 |
| Frame opening size | ≤ 2121 | ≤ 2468 | ≤ 4,984 |
| Frame rebate size | ≤ 2153 | ≤ 2483 | ≤ 5,091 |
| Toplight opening size | ≤ 2121 | ≤ 550 | ≤ 1,061 |

Allowed doorset configurations:
sit. 11 + 14 from Annex B, figure B.2,
EN 15269-3:2022

*: Doorleaf type 2 KegaComfort VS th ≥39mm:
see annex 2.0 for explanation of doorleaf types

| | Product group name | intended use | glass opening |
|--------------------------|------------------------|---------------------|-------------------------|
| Doorleaf type 2: | KegaComfort VS 39/41mm | Interior door | optional, maximum 25% |
| Doorleaf type 2g: | KegaComfort VS 39/41mm | Interior glass door | obligatory, minimum 25% |

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



Double doorset overview

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annex 1.1

report no.
K-5074-DMT-DO

1.3 Basic principle horizontal sections of double doorsets



Details see Annex:

2. Doorleaf construction

- 2.1. edge profiles and rebates
- 2.2. meeting edge double doors
- 2.3. glass fitting
- 2.4. Louvres
- 2.5. mouldings
- 2.6. kick plates

3. Frame construction

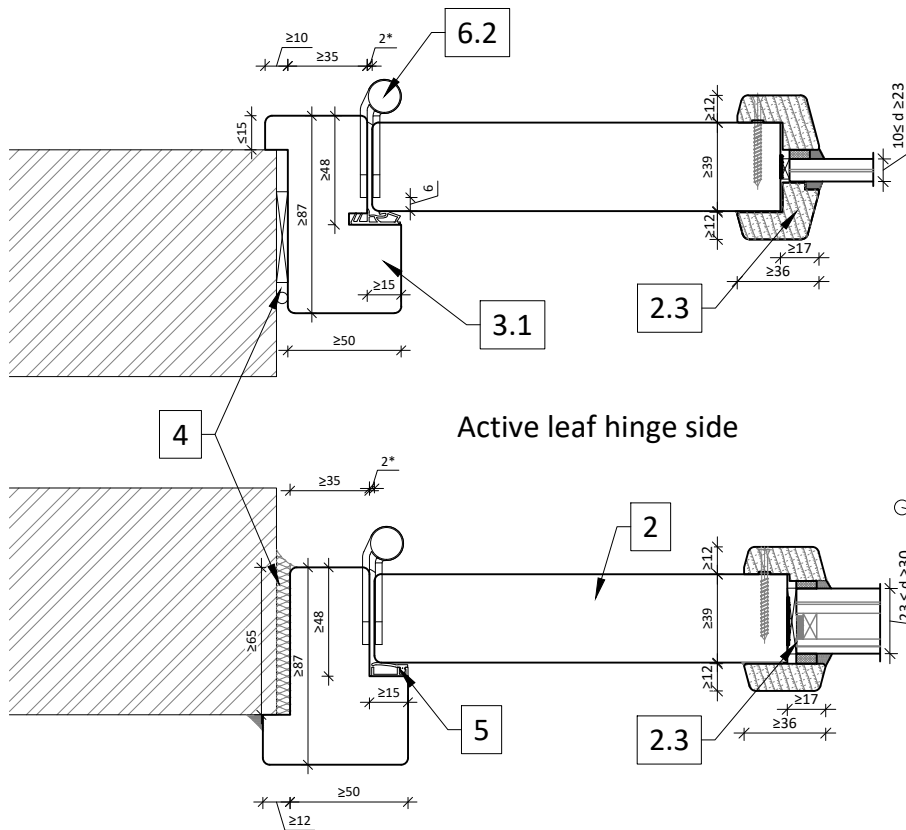
- 3.1. rebates
- 3.2. Side and overhead panels

4. Wall-Frame meeting edge and fixation

5. Seals and intumescent

6. Door hardware

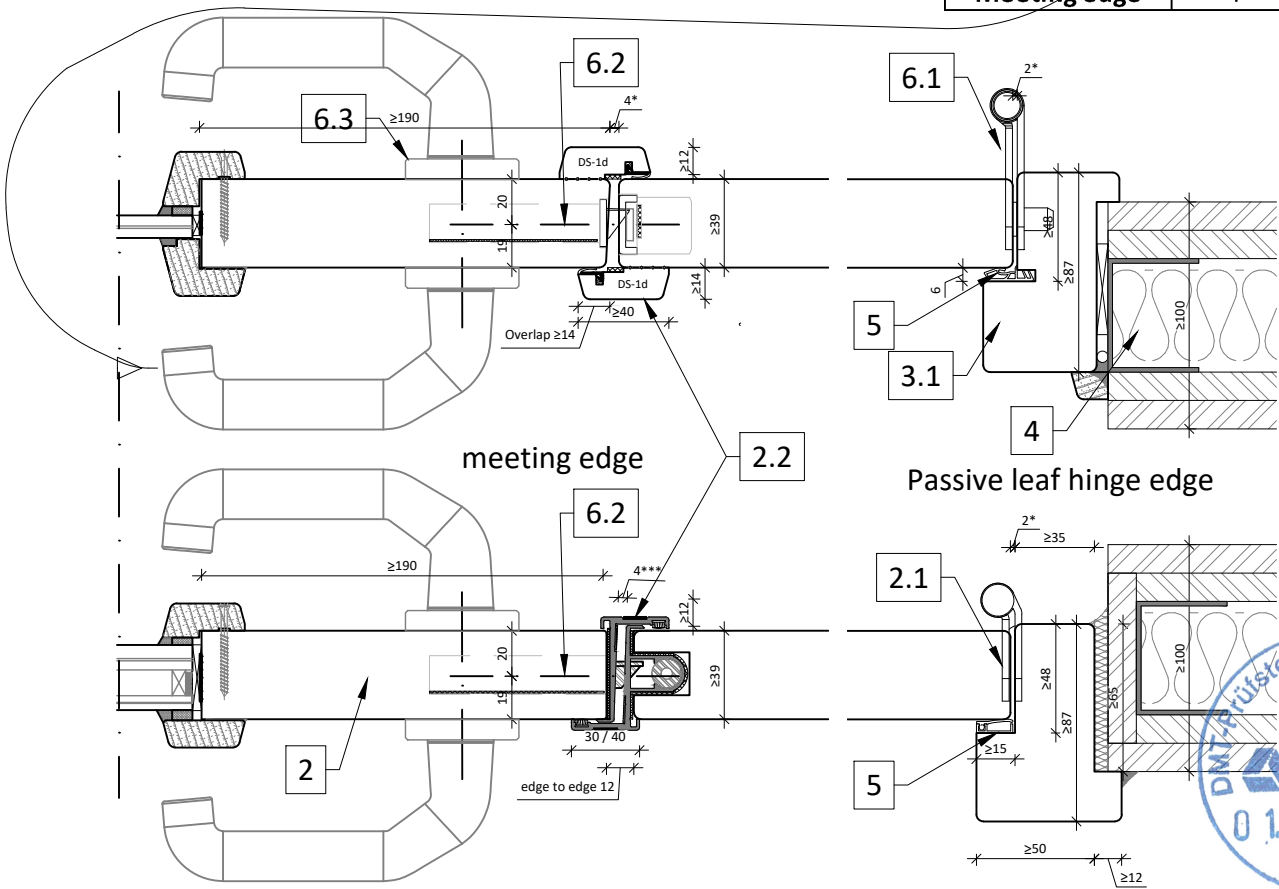
- 6.1. hinges
- 6.2. Locks + stikeplates
- 6.3. doorclosers
- 6.4. furniture
- 6.5. cable loop



Active leaf hinge side

*Gap size

| | nominal mm | maximum mm |
|-----------------|---------------|---------------|
| Hinge side edge | 2 | ≤ 5,0 |
| Meeting edge | 4 | ≤ 7,0 |



meeting edge

Passive leaf hinge edge



1.4 Basic principle vertical sections of doorsets with or without topscreen



Details see Annex:

2. Doorleaf construction

- 2.1. edge profiles and rebates
- 2.2. meeting edge panel and double door
- 2.3. glass fitting
- 2.4. louvres
- 2.5. mouldings and decoration
- 2.6. kick plates

3. Frame construction

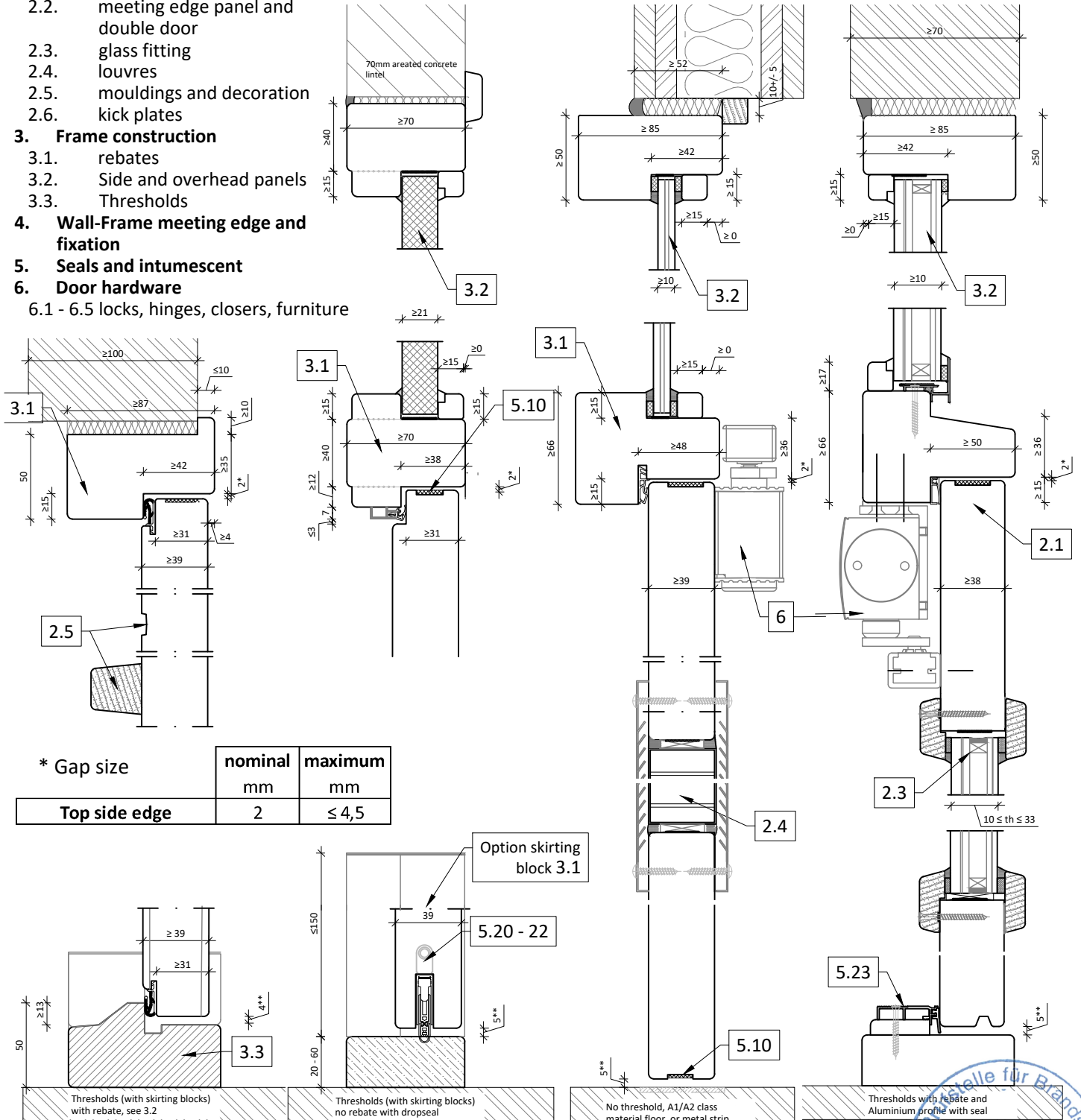
- 3.1. rebates
- 3.2. Side and overhead panels
- 3.3. Thresholds

4. Wall-Frame meeting edge and fixation

5. Seals and intumescent

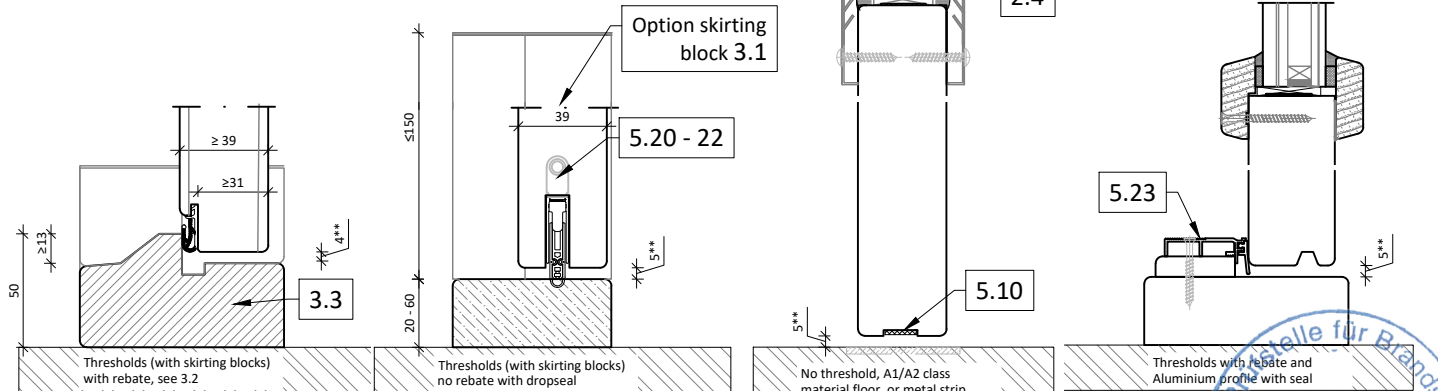
6. Door hardware

- 6.1 - 6.5 locks, hinges, closers, furniture



* Gap size

| | nominal mm | maximum mm |
|---------------|---------------|---------------|
| Top side edge | 2 | ≤ 4,5 |



** Gap size

| | nominal mm | maximum mm |
|------------------------------|---------------|---------------|
| Bottom with dropseal | 7 | ≤ 10,5 |
| Bottom plain without seal | 5 | ≤ 12,0 |
| Bottom with rebate threshold | 4 | ≤ 7,5 |

Vertical section doorset

DMT GmbH & Co. KG
Plant for Product Safety
Test Body for Fire Protection

annex 1.4

report no.
K-5074-DMT-DO



1.5 Basic principle vertical sections of sidescreens with or without transom



Details see Annex:

2. Doorleaf construction

- 2.1. edge profiles and rebates
- 2.2. meeting edge panel and double door
- 2.3. glass fitting
- 2.4. louvres

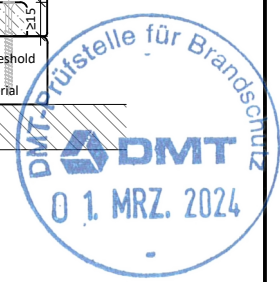
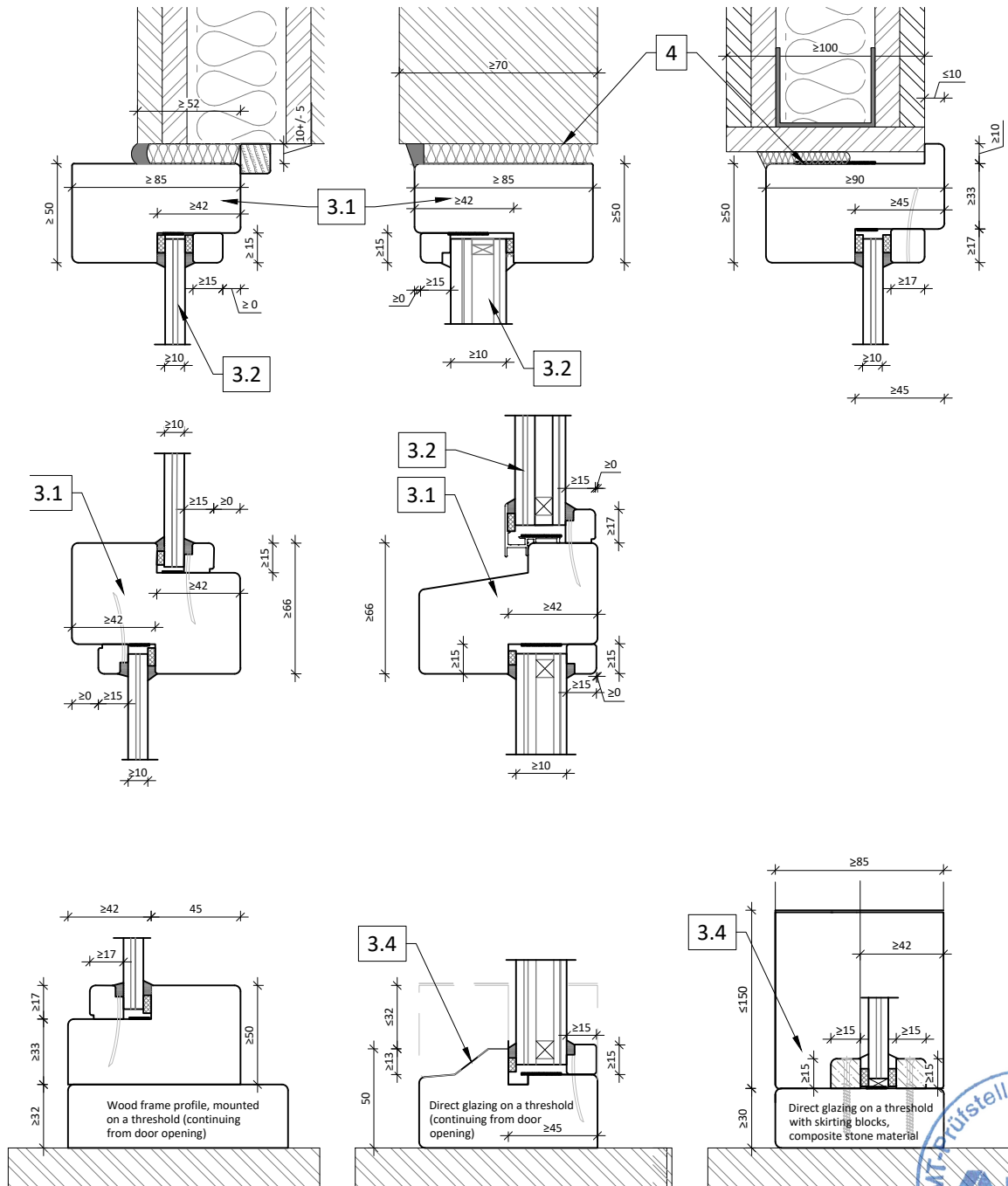
- 2.5. mouldings and decoration
- 2.6. kick plates

3. Frame construction

- 3.1. rebates
- 3.2. Side and overhead panels
- 3.3. Thresholds
- 3.4. Threshold sidescreen

fixation

- 5. Seals and intumescent
- 6. Door hardware
- 6.1. locks
- 6.2. hinges
- 6.3. doorclosers
- 6.4. furniture
- 6.5. cable loop



