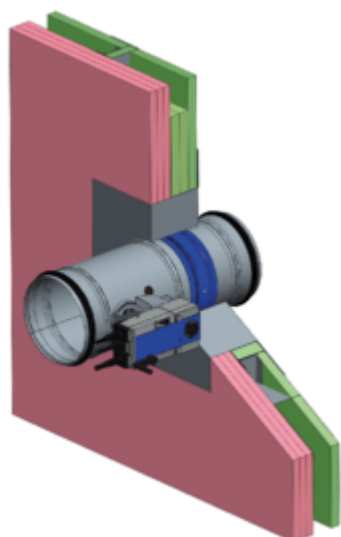




Fire damper

FKRS-EU

for asymmetrical shaft walls



TROX[®] TECHNİK

The art of handling air

TROX GmbH
Heinrich-Trox-Platz
47504 Neukirchen-Vluyn
Germany
Phone: +49 (0) 2845 202-0
Fax: +49 (0) 2845 202-265
E-Mail: trox-de@troxgroup.de
Internet: <http://www.troxtechnik.com>

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1 General installation information



Other applicable documentation

These instructions supplement the installation and operating instructions for the FKRS-EU for installing the fire damper in shaft walls from the mentioned manufacturers.

All further information can be found in the installation and operating instructions for the FKRS-EU, as well as in the specifications of the respective wall manufacturer.

Asymmetrical shaft walls

- Installation of the fire damper only in asymmetrical shaft walls with European classification according to EN 13501-2 or equivalent national classification.
 - British Gypsum
GypWall Shaft
 - Knauf
Knauf Shaft wall
 - Siniat
GTEC Shaft wall
- Can be used when access is only possible from one side during installation.
- The fire damper is mounted with the operating side (B) on the room side.
- Be sure to follow the manufacturers' instructions for the heights and widths of walls.
- The wall structure, the connection of the profiles, the screw fixing of the cladding material and the use of any necessary seals must be carried out in accordance with the wall manufacturer's specifications.
- When installing within framed openings, the use of additional trim panels (max. 25mm) is permitted.
- For wall construction with additional core boards, the walls within the cavity are filled with two core boards (d = 19 mm). The core boards are always installed between two standard vertical studs and must fill the area at least 150 mm above and below the installation opening. For installation close to the floor/ceiling, this dimension can be reduced if the area up to the floor/ceiling is filled with the additional core boards.
- If trim panels or reinforcing boards are required, these must be screwed to the metal stud frame at a distance of approx. 100 mm or, when installing with additional core boards, at least 50 mm deep into the panel material.

- For thicker walls (use of wider profiles), and installation with additional core boards, the cavity is filled in accordance with the wall manufacturer's specifications.
- Minimum installation distances between fire damper and adjacent supporting constructions (walls/floors/ceilings) are subject to minimum wall construction distances of the wall certification.

Mortar-based installation

- For mortar-based installation, the gap is limited to a maximum of 225 mm. The minimum gap can be reduced, but must be large enough for mortaring. We recommend a mortar gap of at least 20 mm.
- The mortar bed depth must be equal to the thickness of the wall.

Dry mortarless installation with installation kit TQ2

- The installation kit TQ2 is mounted to the fire damper on site, see installation and operating instructions FKRS-EU.
- Create a square installation opening with $DN + 110 \pm 2$ mm.
- The TQ2 installation kit is always installed centred in the installation opening.
- The installation kit is attached via the cover plate, using 4 screws.
- When installing within framed openings, the screws must engage in the metal stud frame of the wall.
- When installing with additional core boards, fastening is carried out using suitable screws with a length of min. 4.5×70 mm, alternatively push-through mounting.
- For thicker walls (use of wider profiles), when installing within framed openings, trim panels (max. 25 mm) must be used.