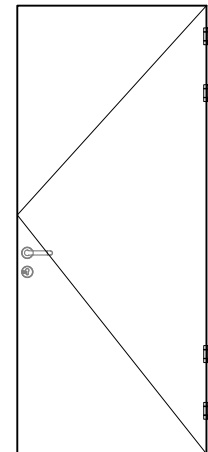
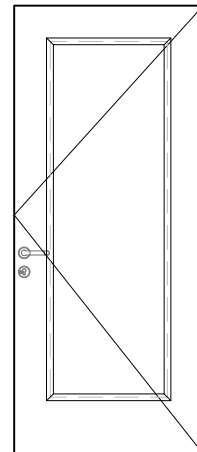
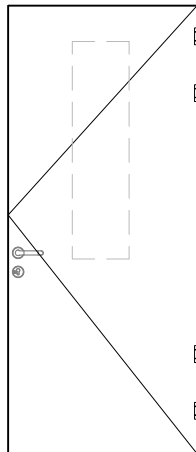
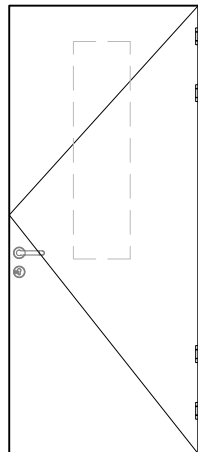
| | |
|--|-----------------------------|
| Vertical section sidescreen | annex 1.5 |
| DMT GmbH & Co. KG Plant for Product Safety Test Body for Fire Protection | report no. K-5074-DMT-DO |

2.0 - Doorleaf construction, type overview

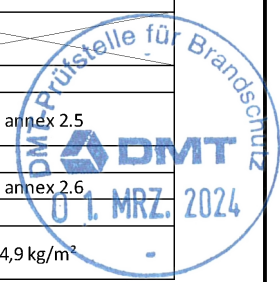


- 2.1 edge profiles and rebates
- 2.2 double door meeting edge
- 2.3 glass fitting

- 2.4 louvres
- 2.5 decorative mouldings
- 2.6 kick plates



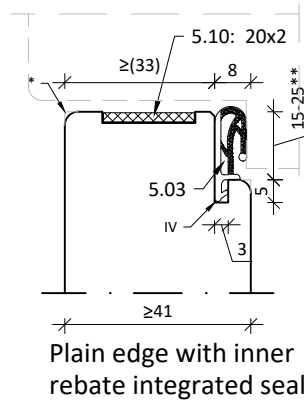
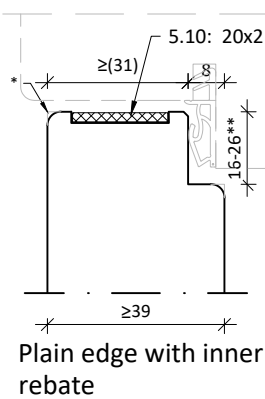
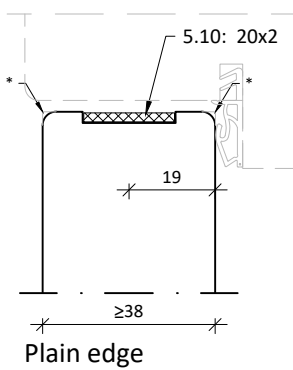
| | Group 1 | Group 2 | Group 2G | Group 3 |
|---------------------------------|--|---|--|---|
| Doorleaf designation | KegaPro BW30 KegaPro Excelent BW30 KegaPro HPL BW30 KegaPro Fineer BW30 | KegaComfort VS KegaComfort VS HPL KegaComfort VS Melamine KegaComfort VS Fineer | KegaComfort VS KegaComfort VS HPL KegaComfort VS Melamine KegaComfort VS Fineer | KegaComfort dB KegaComfort dB HPL KegaComfort dB Melamine |
| Thickness | 38 mm | 41mm | 41 mm | 41 mm |
| Intended use | Exterior or moist interior situations | interior situations | interior situations glass doors | interior situations sound insulating |
| Doorcore | single layer wood core | single layer woodbased panel core | | multilayer woodbased core |
| Surface options | HDF; Tricoya (excellent) HPL; Veneer on plywood; melamine on HDF; Coating | HDF; HPL; Veneer on Plywood; Melamine on HDF; Coating | | HDF; HPL; Melamine on HDF; Coating |
| Maximum leave size single door* | ≤1152 x ≤2539 mm and surface ≤2,742 m ² | ≤1026 x ≤2419 mm and surface ≤2,429 m ² | ≤1104 x ≤2613 mm and surface ≤2,623 m ² | ≤1026 x ≤2419 mm and surface ≤2,429 m ² |
| Maximum leave size double door* | ≤1072 x ≤2474 mm and surface ≤2,526 m ² | | | |
| Edge profile frame meeting | Plain edge 4-sided See annex 2.1 | Plain edge Plain edge with innerrebate Plain edge with inner rebate and integrated seal. see annex 2.1 | | Plain edge with innerrebate Plain edge with inner rebate and integrated seal. See annex 2.1 |
| Meeting profile double doors | | Plain edge with astragals, or Alprokon 19-1 series See annex 2.2 | | |
| Glass | Optionally. Single or multiple. Maximum 20% of doorleaf see annex 2.3 | Optionally. Single or multiple. Maximum 25% of doorleaf see annex 2.3 | Obligatory Single or multiple. Minimum 25% of doorleaf should be glass. see annex 2.3 | |
| Louvres (ventilating grills) | Yes, optionally see annex 2,4 | Yes, optionally see annex 2,4 | Yes, optionally see annex 2,4 | |
| Decorative mouldings | Optional, see annex 2.5 | Optional, see annex 2.5 | Optional, see annex 2.5 | Optional, see annex 2.5 |
| Kickplates | Optional, see annex 2.6 | Optional, see annex 2.6 | Optional, see annex 2.6 | Optional, see annex 2.6 |
| Max doorleaf weigth | 95,8 kg, and 34,8 kg/m ² | 84,8 kg, and 32,2 kg/m ² | 84,8 kg, and 32,2 kg/m ² | 84,8 kg, and 34,9 kg/m ² |



2.1 Profiles for Door-Frame meeting edge + Intumescent seal location



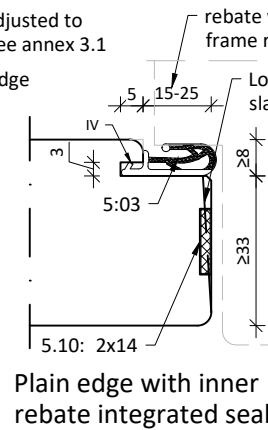
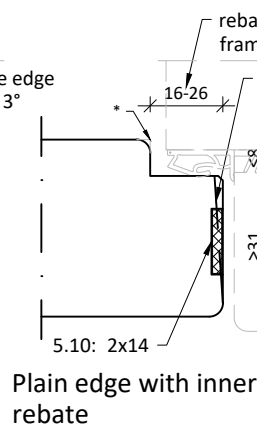
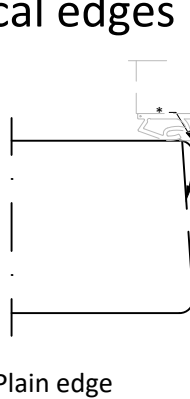
Head of door



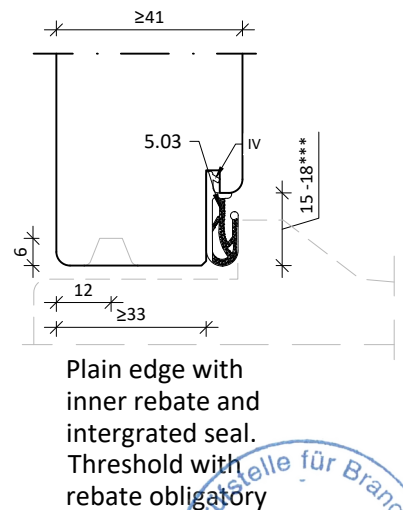
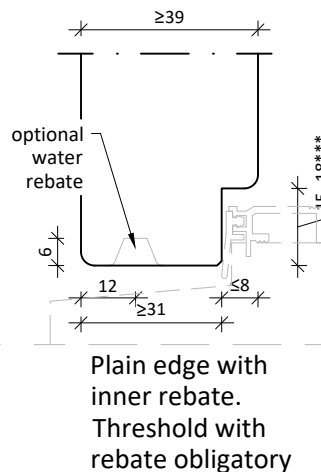
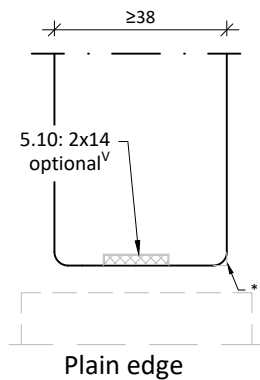
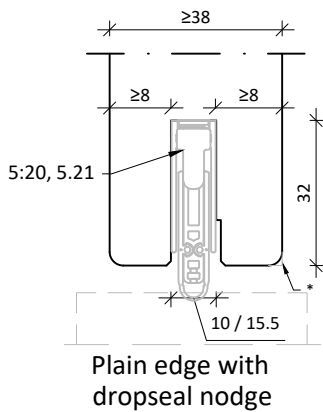
for all edges:
coherent frame profile to be matching. see also Annex 3.1

for all edges:
optionally lippings hardwood $\geq 550\text{kg/m}^3$ (excl beech), in thickness 3-12mm can be added.

Vertical edges



Bottom edges



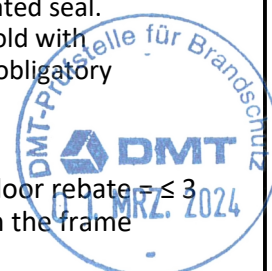
*: all corners optionally straight, chamfer 1.5mm, or R=3

** : width of rebate to be in relation to frame rebate. Frame rebate = is door rebate + 1mm.

*** : width of rebate underside of door to be in relation to threshold rebate. Threshold rebate - door rebate = ≤ 3

IV : notch for smoke/draught seal (5.01-5.08) optionally omitted if the seal is to be incorporated in the frame

V : Intumescent seal 5.10 2x14 obligatory if: Threshold no rebate and no dropseal. See Annex 3.3



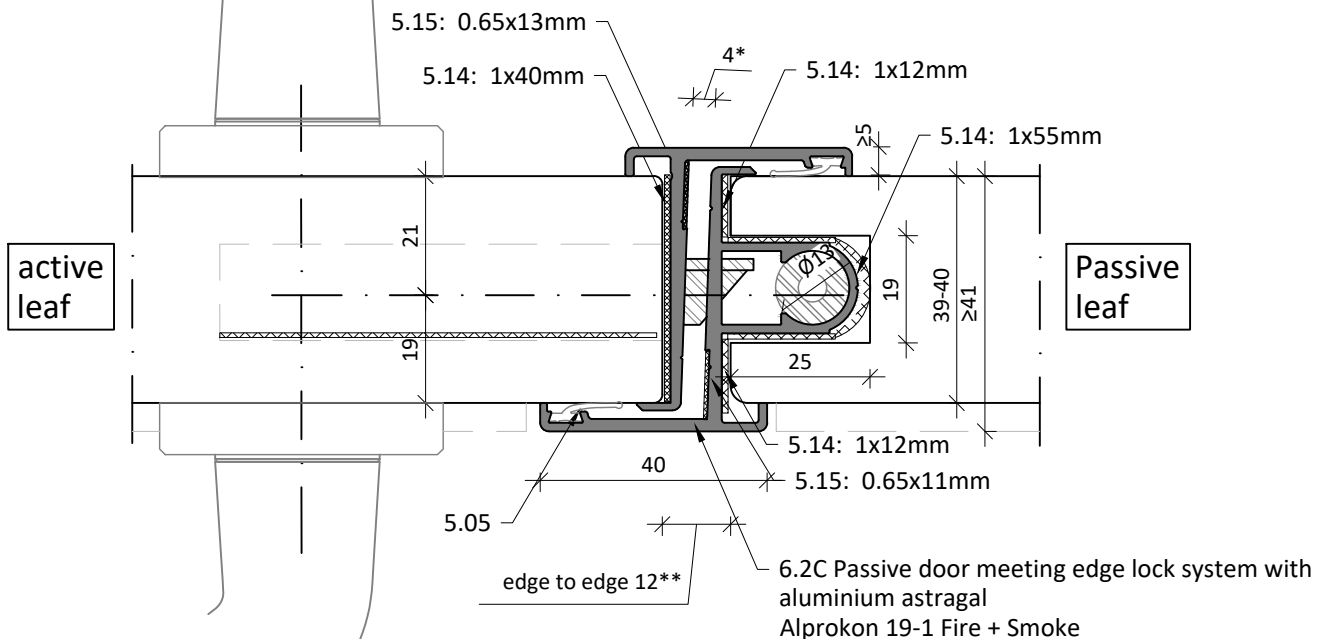
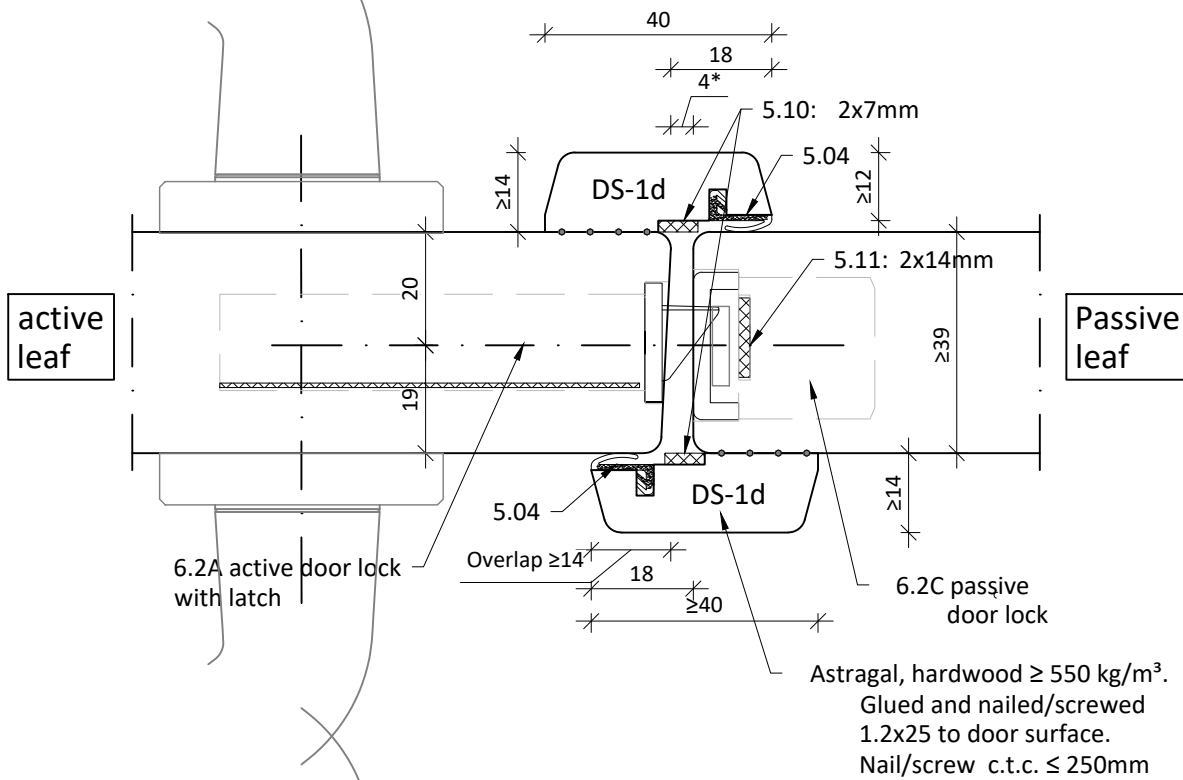
Door profiles and rebates

annex 2.1

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Test Body for Fire Protection

report no.
K-5074-DMT-DO

2.2 Profiles for double doorset meeting edge 39mm doors



*: nominal gap, allowed deviation +2 / -2 mm

** : deduction value, distance between both leaves without meeting edge system mounted.



Double door meeting edge options

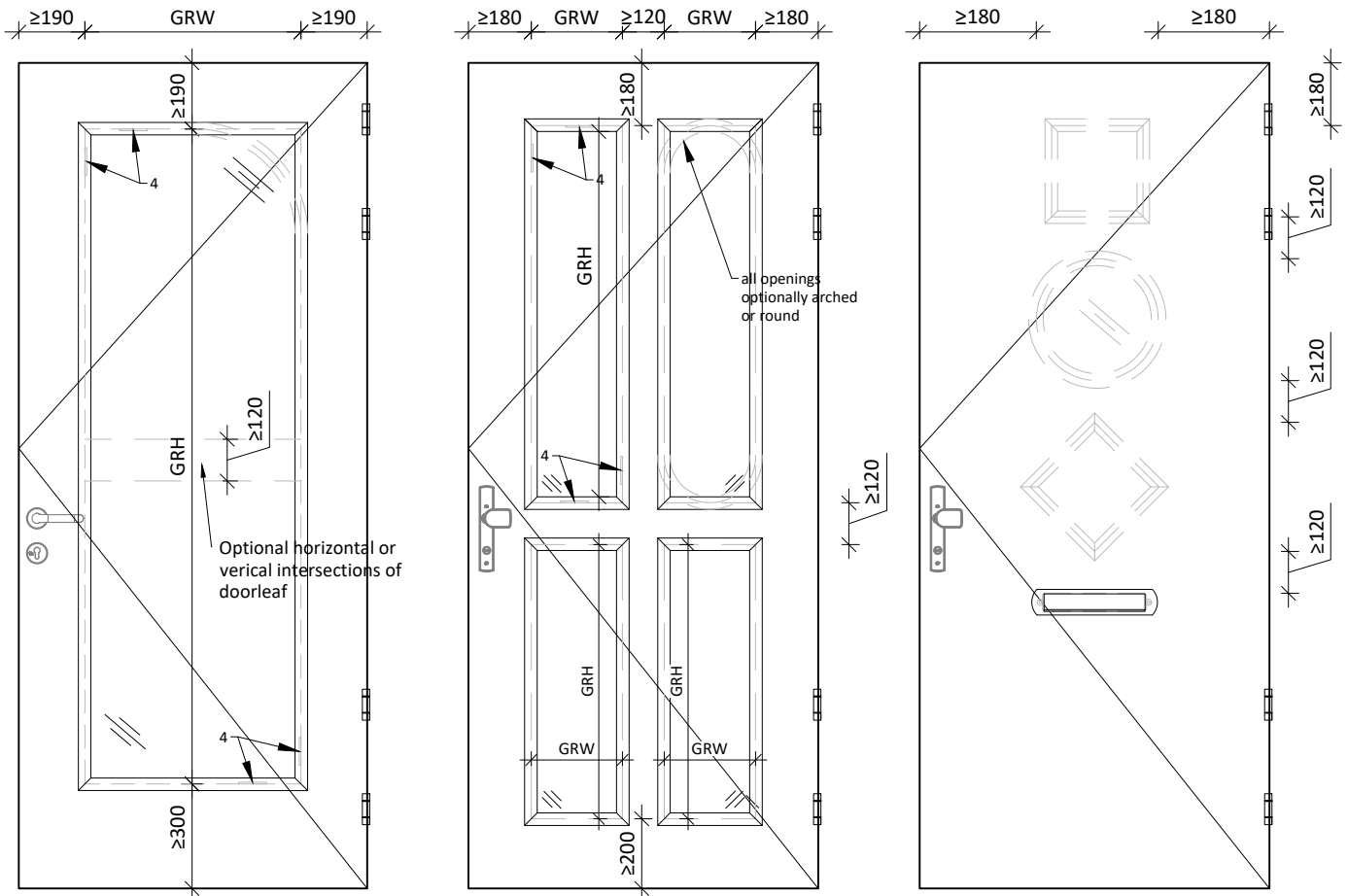
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Plant for Product Safety
Test Body for Fire Protection

annex 2.2

report no.
K-5074-DMT-DO

2.3 Glazing and opaque panel fitting

Doorleaf construction type 1 and 2 + 2g according annex 2.0



Single large opening, optionally with vertical or horizontal glazing bars optionally rounded or arched

Single or multiple openings, up to max 0.38m² per opening
Minimum glass opening size 150 x 150 mm or 0.0225m²

No -, single -, or multiple small openings.
Max 25% doorleaf surface
Minimum glass opening size 150 x 150 mm or 0.0225m²

Single squared glass opening or multiple glazings fitted possible.

Glass fitting detail see annex 2.3b

Glass cut-out size depending on used doorleaf type and related to allowed maximum doorleaf size, see also annex 1.0, 1.1 and 2.0

Group 1: KegaPro 38mm

- single or multiple openings, in total ≤20% off doorleaf area
- in total ≤ 360 x 1110 mm and 0,38m²

Group 2: KegaComfort VS

- single or multiple openings, in total ≤25% off doorleaf area
- in total ≤ 320 x 1245 mm and 0,358m²

Group 2g: KegaComfort VS

- Single or multiple openings, in total minimum more than 25% of doorleaf should be glass

Group 3: KegaComfort dB

- no glass opening allowed

Index:

GRW: glazing rebate width (leaf cutout size)
GOW: glazing opening width (leaf cutout size)
GRH: glazing rebate height (leaf cutout size)
GOH: glazing opening height (leaf cutout size)

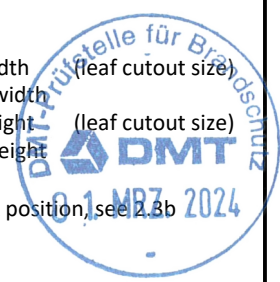
4. Glazing setting block position, see 2.3b

doorleaf glazing overview

annex 2.3

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Test Body for Fire Protection

report no.
K-5074-DMT-DO



2.3a List of glass types and sizes for in doorleaf



Single squared glass opening or multiple glazings fitted possible.

Maximum sizes are glass type depended, see list below

Minimum size 150 x 150 mm or 0.0225m² area

Glass fitting detail see annex 2.3.b

All sizes are glass size. The opening size in the doorleaf is +10mm in height and width

| Glastype | type** | direction*** | Spacer type ^{IV} | th. (mm) | width (mm) | height (mm) | surface (m ²) |
|-----------------------------|--------|--------------|---------------------------|----------|--------------|-------------|---------------------------|
| PyroDur plus 30-106 | SGU | 2-sided | - | 10 | ≤ 615 | ≤ 1896 | ≤ 1,166 |
| PyroDur plus 30-186/ 30-176 | DGU | ISO-side | 1, 2, 3, 4 | 23 - 33 | Not allowed! | | |
| | | Fire Side | 1, 2, 3, 4 | 23 - 33 | ≤ 615 | ≤ 1896 | ≤ 1,166 |
| Pyrobelite 10 | SGU | 2-sided | - | 11 | ≤ 290 | ≤ 1234 | ≤ 0,3245 |
| Pyrobelite 10 - xx - A* | DGU | ISO-side | 1, 2, 3, 4 | 23 - 33 | ≤ 340 | ≤ 1040 | ≤ 0,354 |
| | | Fire-side | 1, 2, 3, 4 | 23 - 33 | ≤ 290 | ≤ 1140 | ≤ 0,3306 |
| Pyrobelite 9EG | SGU | 2-sided | - | 12 | ≤ 290 | ≤ 1234 | ≤ 0,3245 |
| | | | | 12 | ≤ 290 | ≤ 1140 | ≤ 0,3306 |
| Pyrobelite 9EG - xx - A* | DGU | ISO-side | 1, 2, 3, 4 | 24 - 34 | ≤ 340 | ≤ 1040 | ≤ 0,354 |
| | | Fire-side | 1, 2, 3, 4 | 24 - 34 | ≤ 290 | ≤ 1234 | ≤ 0,3245 |
| | | | | | ≤ 290 | ≤ 1140 | ≤ 0,3306 |

Index:

A: Insulated glass pane, either: LSG >6 with 1 or 2 PVB or acoustic layers.

*: With Low-E coating.

** : SGU = single glass unit ; DGU = double glass unit

***: Direction of fire load. DGU unit from both sides, or from Insulation glass side, or from Fire glass side.

xx: Spacer type IV in thickness 6 to 16 mm

IV: Spacer types: **1:** Aluminium. **2:** Stainless steel. **3.** TGI warm-edge, Stainless steel + Plastic.

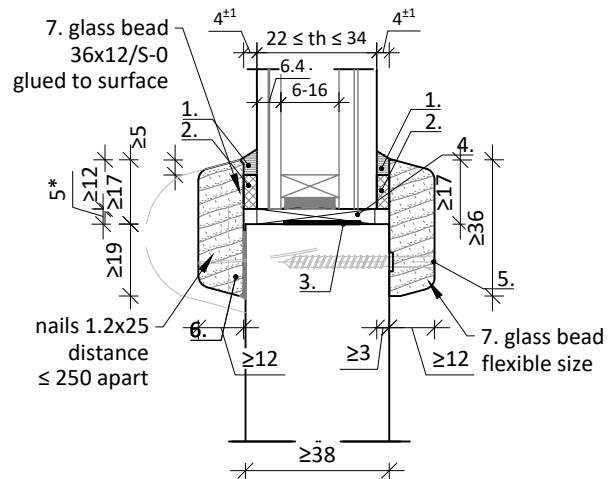
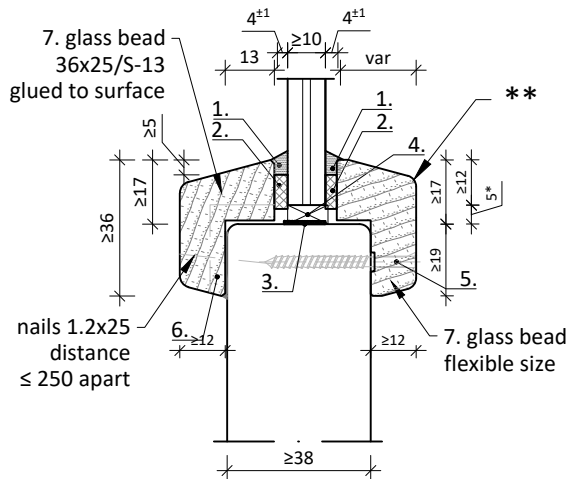
4. Chromatech Ultra warm-edge, Stainless steel + Plastic



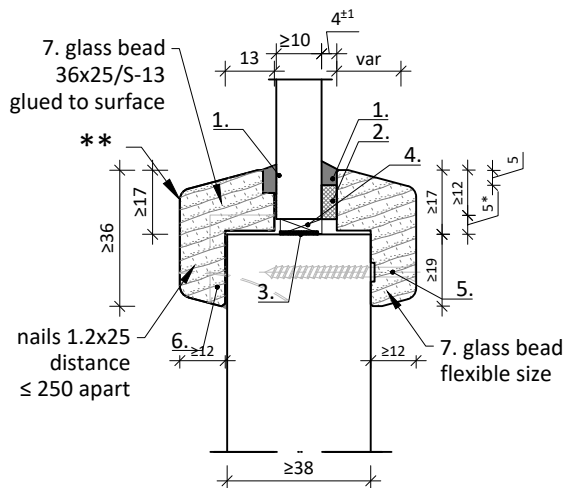
| | |
|--|-----------------------------|
| List of glass types for use in doorleaf | annex 2.3.a |
| DMT GmbH & Co. KG Plant for Product Safety Test Body for Fire Protection | report no. K-5074-DMT-DO |

2.3a Glass fitting in doorleaf

Allowed glass types and sizes see annex 2.3 and 2.3.a



Glazed 2-sides with glazing tape and silicone top seal



Glued -on glass bead optionally as enlarged timber moulding

Optionally glassbead screw fixed on both sides.

Orientation of DGU is depending on glass familie used, see list of approved glass types and sizes Annex 2.3.a

Glass th. + seal to be fully incorporated within the thickness of the doorleaf.

Glazed 1-sided with glazing tape and silicone top seal

Allowed glass types and sizes see annex 2.3a

Materials:

1. Glazing sealant silicon based o.e.
2. Ceramic backing Kerafix 2000 o.e. size $4^{+/-1}x \geq 9\text{mm}$
3. Fitherm GB Intumescent 0.8x10 (single glass) or 0.8x20 (for insulated glass)
4. Setting blocks Fitherm SB o.e.
5. Glass bead screw $\varnothing 3.5x40$ distance $50^{+/-10}$ mm from corner and $\leq 250\text{mm}$ apart.
6. Optionally ventilation ducts $\varnothing 40x5\text{mm}$, 60mm from glass corner in bottom glassbead, for exterior doors only
7. Glass bead hardwood $\geq 550\text{kg/m}^3$

* glass edge to doorrebate gap, resulting glass effective rebate depth $\geq 12\text{mm}$

** : radius, or design moulding optional

doorleaf glass fitting detail

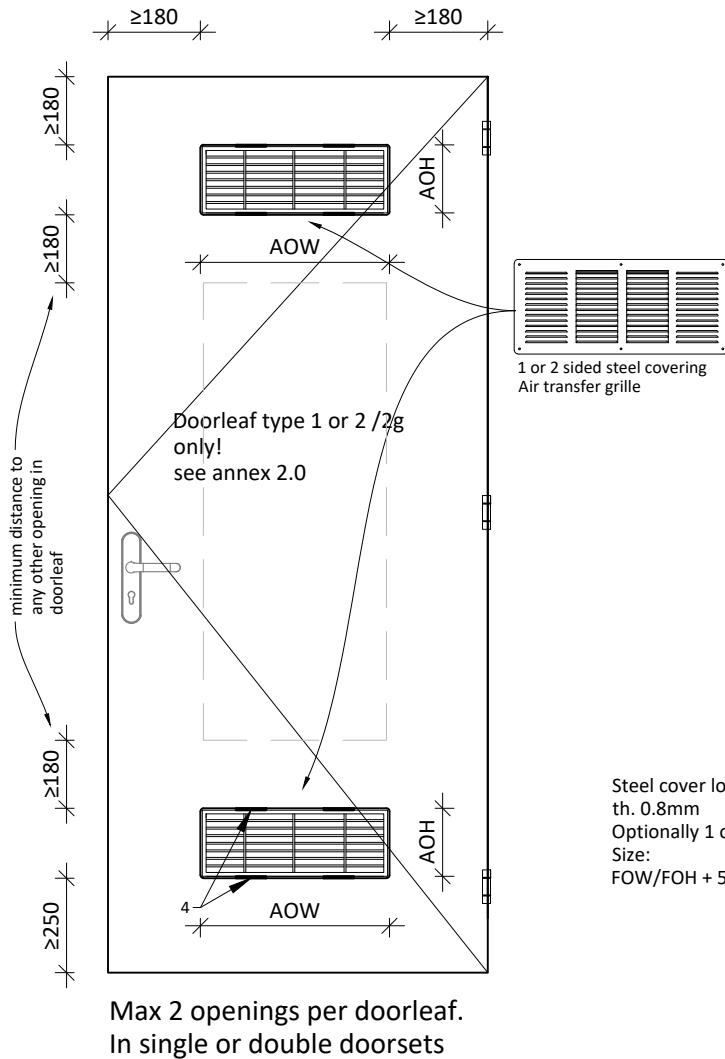
annex 2.3.b

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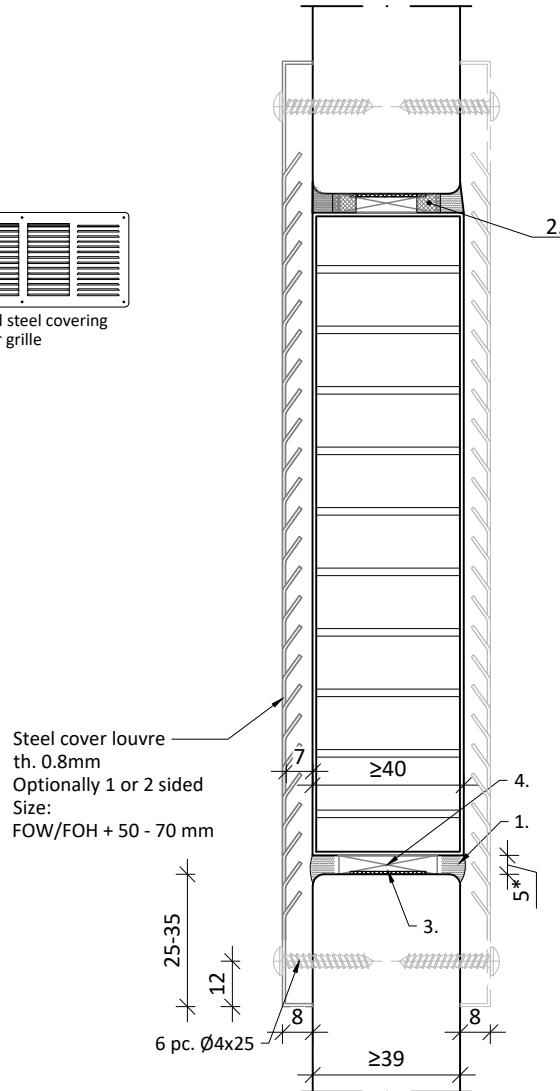
report no.
K-5074-DMT-DO



2.4 Louvres openings e.g. Air transfer grilles / ventilation grilles)



Vertical section of louvre fitting,
horizontal section identical



Allowed type and sizes of cut-out

| Louvre type | LOW | | LOH | |
|---------------------------------------|----------|----------|----------|----------|
| | min (mm) | max (mm) | min (mm) | max (mm) |
| FSS FBU-40 (for dry and humid use) | 250 | 500 | 92 | 185 |
| FSS LVV-40 (for dry use only) | 250 | 500 | 92 | 185 |

Fire louvre product is 10mm smaller than the cut-out

Materials:

1. Glazing sealant silicon based o.e.
2. PE/PU backing foam Ø12 (optionally)
3. Fitherm GB Intumescent 0.8x20
4. Setting blocks Fitherm SB o.e.

LOW: Louvre Opening Width
Cut-out from doorleaf

LOH: Louvre Opening Height
Cut-out from doorleaf



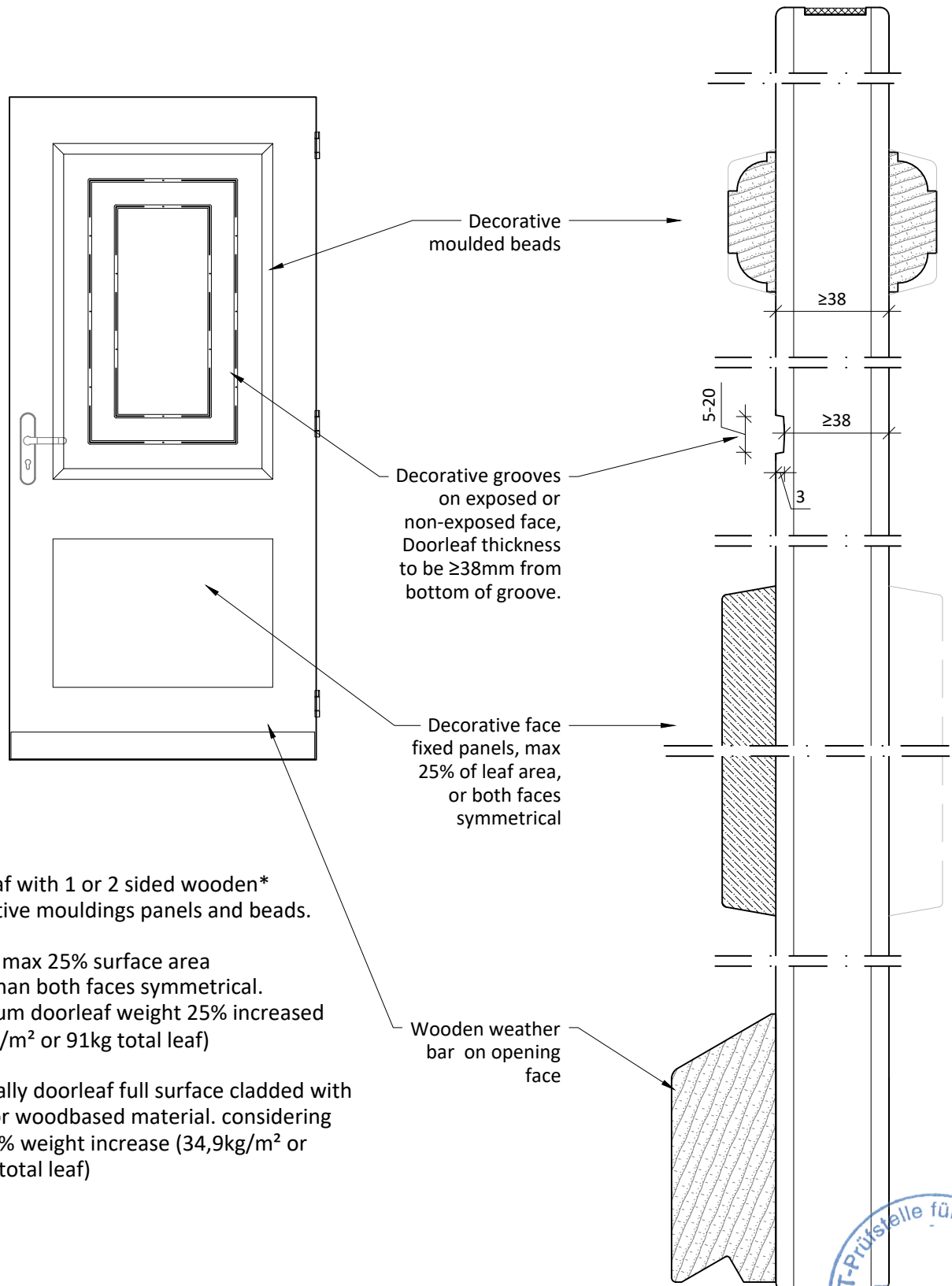
doorleaf louvre fitting

annex 2.4

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report no.
K-5074-DMT-DO

2.5 doorleaf decorative mouldings



Doorleaf with 1 or 2 sided wooden* decorative mouldings panels and beads.

1 sided max 25% surface area
 >25% than both faces symmetrical.
 Maximum doorleaf weight 25% increased
 (34,9kg/m² or 91kg total leaf)

Optionally doorleaf full surface clad with wood or woodbased material. considering max 25% weight increase (34,9kg/m² or 95,8kg total leaf)

* Decorative panel and moulding material:

- wood or wood based panel products.



doorleaf mouldings

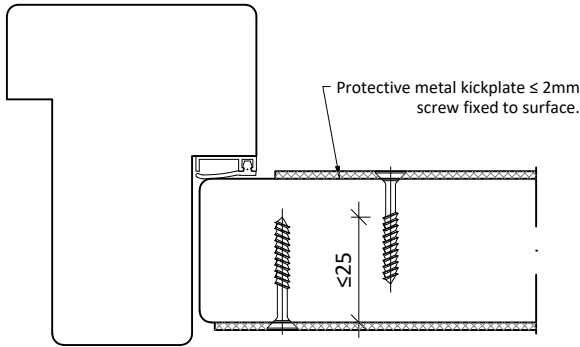
annex 2.5

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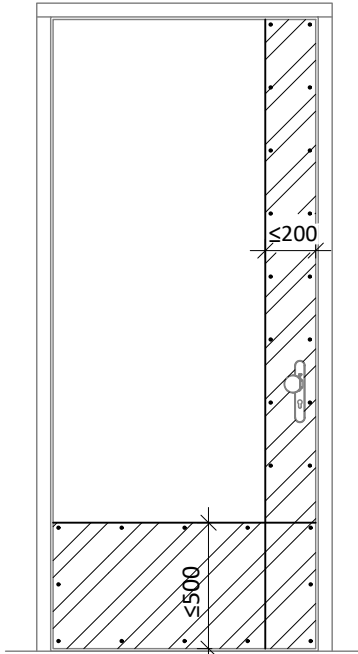
report no.
 K-5074-DMT-DO

2.6 Kickplates on doorleaf

allowed size off doorleaf covering depending on fixation type

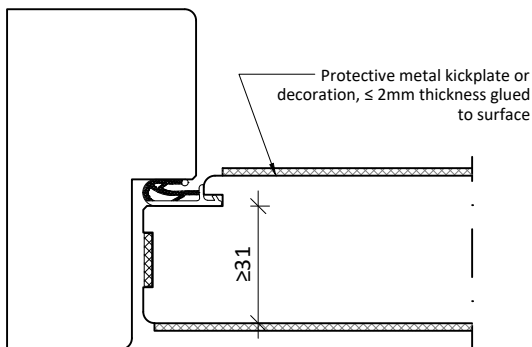


Screw fixation length $\leq 25\text{mm}$
distance 200-300mm apart

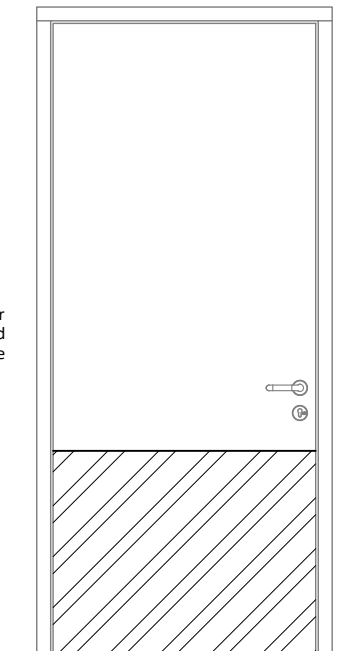


optionally in parts
considering total size
criteria

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

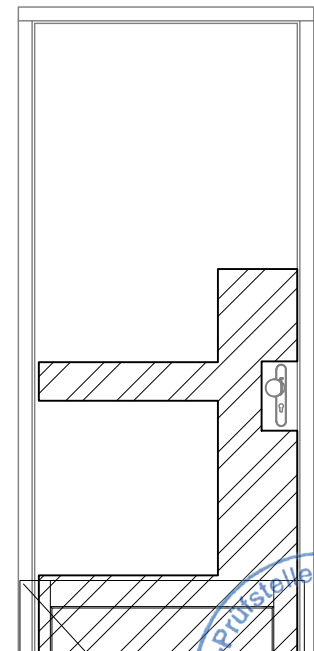


Glue or tape fixation

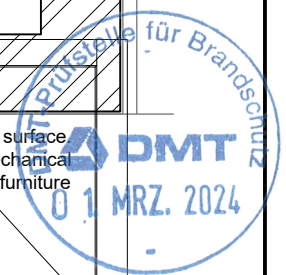


max 40% leaf area.
example:
if opening size frame 900x2300:

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



free form, $\leq 40\%$ surface
free from any mechanical
fixation like door furniture



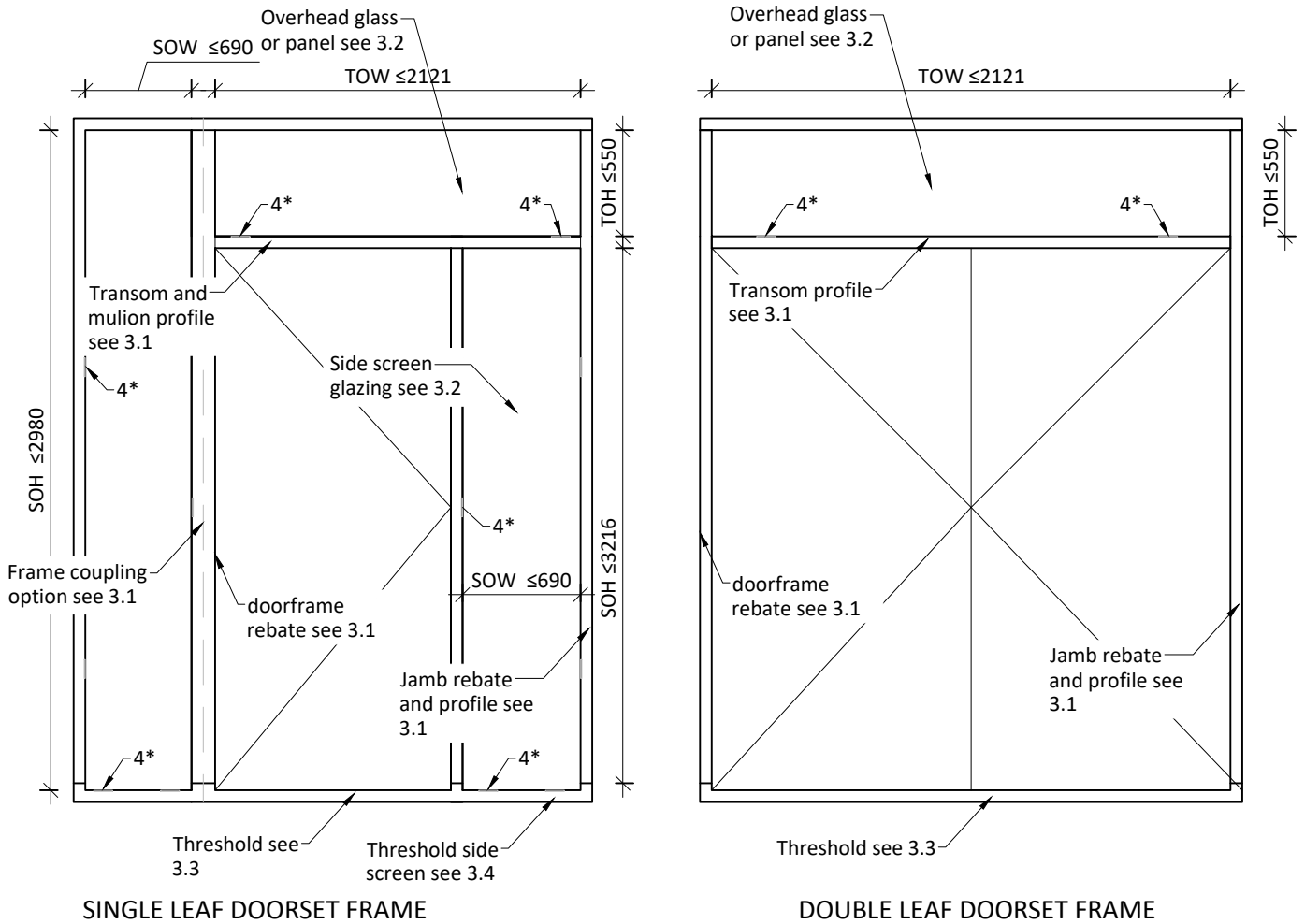
doorleaf protective metal kickplates

annex 2.6

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Test Body for Fire Protection

report no.
K-5074-DMT-DO

3 Frame construction



Side and overhead panel are optional. Arrangement options according Annex 1.0 and 1.1
 Sizes are opening sizes, considering maximum area see annex 1.0 and 1.1

Wooden timber block frames

- wood species soft- or hardwood $\geq 420 \text{ kg/m}^3$

Corner joint connections:

- Butt jointed with ≥ 2 pc dowels hardwood $\geq \text{Ø}14 \times 80$
- Mortise and tenon
- Glued with "0819 kozijnlijm" or PVAc wood glue, o.e.

Meeting edge with support construction and fixation see annex 4

4*: position of setting blocks glazing. See annex 3.2.

TOH: Top light opening height
 SOH: Sidescreen opening height
 TOW: Top light opening width
 SOW: Sidescreen opening width

FRAME DETAILS:

- Annex 3.1: Frame profiles sizes and rebates
- Annex 3.2: Allowed glass types and opaque panels
- Annex 3.2.1: Side and overhead glass and panel fitting detail
- Annex 3.3: Thresholds door
- Annex 3.4: Threshold sidescreen options
- Annex 3.5: Frame protection

Frame to wall meeting edge options see Annex 4.



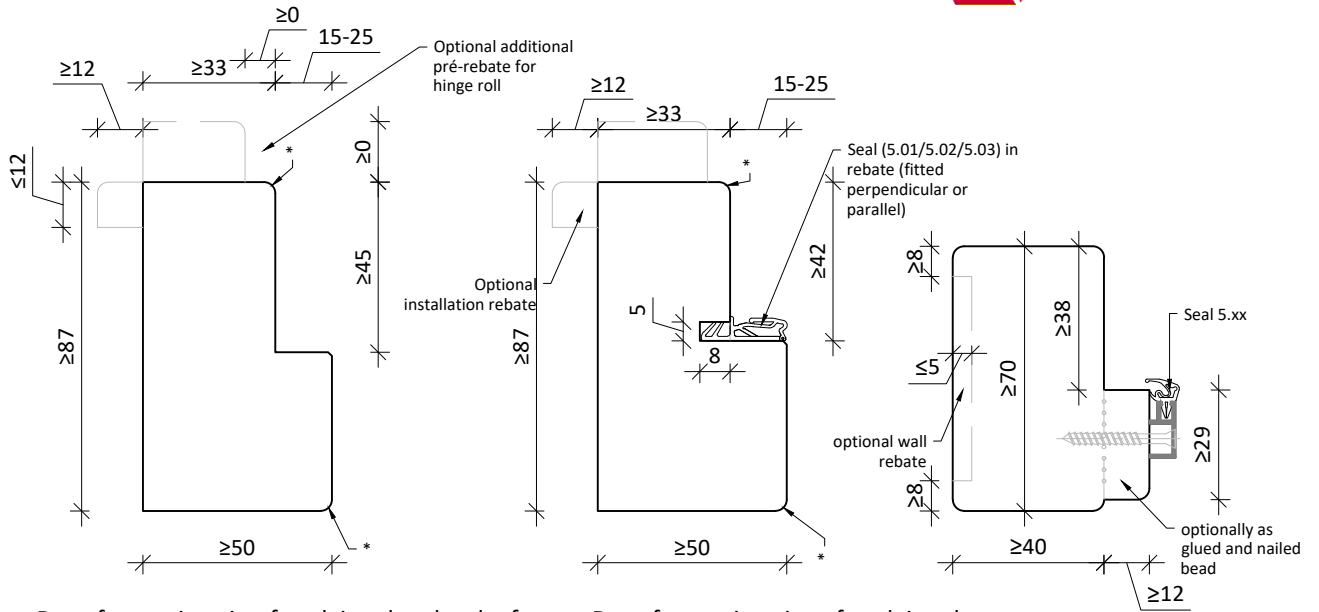
Frame construction and sizes overview

annex 3.0

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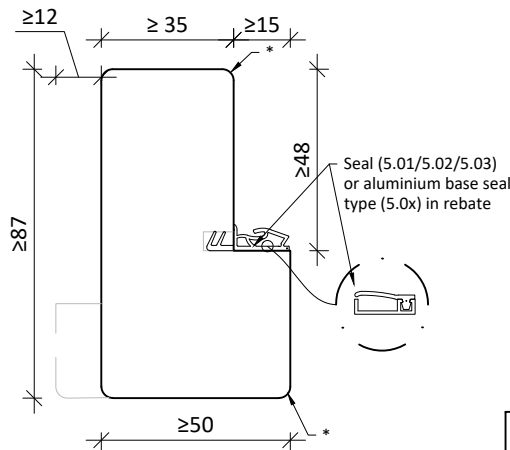
report no.
 K-5074-DMT-DO

3.1 Doorframe profile and rebates

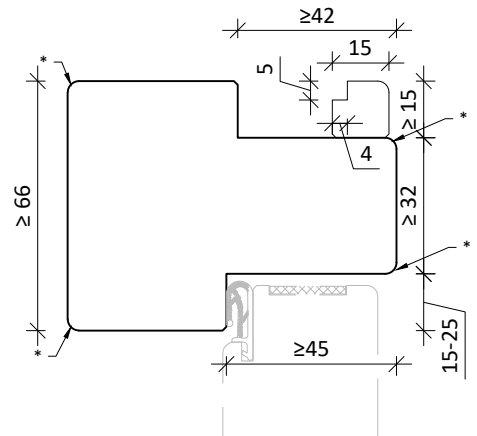


Door frame situation for plain edge doorleaf with innerrebate and intergrated draught seal.
Or side/overhead glazing

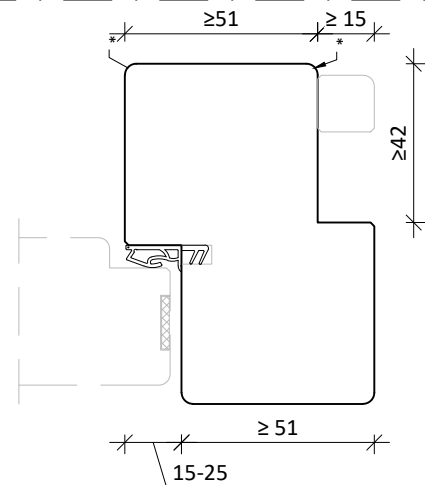
Door frame situations for plain edge doorleaf with inner rebate. Without draught seal in doorleaf.



Door frame situation for plain edge doorleaf. Seal to be in Frame!
Or side/overhead glazing rebate.



Door frame transom or mullion profile situation.



Door frame transom or mullion situation, rebate opposite side.

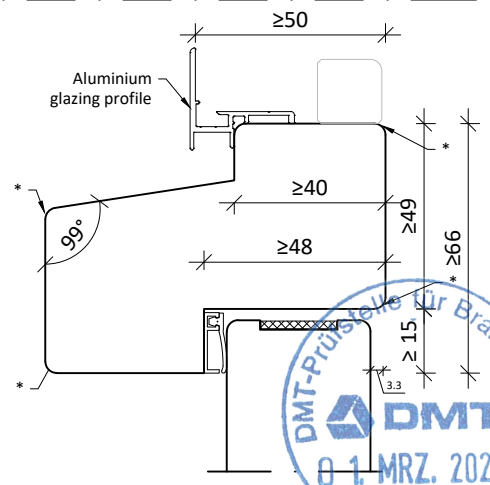
Frame Material:
Hardwood or Softwood
 $\geq 420 \text{ kg/m}^3$
Solid, Fingerjoint, or Laminated

Frame surface options:

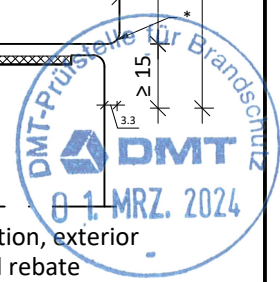
- No finish
- Coating (paint)
- Veneer $\leq 3\text{mm}$
- HPL $\leq 1\text{mm}$

Sidescreen and overhead panel see 3.2

Frame-wall meeting details see 4.0 + 4.1



Door frame transom situation, exterior glazing profile and slanted rebate



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

Doorframe rebates

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Test Body for Fire Protection

annex 3.1

report no.
K-5074-DMT-DO

3.2 Frame side and overhead panel, list of sizes and material types



Given sizes are panel/glass size

Maximum allowed sizes of Frame are leading, See 1.0, 1.1 and 3.0.

Glass and panel fitting detail according 3.2.1

Side panel allowed glass types with sizes.

| Glastype | type** | direction*** | Spacer type ^{IV} | th. (mm) | width (mm) | height (mm) | surface (m ²) |
|-----------------------------|--------|--------------|---------------------------|----------|----------------|------------------|---------------------------|
| PyroDur plus 30-106 | SGU | 2-sided | - | 10 | ≤ 580 | ≤ 3381 | ≤ 1,7816 |
| PyroDur plus 30-186/ 30-176 | DGU | ISO-side | 1, 2, 3 | 23 - 33 | ≤ 510 | ≤ 2958 | ≤ 1,5086 |
| | | Fire Side | 1, 2, 3 | 23 - 33 | ≤ 580 ≤ 602 | ≤ 3381 ≤ 2791 | ≤ 1,7816 ≤ 1,526 |
| PyroDur 30-203 | SGU | 2-sided | - | 11 | ≤ 517 | ≤ 2783 | ≤ 1,307 |
| PyroDur 30-283 / 30-273 | DGU | ISO-side | not allowed | | | | |
| | | Fire Side | 1, 2, 3 | 24 - 34 | ≤ 517 | ≤ 2783 | ≤ 1,307 |
| Pyrobelite 10 | SGU | 2-sided | - | 11 | ≤ 744 | ≤ 3223 | ≤ 2,0150 |
| Pyrobelite 10 - xx - A* | DGU | ISO-side | not allowed | | | | |
| | | Fire-side | 1, 2, 3 | 23 - 33 | ≤ 744 | ≤ 3223 | ≤ 2,0150 |
| Pyrobelite 9EG | SGU | 2-sided | - | 12 | ≤ 744 | ≤ 3223 | ≤ 2,0150 |
| Pyrobelite 9EG - xx - A* | DGU | ISO-side | not allowed | | | | |
| | | Fire-side | 1, 2, 3 | 24 - 34 | ≤ 744 | ≤ 3223 | ≤ 2,0150 |

Overhead panel allowed glass types and panel types, with sizes.

| Glastype | type** | direction*** | Spacer type ^{IV} | th. (mm) | width (mm) | height (mm) | surface (m ²) |
|-----------------------------|-----------------|--------------|---------------------------|----------|------------------|----------------|---------------------------|
| PyroDur plus 30-106 | SGU | 2-sided | - | 10 | ≤ 2244 | ≤ 572 | ≤ 1,1669 |
| PyroDur plus 30-186/ 30-176 | DGU | ISO-side | 1, 2, 3 | 23 - 33 | ≤ 1000 ≤ 3000 | ≤ 520 ≤ 350 | ≤ 0,5200 ≤ 0,9548 |
| | | Fire Side | 1, 2, 3 | 23 - 33 | ≤ 2244 | ≤ 572 | ≤ 1,1669 |
| PyroDur 30-203 | SGU | 2-sided | - | 11 | ≤ 2032 | ≤ 335 | ≤ 0,6807 |
| PyroDur 30-283 / 30-273 | DGU | ISO-side | not allowed | | | | |
| | | Fire Side | 1, 2, 3 | 24 - 34 | ≤ 2032 | ≤ 335 | ≤ 0,681 |
| Pyrobelite 10 | SGU | 2-sided | not allowed | | | | |
| Pyrobelite 10 - xx - A* | DGU | ISO-side | not allowed | | | | |
| | | Fire-side | 1, 2, 3 | 24 - 34 | 1040 | 457 | 0,4753 |
| Pyrobelite 9EG | SGU | 2-sided | not allowed | | | | |
| Pyrobelite 9EG - xx - A* | DGU | ISO-side | not allowed | | | | |
| | | Fire-side | 1, 2, 3 | 24 - 34 | ≤ 1040 | ≤ 457 | ≤ 0,4753 |
| Opaque panel ≥20mm | p ^I | 2-sided | - | ≥20 | ≤ 1054 | ≤ 552 | ≤ 0,5809 |
| Opaque panel ≥21mm | p ^{II} | 2-sided | - | ≥21 | ≤ 974 | ≤ 476 | ≤ 0,4624 |

II : Panel composition type P1

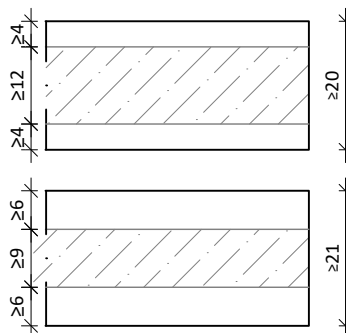
- ≥4 MDF ≥720kg/m³
- ≥ 12 CaSi panel (promatect H)
- ≥ 4 MDF ≥720kg/m³

All layers glue laminated with EPI wood glue ≥120gr/m²

III : Panel composition type P2

- ≥6 MDF ≥720kg/m³
- ≥ 9 MgO panel (glassfiber reinforced Magnesium Oxide)
- ≥6 MDF ≥720kg/m³

All layers glue laminated with EPI wood glue ≥120gr/m²



A*: Insulated glass pane: LSG >6 with 1 or 2 PVB or acoustic layers with Low-E coating
 **: SGU = single glass unit ; DGU = double glass unit or triple glass unit
 ***: Direction of fire load. DGU unit from both sides, or from Insulation glass side, or from Fire glass side.
 **: Spacer type IV in thickness 6 to 16 mm
 IV: Spacer types: 1: Aluminium. 2: Stainless steel. 3: TGI or Chromatech Ultra warm-edge, Stainless steel + Plastic.



Frame glazing overhead and sidescreen

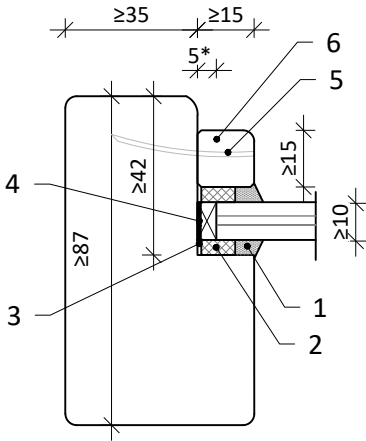
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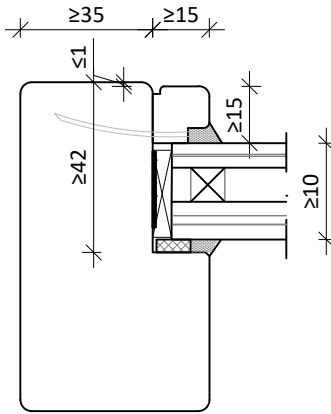
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3.2.1 Frame side and overhead panel and glass fitting detail

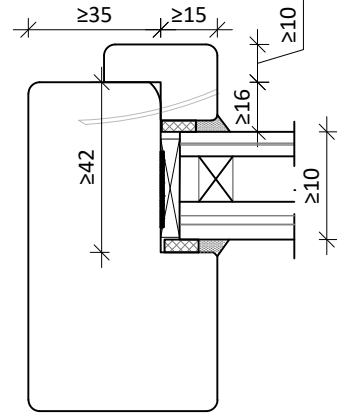
Glass with frame rebate overlap to be $10^{+/-1}$ mm. Opaque overhead panel, placed as glass



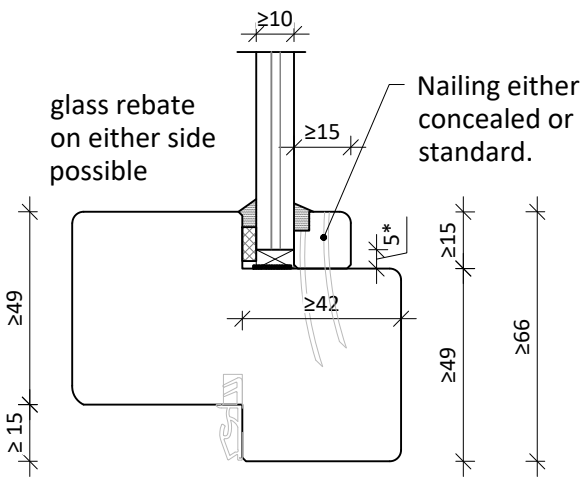
timber frame glass bead 2-sided backing



timber frame glass bead nailed concealed, 1-sided backing

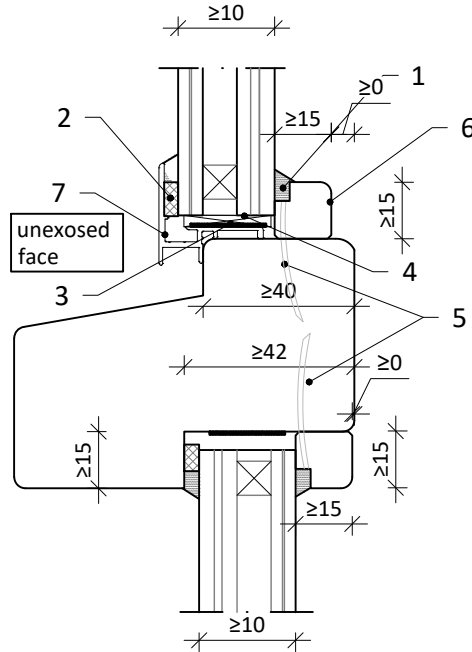


timber frame with rebated glass bead 1, or 2-sided backing



glass rebate on either side possible

Nailing either concealed or standard.

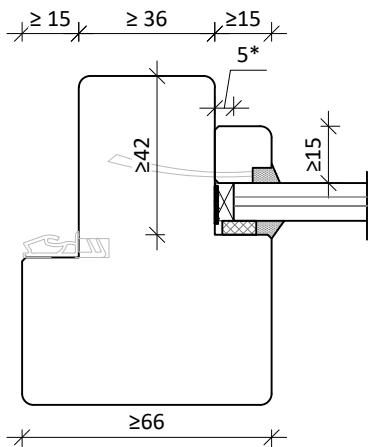


Transom situations

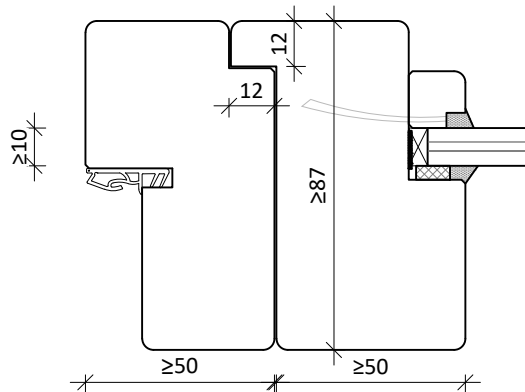
glass type and allowed sizes see Annex 3.2

DGU or TGU*, Position of fire protective glass pane can be installed on either side

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



Mullion (sidescreen) situations



Coupled mullion (sidescreen) situations

Materials:

1. Glazing sealant silicon based o.e.
2. Ceramic backing size $4^{+/-1} \times \geq 9$ mm
3. Fitherm GB Intumescent 0.8x10 (single glass) or 0.8x20 (for insulated glass)
4. Setting blocks Fitherm SB o.e.
5. Steel nail 1.2x30mm or screw $\varnothing 3.5 \times 40$ distance $50^{+/-10}$ mm from corner and c.t.c. ≤ 150 mm apart.
6. Glass bead soft or hardwood ≥ 420 kg/m³
7. Aluminium glazing profile with integrated ventilation ducts, type LU-G5-3 o.e. Fitted on unexposed face only

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

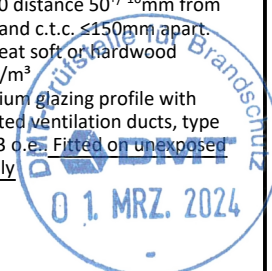
Setting block size:
thickness: 3 - 5 mm
length: 80 mm
width : glass thickness - 0 to 5 mm

Frame glazing overhead and sidescreen

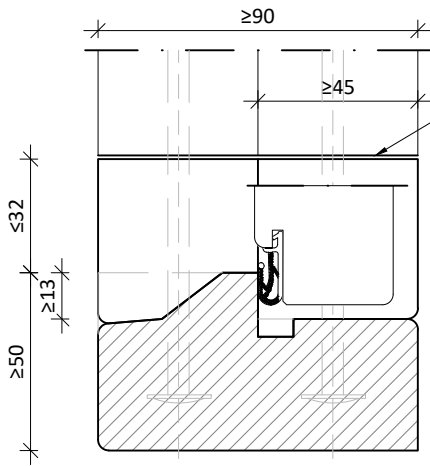
annex 3.2.1

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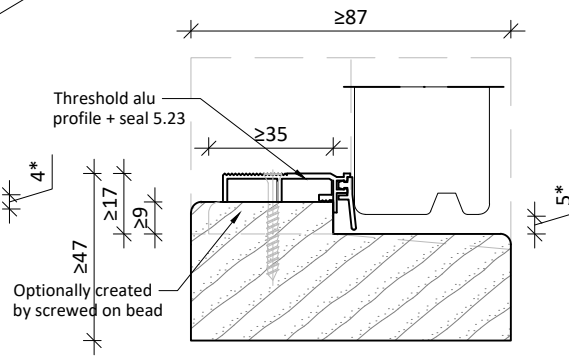
report no.
K-5074-DMT-DO



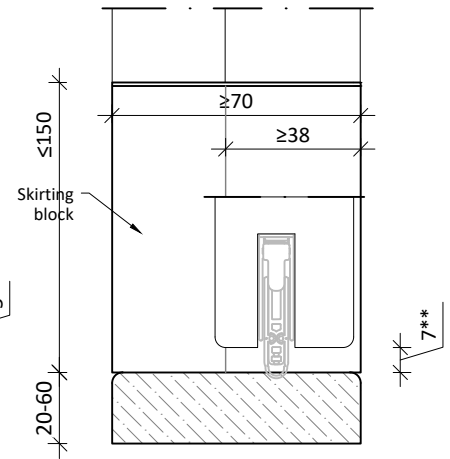
3.3 Door frame threshold options



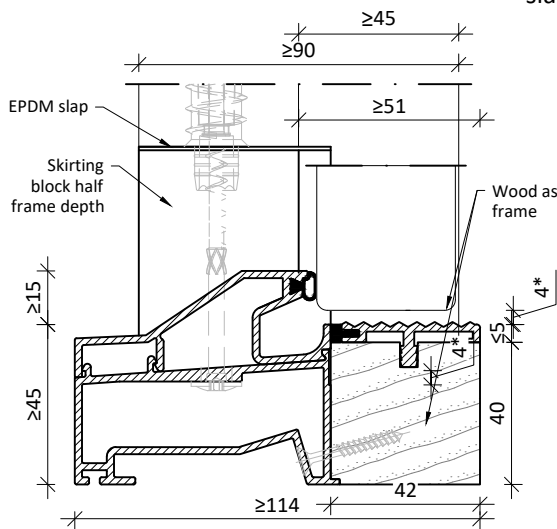
Solid material^{II} with 1 rebate with skirting blocks^{I+II}



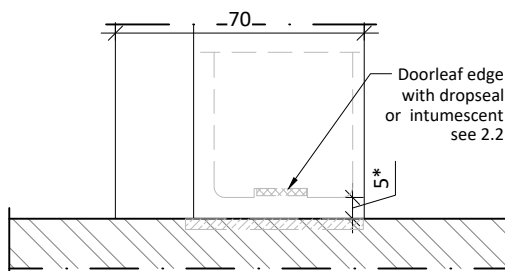
Solid material^{III} with 1 rebate, seal in threshold alu profile, optionally slanted, optionally with skirting blocks^{II}



Solid material^I unrebated. Optionally with skirting blocks^I up up to 150mm high



Hybride type threshold with 1 rebate. Hollow aluminium^{III} profile combined with wood as frame, and half skirting block^{II}



No threshold, A1/A2 class material floor, or metal strip ≥3x50 under doorleaf in the flooring

Sidescreen glazing on threshold see annex 3.4

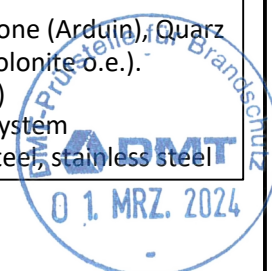
Fixation of threshold to frame, including skirting blocks if relevant, with PVC dowels and screw ca 8x120mm according manufacturers instruction

*: nominal gap under the door

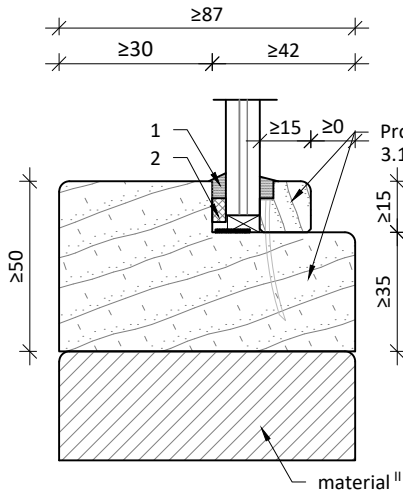
| | nominal mm | maximum mm |
|---------------------------------|---------------|---------------|
| Bottom with dropseal | 7 | ≤ 10,5 |
| Bottom plain without seal | 5 | ≤ 12,0 |
| Bottom with rebate in threshold | 4 | ≤ 7,5 |

Materials:

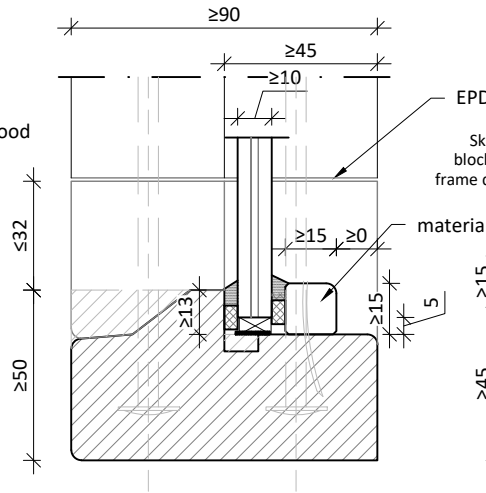
- I: Wood ≥500kg/m³, Natural stone (Arduin), Quarz epoxy resin artificial stone (Holonite o.e.).
- II: As material I + HMPE (plastic)
- III: Extruded aluminium profile system Venstertechnik EEFD o.e., steel, stainless steel



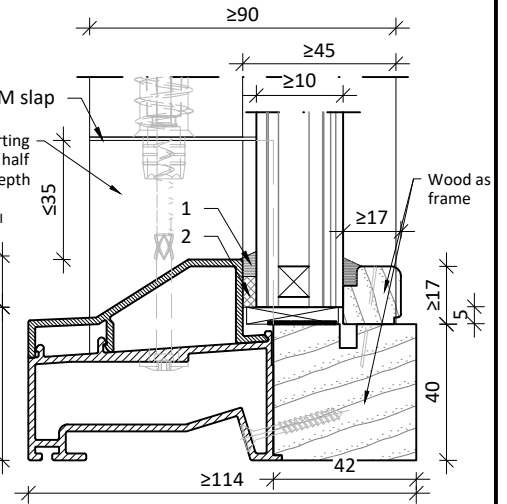
3.4 Frame thresholds under sidescreen



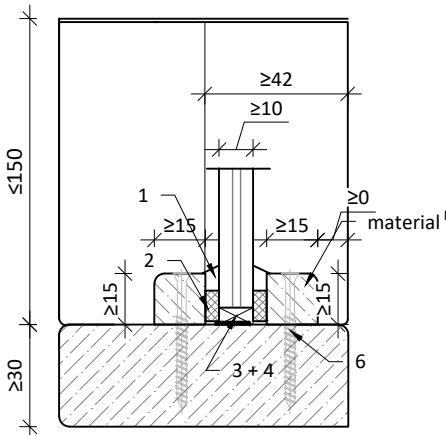
Wood frame profile, optionally mounted on a threshold solid material^I (continuing from door opening)



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}



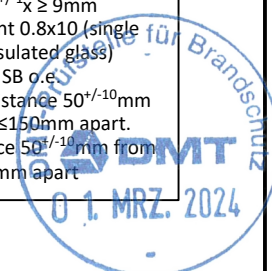
Direct glazing on a threshold without rebate, with optional skirting blocks, material type^I

Glazing rules and materials see annex 3.2

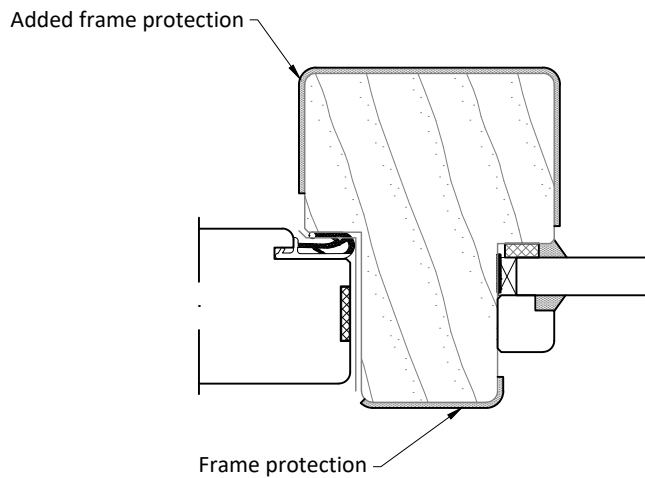
Fixation of threshold to frame, including skirting blocks if relevant, with PVC dowels and screw ca 8x120mm according manufacturers instruction

| Threshold Material groups: | |
|----------------------------|--|
| I: | Wood $\geq 500 \text{ kg/m}^3$, Natural stone (Arduin), Quarz epoxy resin artificial stone (Holonite o.e.). |
| II: | Material as I + HMPE (plastic) |
| III: | Extruded aluminium profile system Venstertechnik EEFD o.e., steel, stainless steel |

| Glazing materials: | |
|--------------------|---|
| 1. | Glazing sealant silicon based o.e. |
| 2. | Ceramic backing size $4^{+/-1} \times \geq 9 \text{ mm}$ |
| 3. | Fitherm GB Intumescent 0.8x10 (single glass) or 0.8x20 (for insulated glass) |
| 4. | Setting blocks Fitherm SB o.e. |
| 5. | Steel nail 1.2x30mm distance $50^{+/-10} \text{ mm}$ from corner and c.t.c. $\leq 150 \text{ mm}$ apart. |
| 6. | Screw $\varnothing 3.5 \times 40$ distance $50^{+/-10} \text{ mm}$ from corner and c.t.c. $\leq 150 \text{ mm}$ apart |



3.5: Frame protection



adding surface fixed frame protection possible
Steel / Aluminium / Composite / Metal meltingpoint $\geq 650^{\circ}\text{C}$
No restriction to metal thickness

Glued to surface, or Screw fitted.

Protection not allowed in doorleaf rebate, or Sidescreen glazing area.
No interference with seals.



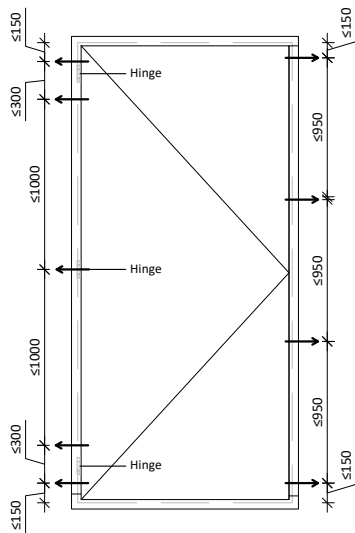
Frame protection

annex 3.5

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4 Frame fixation to support construction



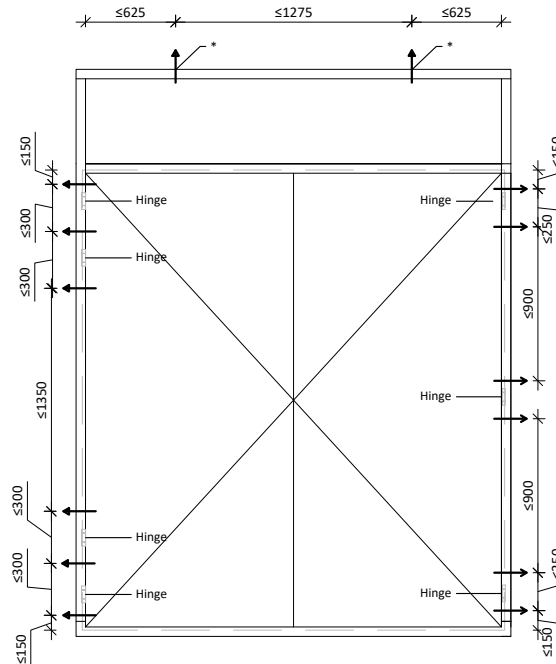
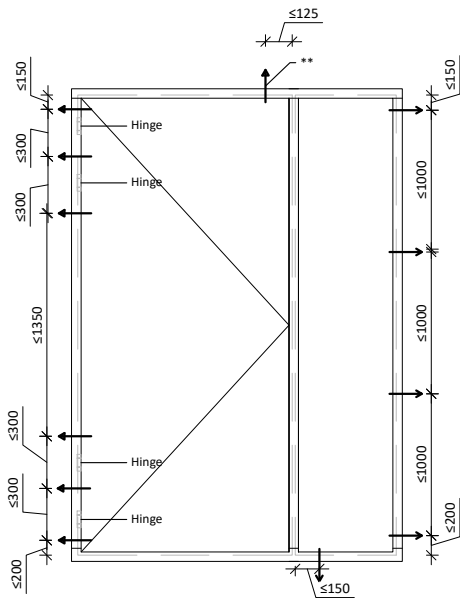
Fixation points of timber doorframes placed in support construction. Details of wall-to frame meeting edge and fixation see annex 4.1. For frames bricked into the support construction, see annex 4.2.

positioning options:

- Placed in wall opening.
 ≥ 15 mm pronouncing out of the support construction
- Partially in wall opening, fixation with corner steel
 ≥ 46 mm overlap with support construction

*: No fixation needed in overhaed panel section if single door, fixated with corner steel anchor, partionally in the wall opening.

***: Fixation placed in overhaed panel section if present.



Po
in

Support construction:

Rigid ≥ 70 mm density ≥ 550 kg/m³ according EN 1363-1 such as:

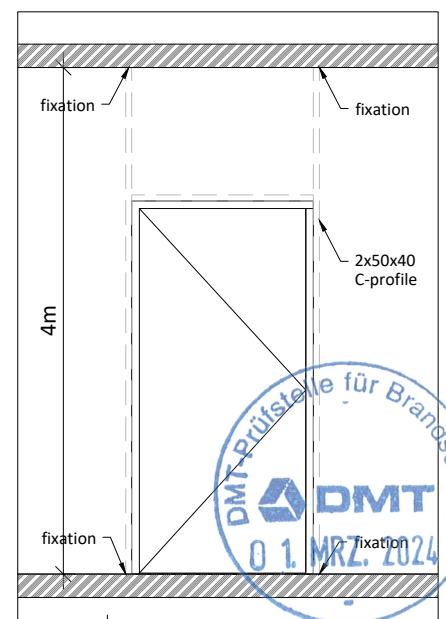
- Aerated concrete
- Concrete
- masonry bricked wall
- limestone

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

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

CLT (cross laminated timber) with test evidence

- ≥ 100 mm EI60 classified according EN 1363-1
- max 4m height
- Fixation point at least 40mm from fire exposed surface



Frame fixation to support construction

annex 4.0

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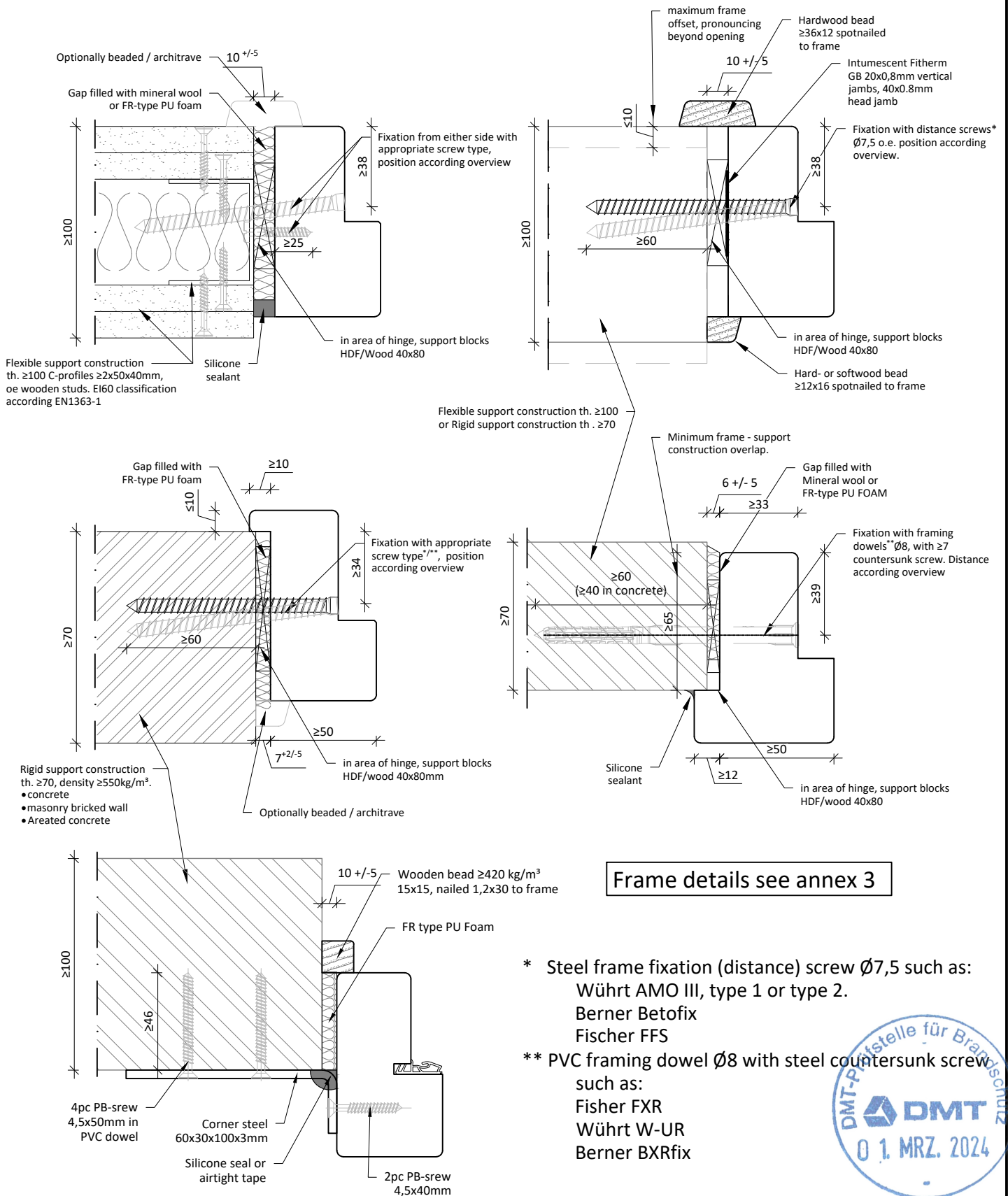
4.1 Frame - Support construction meeting edge



Fixation points of timber doorframes in support construction see Annex 4.0

Examples of fixation and meeting to support construction, all are interchangeable

For bricked in frame fixation see Annex 4.2



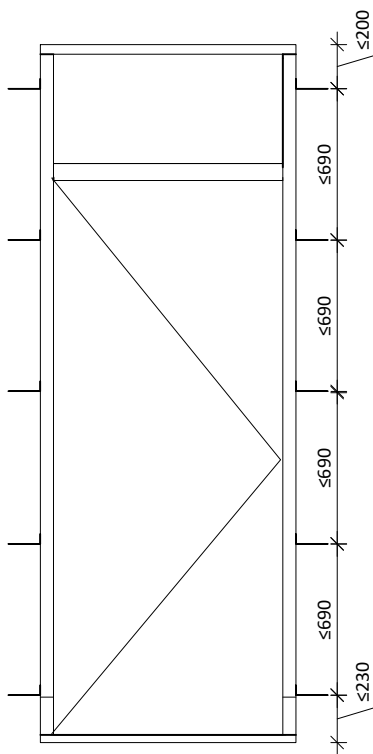
Frame details see annex 3

- * Steel frame fixation (distance) screw $\varnothing 7,5$ such as:
 Wüürt AMO III, type 1 or type 2.
 Berner Betofix
 Fischer FFS
- ** PVC framing dowel $\varnothing 8$ with steel countersunk screw such as:
 Fisher FXR
 Wüürt W-UR
 Berner BXRfix



| | |
|--|-----------------------------|
| Meeting edge frame to support constr. | annex 4.1 |
| DMT GmbH & Co. KG Plant for Product Safety Test Body for Fire Protection | report no. K-5074-DMT-DO |

4.2 Frame - Support construction meeting edge Situation if frame is "bricked in"

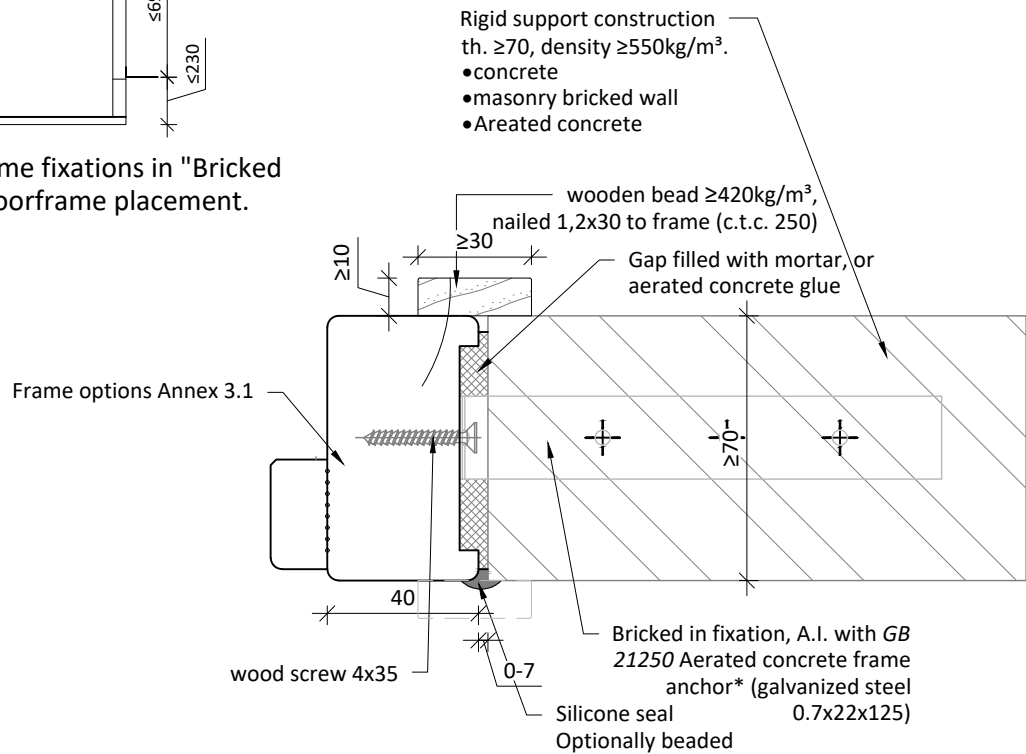


Positioning of frame fixations in "Bricked in situation" doorframe placement.

Support construction:

Rigid $\geq 70\text{mm}$ density $\geq 550\text{kg/m}^3$ according EN 1363-1 such as:

- Aerated concrete
- Masonry bricked wall
- Limestone



* Other frame anchors, material steel or stainless steel, suited for wooden frame, in masonry, aerated concrete or limestone portion walls, are allowed.
Distance according overview

Frame details see annex 3



Meeting edge frame to support constr.

annex 4.2

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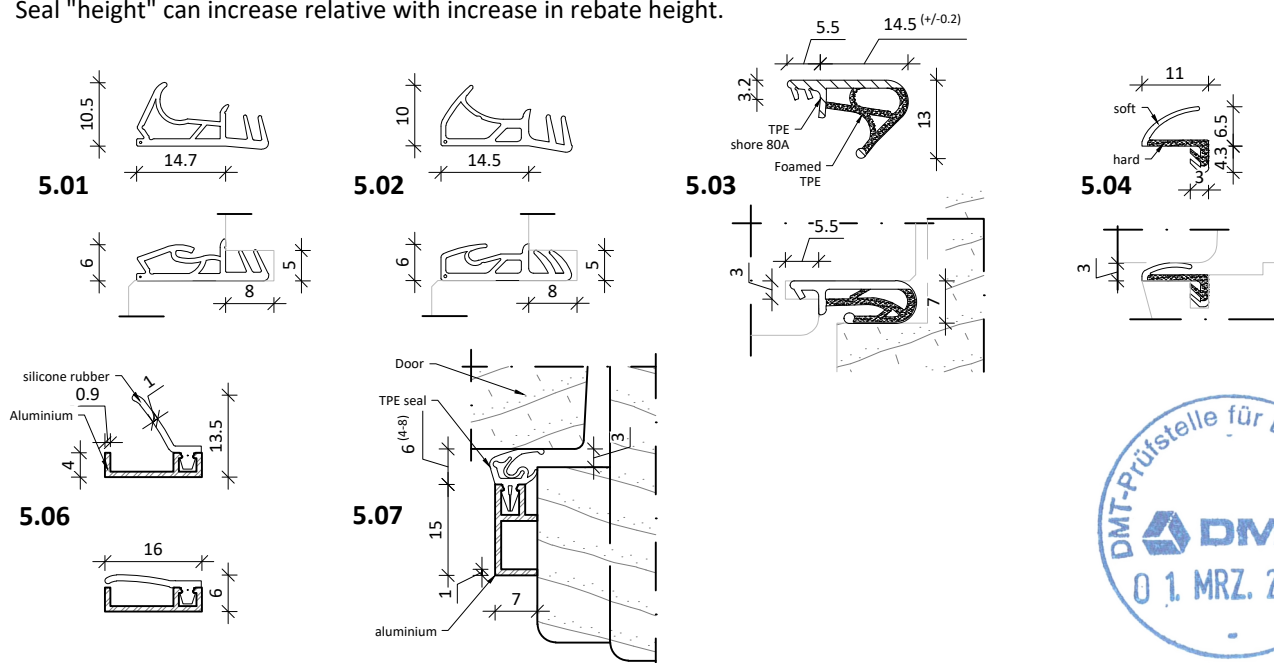
Non-intumescent smoke, draught, acoustic seals

| Nr. | Seal | producer | material | hieight | thickness (uncompressed) | gap size (compressed) | position | raction to fire EN 13501-1 |
|-------|-------------------|------------------|---|---------|--------------------------|-----------------------|--|----------------------------|
| 5.01 | KD 1501 / KD 1505 | Kegro Deuren | Silicone rubber | 15 | 10,5 | 6 | In rebate door frame stop, rebate height >15mm | Class E |
| 5.01a | SKF 5434 | Primo profile | Silicone rubber | 15 | 9 | 6 | as 5.01 | |
| | DS 6955a | Deventer Profile | Silicone rubber | 15 | 10 | 6 | | |
| 5.02 | KD 6420 / KD 6472 | Kegro Deuren | TPE-rubber | 15 | 10 | 6 | In rebate door frame stop, rebate height >15mm | Class E |
| 5.02a | SPV15 | Deventer Profile | TPE-rubber | 15 | 9 | 6 | as 5.02 | |
| 5.03 | SP 5739 | Deventer Profile | TPE-rubber | 15 | 12 | 7 | In doorleaf frame edge rebate, rebate height >15mm | Class E |
| 5.04 | KDA-01 | Kegro Deuren | Silicone rubber | 11 | 6,5 | 3 | Astragal double doors | Class E |
| 5.05 | S 6069 | Alprokon | TPE-rubber | 6 | 4 | 2 | Double doors, Alprokon smoke + fire type 19-1 | Class E |
| 5.06 | AIB-3N XL | Elton BV | Silicone rubber in aluminium | 16 | 13 | 6 | In rebate door frame stop, rebate height >15mm | Class E |
| 5.07 | ARP+ | Elton BV | TPE-rubber in aluminium base profile | 7 | 8 | 3 | In frame reveal (on the stop) pressed to doorleaf surface. | Class E |
| 5.07a | ASP | Elton BV | Silicone rubber in aluminium base profile | 7 | 8 | 3 | as 5.07 | |

a: Extended alternative to tested

Other smoke / draught seals possible if (ExAp rules EN 15269-3 A.1.14 - A.1.20):

- Gap size as tested above, Seal to be intended for that gap size
- Same basic material as tested and listed above, per group nd intended use position.
- Shape can alter, within same generic size.
- Cross section size can change max +/- 20% to tested, gap shall remain as tested.
- Seal "height" can increase relative with increase in rebate height.



5.1 Intumescent seals



Intumescent strips

| Nr. | Intumescent | material | nr. | width | thickness* | position | raction to fire EN 13501-1 |
|------|---------------------|---|-----|-------|------------|--|-------------------------------|
| 5.10 | Fitherm GSi | Intumescent graphite + PVC cover | a | 20 | 2 | Head of door | Class E |
| | | | b | 14 | 2 | Head , lateral and bottom of doorleaf edge | |
| | | | c | 7 | 2 | Meating edge double door astragal | |
| 5.11 | Fitherm GH | Intumescent graphite | a | 14 | 2 | Behind lock forend and meeting edge | Class E |
| 5.12 | Fitherm GB | Intumescent Graphite | a | 10 | 0,8 | glass rebate single glass cable canal doorleaf | Class E |
| | | | b | 20 | 0,8 | glass rebate insulation glass + Frame-wall meeting edge vertical | Class E |
| | | | c | 40 | 0,8 | frame head to wall meeting edge | Class E |
| | | | d | div | 0,8 | Lock casing in doorleaf | Class E |
| 5.13 | Fitherm GXf | Glassfibre reinforced Intumescent graphite | | 38 | 4 | Mail slot | Class E |
| 5.14 | Technofire 60852 | Rockwool fibre with intumescent graphite | | div | 1 | Behind aluminium Aprokon profile type 19-1, packed between door and profile | npd |
| 5.15 | Technofire 2000 | Rockwool fibre with intumescent graphite | | 11 | 0,65 | On aluminium Aprokon profile type 19-1 exposed in meeting edge | npd |

*: thickness excluding optional PVC cover, max 0.8mm thickness

For intumescent seals fitted in doorleaf edge - frame meeting edge:

- Size can be increased by max 50% (*ExAp rule EN 15269-3 A.1.5a*)
- Size can be increased proportionally with doorleaf thickness / rebate depth (*ExAp rule EN 15269-3 A.1.5a*)
- Size in used situation cannot be decreased (*ExAp rule EN 15269-3 A.1.5b*)

For all other intumescent positions:

- Size cannot be changed

In all cases:

Intumescent type, supplier and material can not be changed without specific test evidence (*ExAp rule EN 15269-3 A.1.13*)



Intumescent seals and strips

annex 5.1

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5.2 Threshold seals

Dropseals and threshold non-intumescent seals

| Nr. | Seal | dropseal / threshold seal | material | height | thickness | gap | position |
|------|--------------------------------|---------------------------|--|--------|-----------|-----|---|
| 5.20 | EllenMatic Soundproof | dropseal | Aluminium profile with silicone rubber and plastic composite parts | 30 | 15 | 7** | in underside of the doorleaf in cut-out $\leq 15,5 \times 32$ |
| 5.21 | EllenMatic Soundproof Slimline | dropseal | Aluminium profile with silicone rubber and plastic composite parts | 30 | 10 | 7** | in underside of the doorleaf in cut-out $\leq 10,5 \times 32$ |
| 5.22 | EllenMatic Uniproof | dropseal | Aluminium profile with TPE rubber and plastic composite parts | 30 | 15 | 7** | in underside of the doorleaf in cut-out $\leq 15,5 \times 32$ |
| 5.23 | Ellen ANB-6/6N / 7 / 7N | Threshold seal | Aluminium threshold profile with TPE rubber seal | 15* | 9* | 6 | On wooden threshold reveal seal facing doorleaf face |

*: Size of seal Excluding aluminum, in uncompressed state

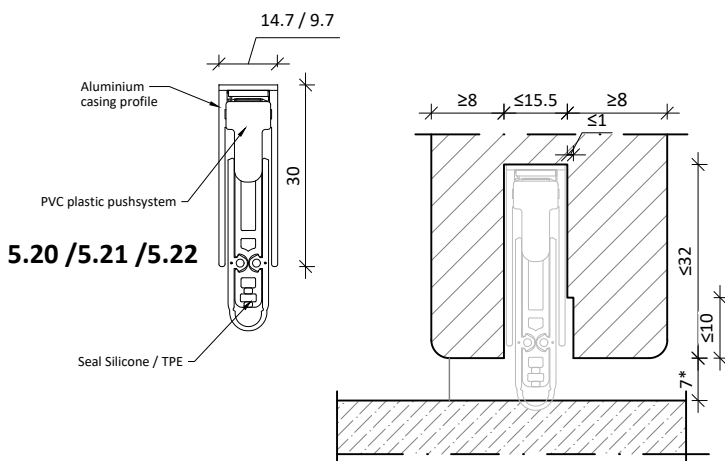
** : Nominal gap under doorleaf, see annex 1.4

Other smoke / draught threshold seals profiles possible if: (ExAp rules EN 15269-3 A.1.14 - A.1.20)

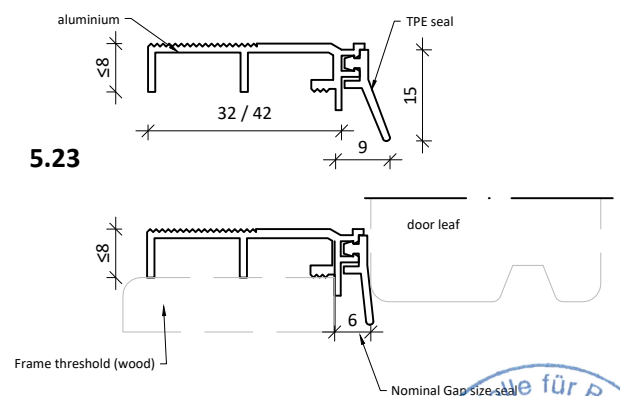
- Gap size as tested above, Seal to be intended for that gap size
- Same basic material as tested and listed above, per group and intended use position.
- Shape can alter, within same generic size.

Other dropseal products possible if: (ExAp rule EN 15269-3 C.27)

- Size of routing in doorleaf same or smaller
- Testevidence according EN 1634-1 in wood based doorleaf
- Same or smaller gap size.



5.20 / 5.21 / 5.22



5.23



Threshold- and dropseals

annex 5.2

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6.1 Hinges and hinge positions

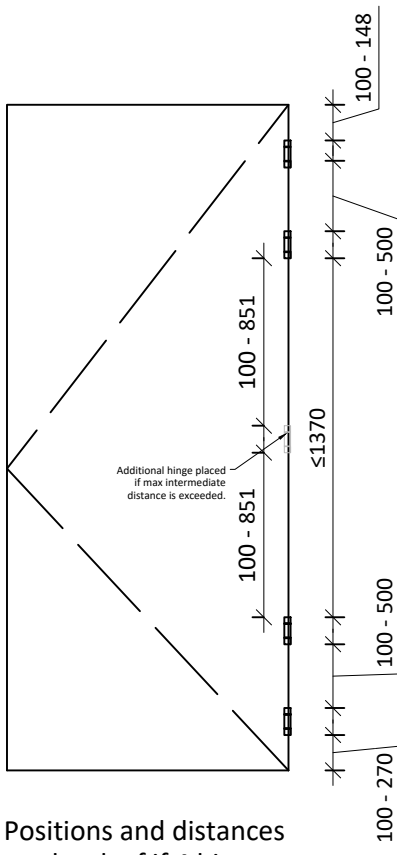
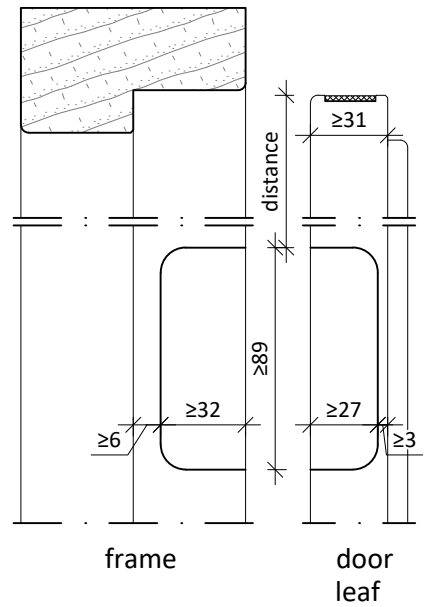


List of hinge products

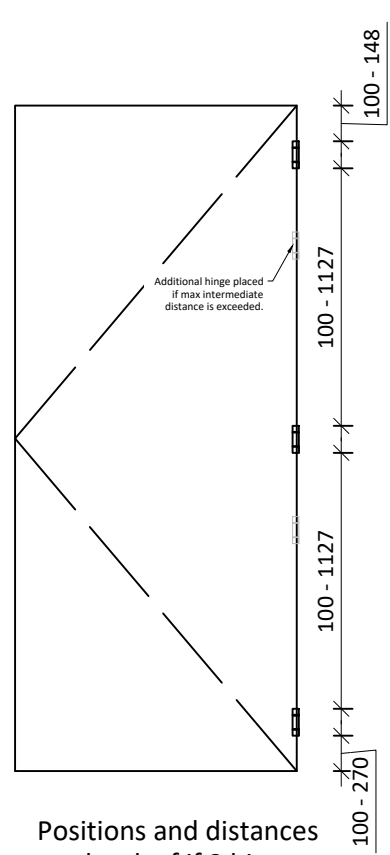
| product | producer | knuckle diameter | height | width | leaf th | description | fixation |
|-------------------------|----------------------------|------------------|--------|-----------|---------|---|---------------------|
| S2 Ultim maxx | Themans BV | 15 | 89 | 89 | 3 | galvanised steel butt hinge with integrated security and composite bushings | 8pc Ø4x40 pb. screw |
| S2 Ultim maxx "RENO" | Themans BV | 15 | 89/102 | 89 | 3 | galvanised steel butt hinge with integrated security and composite bushings, Frame part higher than leaf part | 8pc Ø4x40 pb. screw |
| S2 6504 | Themans BV | 15 | 89 | 89 | 3 | galvanised steel butt hinge with composite bushings | 8pc Ø4x40 pb. screw |
| S2 6504 VH | Themans BV | 15 | 89 | 89 or 127 | 3 | galvanised steel butt hinge with composite bushings and burglar security pin | 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 |
| BSW Protect 818 STS | Breuer und Schmitz | 15 | 89 | 102 | 3 | Stainless steel butt hinge with integrated security and composite bushings | 8pc Ø4x40 pb. screw |
| AXA Titan 1711-09-81/VE | Axa Home security Allegion | 15 | 89 | 89 | 3/4 | Stainless steel butt hinge with integrated security and composite bushings | 9pc Ø4x40 pb. screw |

all steel-/stainless steel butt hinges according to EN1935 with test evidence in similar timber doorset construction for $\geq EW30$, can be used if (See ExAp rules EN 15269-3 C.3.3 and C.3.5):

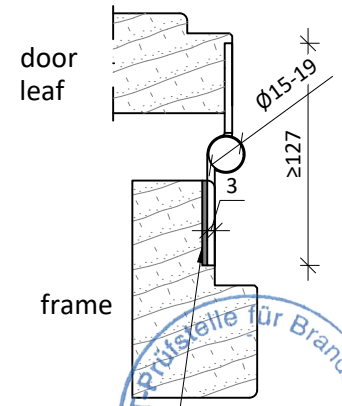
- Material steel or stainless steel
- Hinge height max 25% increase (max 127,5mm)
- Leaf thickness 3mm
- Knuckle diameter $\varnothing 15 - \varnothing 19$ mm
- Bushing material and size as tested, or replaceable by brass or material reaction to fire class B, A₀, A₁



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



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



optionally backing ≤ 2 mm behind leave to adjust depth. HPL, wood, or $\geq 650^\circ C$ meltingpoint composites



| | |
|--|-----------------------------|
| Hinges and hinge positions | annex 6.1 |
| DMT GmbH & Co. KG Plant for Product Safety Test Body for Fire Protection | report no. K-5074-DMT-DO |

6.2 Locks and lock system index

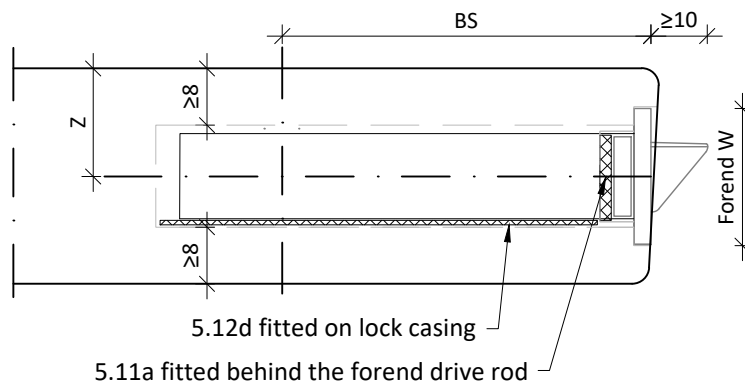
6.2A : Locks (multipoint locks)

| | product | producer | leafcutout size main lock case (w x d x h) | leafcutout size top lock case | Forend size | lever height | top lock case height in doorleaf |
|-------|--|---------------------------------|--|-------------------------------|--------------------------------|--------------|----------------------------------|
| A.1a | S2 C600 V0207 F24 | S2 BV | 18 x 89 x 218 | 18 x 51 x 148 | 3 x 24 x 1998 | 1050 +/- 200 | 2010 |
| A.1b | All versions of S2 H600 / C600 locks if size ≤ A.1a | | | | | | |
| A.2a | MultiFin SB 65/72-2090R | Buva BV | 18 x 88 x 184 | 18 x 50 x 132 | 3 x 20 x 2080 | 1050 +/- 200 | 2124 |
| A.2b | All versions of BUVA Multifin locks if size ≤ A.2a | | | | | | |
| A.3a | AS2502 W270 | KFV Karl Fliether GmbH & Co. KG | 18 x 88 x 234 | 18 x 50 x 150 | 3 x 24 x 2055 | 1050 +/- 200 | 2144 |
| A.3b | AS 3600 B003 K054 | KFV Karl Fliether GmbH & Co. KG | 18 x 88 x 234 | 18 x 55 x 181 | 3 x 20 x 2004 | 1050 +/- 200 | 2144 |
| A.3b | All versions of KFV AS2500 / AS 2600 / AS 2750 / AS 3600 series locks if size ≤ A.3a and A3b | | | | | | |
| A. 4a | Fuhr Autosafe 835 (P) | CARL FUHR GmbH & Co. KG | 18 x 88 x 226 | 18 x 55 x 175 | 3 x 20 x 2000 | 1050 +/- 200 | 1979 |
| A.4b | Fuhr Autosafe 833P (double door version) | CARL FUHR GmbH & Co. KG | 18 x 88 x 226 | 18 x 51 x 169 | 3 x 20 x 2170 | 1050 | 1778 |
| A.4c | All versions of Fuhr Multisafe / Autosafe MP locks if lock size ≤ A.4a and A.4b | | | | | | |
| A.5 | NEMEF 4219/27-60 Mortise security lock | NEMEF (Assa Abloy) | 18 x 95 x 182 | - | 4 x 25 x 260 | 1050 +/- 200 | - |
| A.6 | BU-6571N/D-65 Mortise latch lock | Buva BV | 18 x 94 x 182 | - | 3 x 20 x 235 | 1050 +/- 200 | - |
| A.7 | Multipoint lock with at least 1 latch metal 10mm latch engagement | any, if test evidence* | 18 x 89 x 234 | 18 x 55 x 181 | ≤3x20x2090 or ≤3x24x2055 | 1050 +/- 200 | ≤2144 |
| A.8 | Mortise lock 1 latch metal 10mm latch engagement | any, if test evidence* | 18 x 95 x 182 | - | ≤4x25x260 | 1050 +/- 200 | - |

*: All locks and multipoint locks with at least 1 latch point, if material and size as listed above and EN 1634-1 test evidence in comparable timber doorsets are allowed. (See ExAp rule EN 15269-3 C.1.3)

All tested locks during test with only 1 central latch active.

- Fixation of all locks with partical board srew $\geq \varnothing 4 \times 40$
- Latch material Nikkel plated ZAMAC, (stainless) Steel, Brass, o.e.
- Latch engagement equal or more than tested ($\geq 10\text{mm}$)
- Position of lock according Annex 1.2 and 1.3
- Intumescent 5.11a (2x14mm), placed behind forend multipoint locks
- Intumescent 5.12d (0.8mm), 1 sided positioned in all main lock and side lock casings



Locks

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annex 6.2a

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6.2 Locks and lock system index



6.2B : List of strikers and strike plates

| | product | producer | type | frame cutout size (w x h x d) | max height position in door frame | material | fixation |
|------|---|---------------------------------|---|--|---|-------------------------------------|----------------------------------|
| B.1 | 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 position | Zamac box, stainless steel forend | Ø4x40 pb. screw + Ø4x30 pb screw |
| B.2 | Inline + | Buva | Box type additional striker | 25,5 x 110.5 x 24.5 | ≤2130 | composite box, with steel forend | Ø4x40 pb. screw |
| B.3 | S2 Flexikom hoofdkom + Classicline strike | S2 BV | Box type main striker with zink latch strike | 24 x 190 x 23 | as main lock position | Steel box, Zamac latchplate | Ø4x30 pb screw |
| B.4 | S2 Flexikom | S2 BV | Box type additional striker | 24 x 130 x 21 | ≤2115 | composite box, with steel forend | Ø4x40 pb. screw + Ø4x30 pb screw |
| B.5 | 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 position | Zamac box, steel latchplate | Ø4x40 pb. screw |
| B.6 | KFV 2500-267-2W | KFV Karl Fliether GmbH & Co. KG | Box type additional striker for AS 2500 | 22,5 x 138,5 x 24,5 | ≤2159 | Zamac box, (stainless) steel forend | Ø4x40 pb. screw |
| B.7 | SLK B2600-267-2C/31 L/R--SKG 3 | KFV Karl Fliether GmbH & Co. KG | Box type additional striker for AS 3600 | 22,5 x 138,5 x 24,6 | ≤2036 | Zamac box, (stainless) steel forend | Ø4x40 pb. screw |
| B.8 | Fuhr D/N Mainlock stricker | CARL FUHR GmbH & Co. KG | Box type adjustable mainlock stricker | 24,5 x 200,5 x 9/22 + 70x14x3 Latch strike | as main lock position | Zamac | Ø4x30 pb. screw |
| B.9 | Fuhr tType 10 side lock sricker | CARL FUHR GmbH & Co. KG | Box type additional striker for 835 MP lock series | 24,5 x 220,5 x 3 Strike + 21 x 146 x 23 Box | ≤1989 | Stainless steel strike, Zamac box | Ø4x30 pb. screw |
| B.10 | Fuhr 841 Striker | CARL FUHR GmbH & Co. KG | Box type striker for 841 passive doorleaf lock | 23 x 63 x 4 strike + 28 x 65,5/41 x 5,5/22,5 | Frame head meeting edge | Steel strike, Zamac box | Ø4x30 pb. screw |
| B.11 | DES 400 + 5mm Latch strike extension | Dormakaba | Electric strike 12/24V in cast iron box casing | 29 x 178 x 3 forend + 29 x 141 x 27 Box + 15 x 127 x 24,5 Latch strike | as main lock position | Stainleess steel and steel | Ø4x30 pb. screw |
| B.12 | 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 position | Steel and stainless steel | Ø4x30 pb. screw |

According ExAp rules EN 15269-3 C.2.3

- All strikers made of metal melting point >800°C and cut-size not exceeding listed above, with EN 1634-1 or EN 1634-2 test evidence in comparable timber doorsets, are allowed.
- All E-strikes with equal mode of operation, and stikeplate of metal melting pint >800°C, size not larger than tested, and with EN 1634-1 or EN 1634-2 test evidence, are allowed.



Strikers and stikeplates

annex 6.2b

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6.2 Locks and lock system index



6.2C : List of passive doorleaf lock systems for double doorsets

| | products / system | producer | type | cutout size (w x h x d) | Intumescents in meeting edge | fixation |
|-----|---|-------------------------|---|---|--|-------------------|
| C.1 | Fuhr 841 | CARL FUHR GmbH & Co. KG | U-form Faceplate passive doorlock for edgeless timber doors | 27 x 8 + 21 x 2 forend 23 x 170 x 30 lever 23 x 73 x 22 strikers | 1 strip 5.11a behind forend. Positioned according annex 2.2 | Ø4x40 pb. screw |
| C.2 | Fuhr 846 | CARL FUHR GmbH & Co. KG | U-form Faceplate passive doorlock for edgeless timber doors | 25 x 8 + 15 x 2 forend 23 x 170 x 30 lever 23 x 73 x 22 strikers | 1 strip 5.11a behind forend. Positioned according | Ø4x40 pb. screw |
| C.3 | Fuhr 833 PK counterlock double panik doors with | CARL FUHR GmbH & Co. KG | EN 1125 passive doorlock for combination with 833P panik lock | 26 x 9 forend 18 x 295 x 81 mainlock | 1 strip 5.11a behind forend. 5.12d one sided on lock | Ø4x40 pb. screw |
| C.4 | Fuhr 835 PK counterlock double panik doors with automatic latch toplock | CARL FUHR GmbH & Co. KG | EN 1125 passive doorlock for combination with 835P panik lock | 27 x 9 forend 18 x 295 x 81 mainlock | 2 strips of 5.10 6,5x2mm continuous beside forend, 1 strip 5.11 14x2mm behind forend. Positioned according annex 2.2 | Ø4x40 pb. screw |
| C.5 | 2pc Olda 28HZA | Olda (flushbolts) | Automatic flushbolt (Ø10 x 16 bolt) | 25 x 168 x 20 | Striker in active doorleaf 3x60x40 steel | Ø3,5x40 pb. Screw |
| C.6 | 2pc Olda 30HZM | Olda (flushbolts) | Hand operated flushbolt (Ø10 x 20 bolt) | 25 x 168 x 20 | - | Ø3,5x40 pb. Screw |
| C.7 | Type 19-1 Fire / Smoke passive doorlever | Alprokon aluminium bv. | Central operated passive doorlock intergrated into aluminium astragal system. Ø10 steel bolts to top and bottom. With (stainless)steel active doorlock stricker(s) for mortise lock, or MP-lock system. | 19 x 25 nodge over fulle door heigth | 5.15 visible in meeting edge 5.14 behind astragal in over full door thickness and in nodge. See annex 2.2 | Ø45x40 pb. Screw |

according ExAp rules EN 15269-3 C.1.3 and C.4.3:

- All passive doorlocks or flushbolts with EN 1634-1 or EN 1634-2 test evidence in comparable timber doorsets, with cut-out not greater than tested, are allowed. Flusbolts and Faceplate locks to have larger or equal bolt size to top and bottom.
- In case of C5/C6 flushbolts, Strikers fitting to locks, listed in A6.2B, also to be also placed in passive doorleaf edge.
- C.7 Lock system only in Alprokon type 19-1 Fire/Smoke complete astragal lock set



Lock/bolt system in passive doorleaf

annex 6.2c

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6.3 Door closers and coordinators

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 | A/B/C/D |
| closer | ECO TS 61 (G) | | 287 x 62 x 49 | | EN 2-5 | A/B/C/D |
| closer | ECO TS 62 (G) | | 287 x 62 x 49 | | EN 2-5 | A/B/C/D |
| closer | ECO TS 50 | | 242 x 56 x 41 | arm | EN 2-5 | A/C/D |
| closer free swing | ECO FTSIII | | 409 x 65 x 52 | rail GS-HF | EN 3-6 | A/B/C/D |
| closer | TS 3000 V | GEZE GmbH | 246 x 60 x 46 | rail optional with lintel console | EN 2-4 | A/B/D |
| closer | TS 5000 / TS 5000 L | | 287 x 60 x 46 | | EN 2-6 | A/B/C/D |
| closer free swing | TS 5000 EFS (L) | | 325 x 60 x 48 | | EN 3-6 | A/D |
| closer free swing | TS 4000 EFS | | 325 x 60 x 48 | Free swing arm | EN 2-6 | A/D |
| closer | Abloy DC250 | Assa Abloy | 305 x 71 x 66 | rail DC194 | EN 1-6 | A/B/C/D |
| closer free swing | Abloy FD 440 | | 395 x 68 x 62 | rail FD 494 | EN 3-6 | A/D |
| closer with elec. mechanical hold open device | Abloy DC250 | | 305 x 71 x 66 | rail FD 450 | EN 1-6 | A/D |
| closing coordinator | ECO SR III B / SR III BG | Eco Schulte GmbH | 21 x 31 x length | rail intergrated | - | A/C |
| closing coordinator | ISM / ISM-G | GEZE GmbH | 32 x 43 x length | rail intergrated | - | A/C |

- Above list is a exemplary snapshot of doorclosers with Kegro testevidence. All face fixed closers according to EN 1154 / EN 1155 and with testevidence EN 1634-1 or EN-1634-2 on representative doorsets are allowed, considering size \leq above, equal position and fixation. See ExAp rules EN 15269-3 C.8.3 and C.13.3)
- Installation options:
 - A: Face fixed closer on doorleaf on hinge face
 - B: Face fixed closer on frame head on hinge face
 - C: Face fixed closer on doorleaf on hinge opposite face
 - D: Face fixed closer on frame head on hinge opposite face



6.4 Door furniture, handles and mails slots.



List A: Leversets, escutcheons, handles and panic devices

| | type | product | producer | face plate size | material | installation |
|-------|---|---|----------------------|------------------|--|---------------------------------|
| A.1.a | Security leverset, or knob-leverset on solid metal faceplate | Buvalux U-form lever on KT3400 / KT3500 / KT 3600 | Buva bv | 50 x 240 x 15/10 | Aluminium solid | 3pc M6 threaded screws |
| A.1.b | | S2 402921KT SKG*** / S2 402121 KT SKG*** / | S2 BV | 40 x 246 x 15/8 | Aluminium solid | 2/3pc M6 threaded screws |
| A.1.c | | Veilig RH HA 72 313 313 | S2 BV | 50 x 250 x 12/6 | Aluminium solid | 3pc M6 threaded screws |
| A.1.d | | VHB Rotaveer 250/15 deurdruk 378 Kerntrek | Ami BV | 50 x 250 x 15/8 | Aluminium solid | 3pc M6 threaded screws |
| A.1.e | | VHB Alpha D7011NXXL F1 PC72 | Erich Dieckmann GmbH | 50 x 260 x 15/6 | Aluminium solid | 3pc M6 threaded screws |
| A.2.a | Security leverset, or knob-leverset on 2-part steel based faceplate | Hoppe Stockholm Stainless steel E86G/3332ZA/3310/1140Z PZ ES1/SK2/WB2 or equal from same series | Hoppe AG | 53 x 249 x 14/10 | Steel base with (stainless)steel cover | 3pc M6 threaded screws |
| A.3.a | Leverset on rose | Ansa U19-8 Leverset on security rose SKG** | S2 BV | ∅56 x 10/4 | Stainless steel solid | 2pc M6 threaded screws |
| A.3.b | | Basics LBII-19 series | Formani BV | ∅52 x 6 | Stainless steel on metal base | 2pc M5 threaded screws |
| A.3.c | | Lever Kreta Stainless steel, ER/FS27 PZ0 71 | Karcher Design | ∅52 x 10 | Stainless steel on metal base | 2pc M5 threaded screws |
| A.4.a | Security cylinder Escutcheon | Ansa KT security Escutcheon SKG** | S2 BV | ∅56 x 16/8 | Stainless steel | 2pc M6 threaded screws |
| A.4.b | | Essentials 0035.37556 SKG*** | Intersteel BV | ∅53 x 12/10 | | 2pc M6 threaded screws |
| A.4.c | | Security escutcheon ESR700 KS 71 SKG*** | Karcher Design | ∅53 x 12/10 | | 2pc M6 threaded screws |
| A.5.a | EN 1125 Panik bar / EN 1125 Touch bar | ECO EPN 900 IVa | ECO Schulte GmbH | | Stainless steel | M6 threaded screws and Pb-screw |
| A.5.b | | ECO EPN 2000II DS | ECO Schulte GmbH | | Stainless steel | Pb-screw to door facing |
| A.6.a | Security lever or Knob set on faceplate for Panik EN1125 | ECO Set Guardian EPN 900 SI-Rohrrahmen | ECO Schulte GmbH | 40 x 250 x 15 | Stainless steel | 2pc M8 1pc M6 threaded screws |
| A.6.b | | Set Guardian EPN 900 IV Gegenbeschlag Si-Langschild | ECO Schulte GmbH | 50 x 250 x 15 | Stainless steel | 2pc M8 1pc M6 threaded screws |

According ExAp rules EN 15269-3 C.5.3 and C.6.3

- All listed furniture can be expanded with same technical product type furniture from listed supplier.
- Other leverset furniture not listed above, but with test evidence to EN1634-1 or EN 1634-2 on an equivalent doorset, are allowed if same or higher melting point material and face fixed only.



| | |
|--|-----------------------------|
| Door furniture, handles, and panic bars | annex 6.4A |
| DMT GmbH & Co. KG Plant for Product Safety Test Body for Fire Protection | report no. K-5074-DMT-DO |

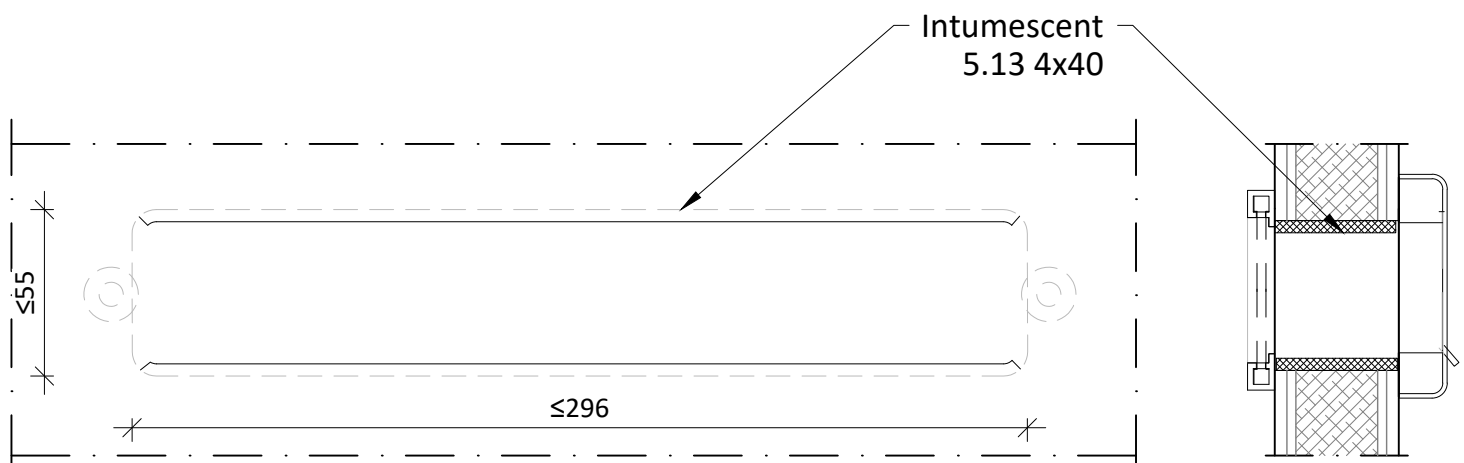
6.4 Door furniture, part B: letter plates

List B: Letter plates / boxes

only possible in single layer doorcore type C1 and C2 doorleafs

| | type | product | producer | Cut-out size | material | installation |
|-----|-------------------------------|------------------|----------|--------------|-------------------|-------------------------|
| B.1 | Inside + outside mailbox slot | AMI EP-960 / 970 | Ami BV | 54 x 296 | Aluminium solid | 2pc M6 threaded screws |
| B.2 | outside mailbox slot | AMI EP965 / 975 | Ami BV | 55 x 296 | Aluminium solid | 2pc M6 threaded screws |
| B.3 | Inside mailbox brush seal | Kegro BBA-01 | Kegro BV | 54 x 296 | aluminium icm POM | 2 pc Ø3,5x25mm pb screw |

- intumescent 5.13 in cut-out (see figure), position height in door see Annex 6.0
- other letterplates possible regarding intumescent, and leaf cutout \leq as tested



Letter plates

annex 6.4B

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List C: Other furniture and hardware parts

| | type | product | producer | Cut-out size | material | installation |
|-------|----------------------------|---|----------|--------------|-------------------------------|-----------------------|
| C.1.a | Door spy | DX-drs2040, 200° Ø14mm | Dulimex | Ø15 | Plastic lens in brass casing | screwed on door |
| C.1.b | Door spy | "BW Doorspion" 200° Ø14mm | S2 bv | Ø15 | Glass lens in brass casing | screwed on door |
| C.2.a | profile cylinder | S2 CIL S6 Euro cylinder length 30/30 SKG** | S2 bv | Euro profile | brass + steel | in lock and furniture |
| C.2.b | profile cylinder with knob | S2 CIL S6 knob Euro cylinder length 30/30 SKG** | S2 bv | Euro profile | brass + steel, Aluminium Knob | in lock and furniture |
| C.2.c | profile cylinder | Cylinder 20002/6 30/30mm SKG** | Buva bv | Euro profile | brass + steel | screwed on door |
| C.2.d | profile cylinder | DOM RS Sigma 30/30mm SKG** | DOM | Euro profile | brass + steel | screwed on door |

- All mechanical Euro profile lock cylinders allowed (See ExAp rules EN 15269-3 C.23.3)
- No leaf piercing furniture is allowed unless tested on representative door type.
 - such as door bells (mechanical) and knockers (See ExAp rules EN 15269-3 C.26)
- Door signs to be assessed as kickplates or ExAp rules EN 15269-3 C.28)



Furniture: other hardware

annex 6.4C

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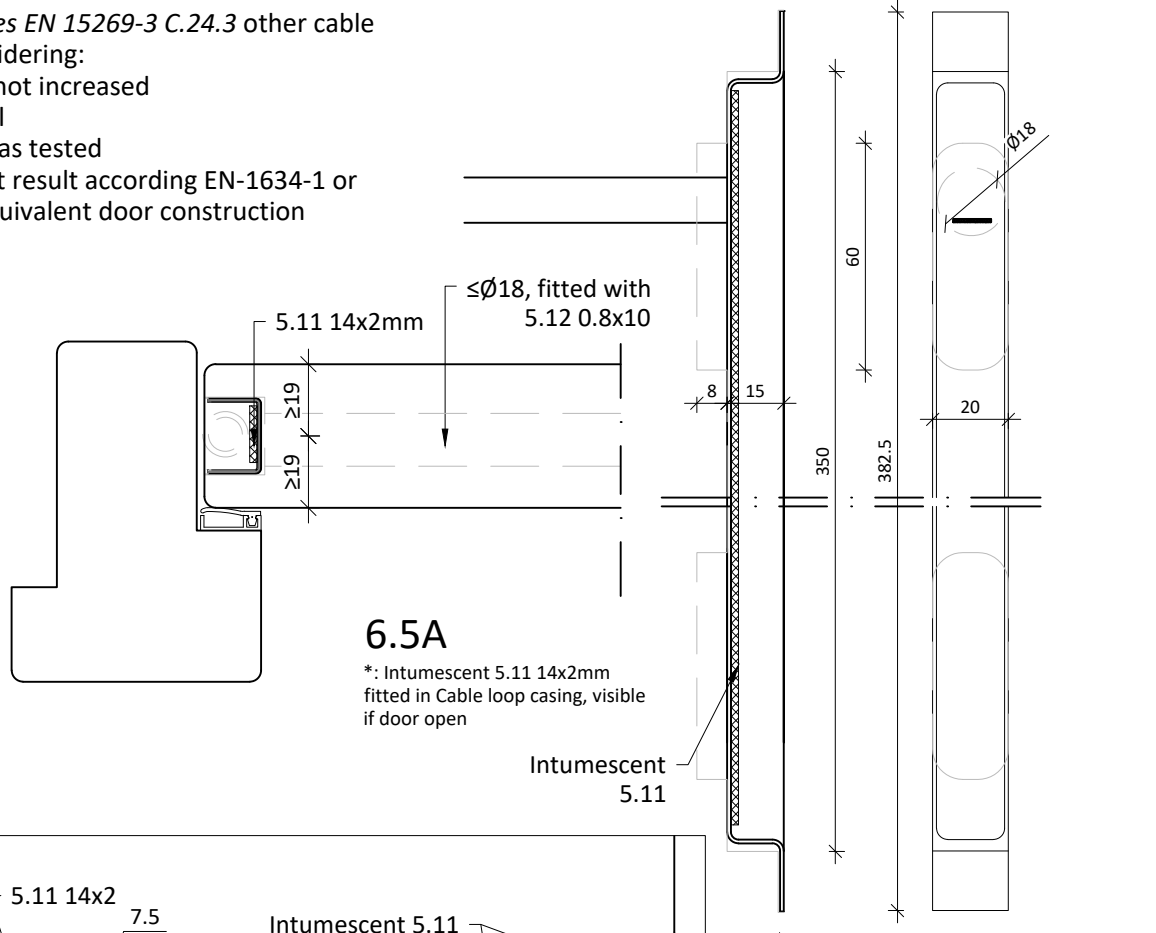
6.5 Cable loop and canal through doorleaf



| type | product | producer | Cut-out size | material | installation |
|--------------|--|-----------------|---|----------|---|
| 6.5.A | Cable loop, concealed build in with fixed cable BM-1188 383 x 20 x 15 mm | BUVA / Brondool | 383 x 20 x 15 | Steel | Recessed in doorleaf edge, fixation with 2pc Ø3,5x30. Intumescent 5.11* |
| 6.5.B | Cable loop, concealed, power off if door open F20 NZS0006 Push contact in doorleaf NZK83021 Contact striker in frame | Carl Fuhr GmbH | 127 x 16 x 25 + 84 x 16 x 45 in doorleaf 135 x 25 x 7,5 in frame | Steel | Recessed in doorleaf edge, fixation with 2pc Ø4x40 Intumescent 5.11** |

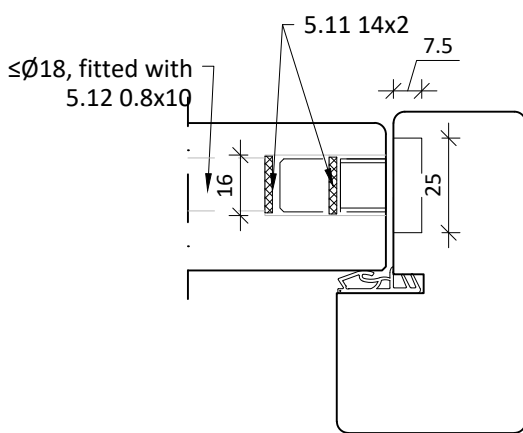
According ExAp rules EN 15269-3 C.24.3 other cable loops possible considering:

- max cut-out not increased
- material steel
- intumescent as tested
- there is a test result according EN-1634-1 or 1634-2 on equivalent door construction



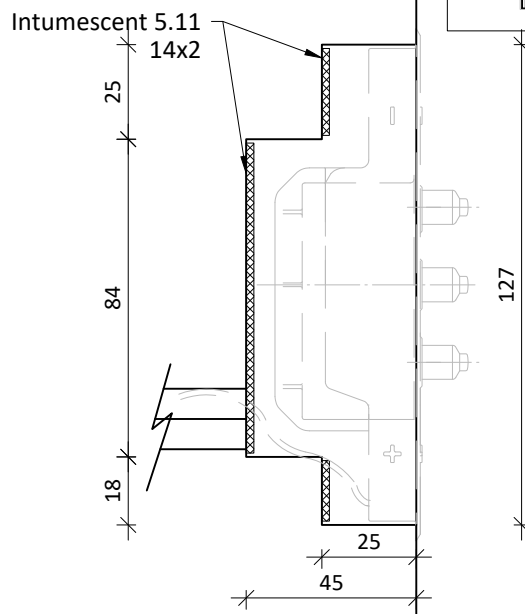
6.5A

*: Intumescent 5.11 14x2mm fitted in Cable loop casing, visible if door open



6.5B

** : Intumescent 5.11 14x2mm fitted in doorleaf cut-out behind push contact



Cable loop and canal

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annex 6.5

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