2 Shaft walls with metal support structure - asymmetrical

2.1 Mortar-based installation in wall construction within framed openings

Additional requirements:

- General installation information, ↗ 4
- Distance between two fire dampers ≥ 200 mm (Installation in separate openings)
- Distance to load-bearing structural elements ≥ 40 mm

2.1.1 British Gypsum

Fire resistance class: EI 120 S

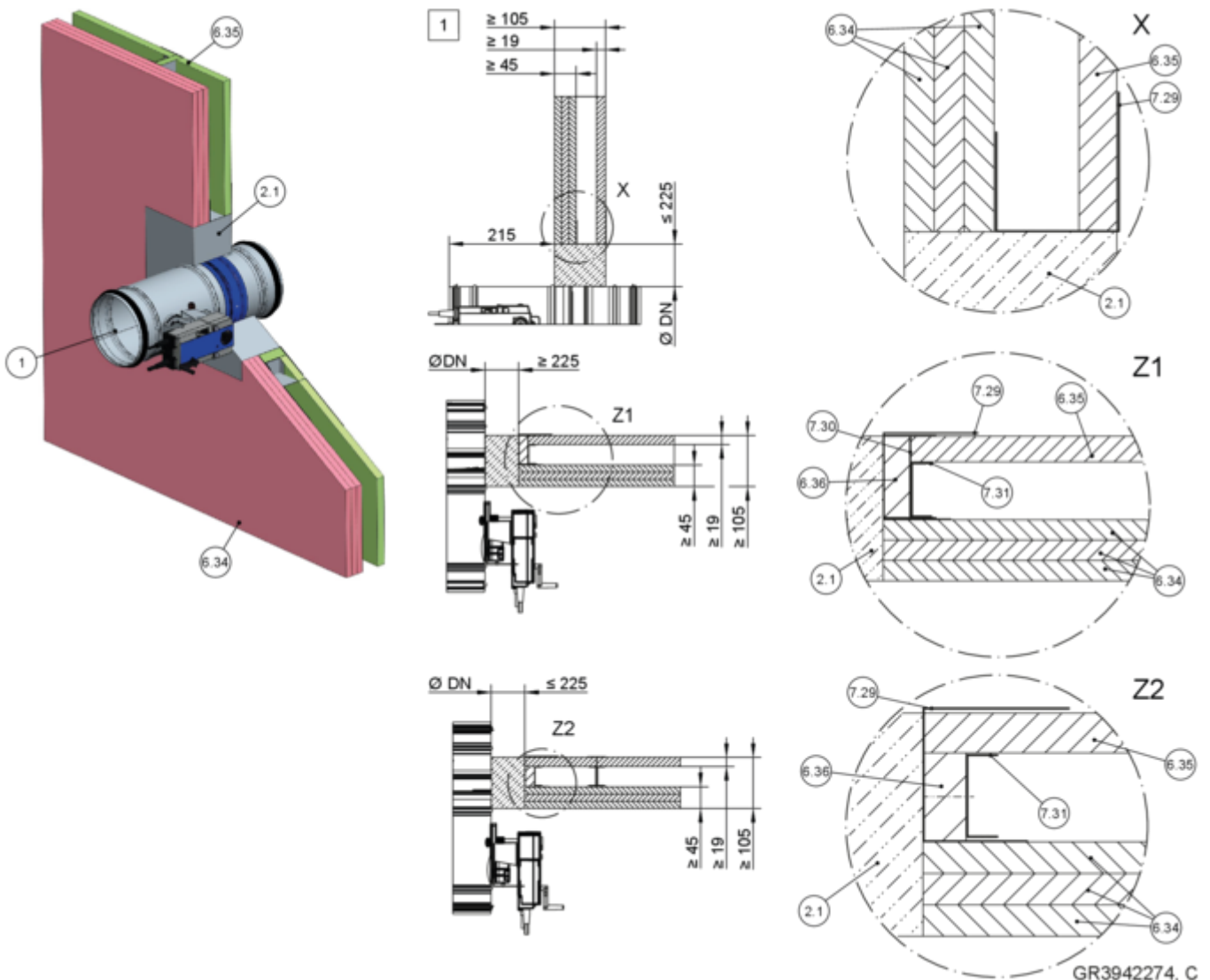
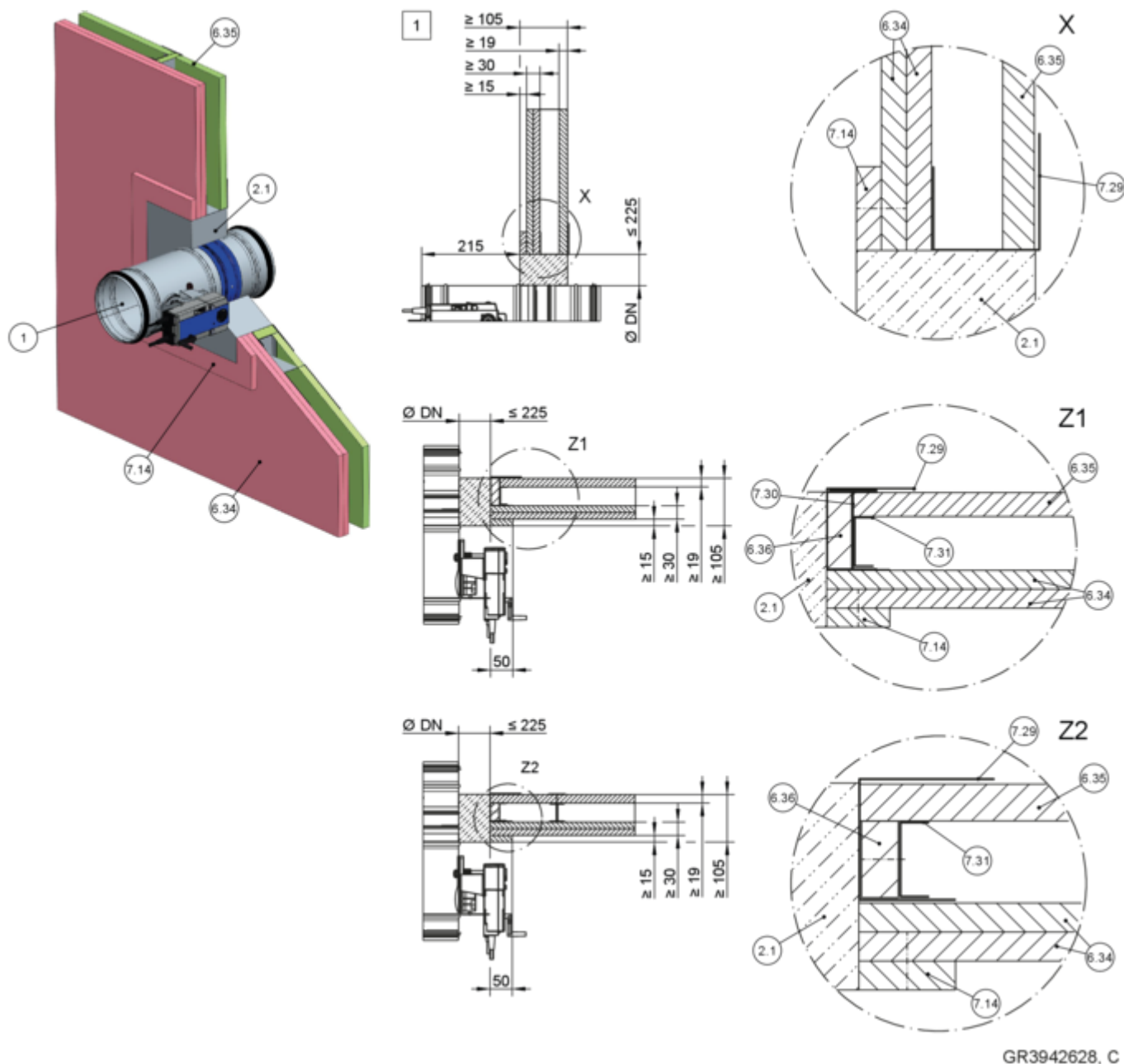


Fig. 1: Mortar-based installation in asymmetrical shaft wall within framed openings EI 120 S

1	FKRS-EU	6.36	Gyproc CoreBoard packer (consisting of 6.35, cut on site)
2.1	Mortar	7.29	Gypframe Extra Deep Flange Floor & Ceiling Channel or Gypframe 'J' Channel
6.34	Gyproc FireLine 15 mm	7.30	Gypframe 'I' Stud
6.35	Gyproc CoreBoard 19 mm	7.31	Gypframe Retaining Channel

Fire resistance class: EI 90 S



GR3942628, C

Fig. 2: Mortar-based installation in asymmetrical shaft wall within framed openings EI 90 S

1	FKRS-EU	7.14	Reinforcing board made of wall construction materials
2.1	Mortar	7.29	Gypframe Extra Deep Flange Floor & Ceiling Channel or Gypframe 'J' Channel
6.34	Gyproc FireLine 15 mm	7.30	Gypframe 'I' Stud
6.35	Gyproc CoreBoard 19 mm	7.31	Gypframe Retaining Channel
6.36	Gyproc CoreBoard packer (consisting of 6.35, cut on site)		

Fire resistance class: EI 60 S

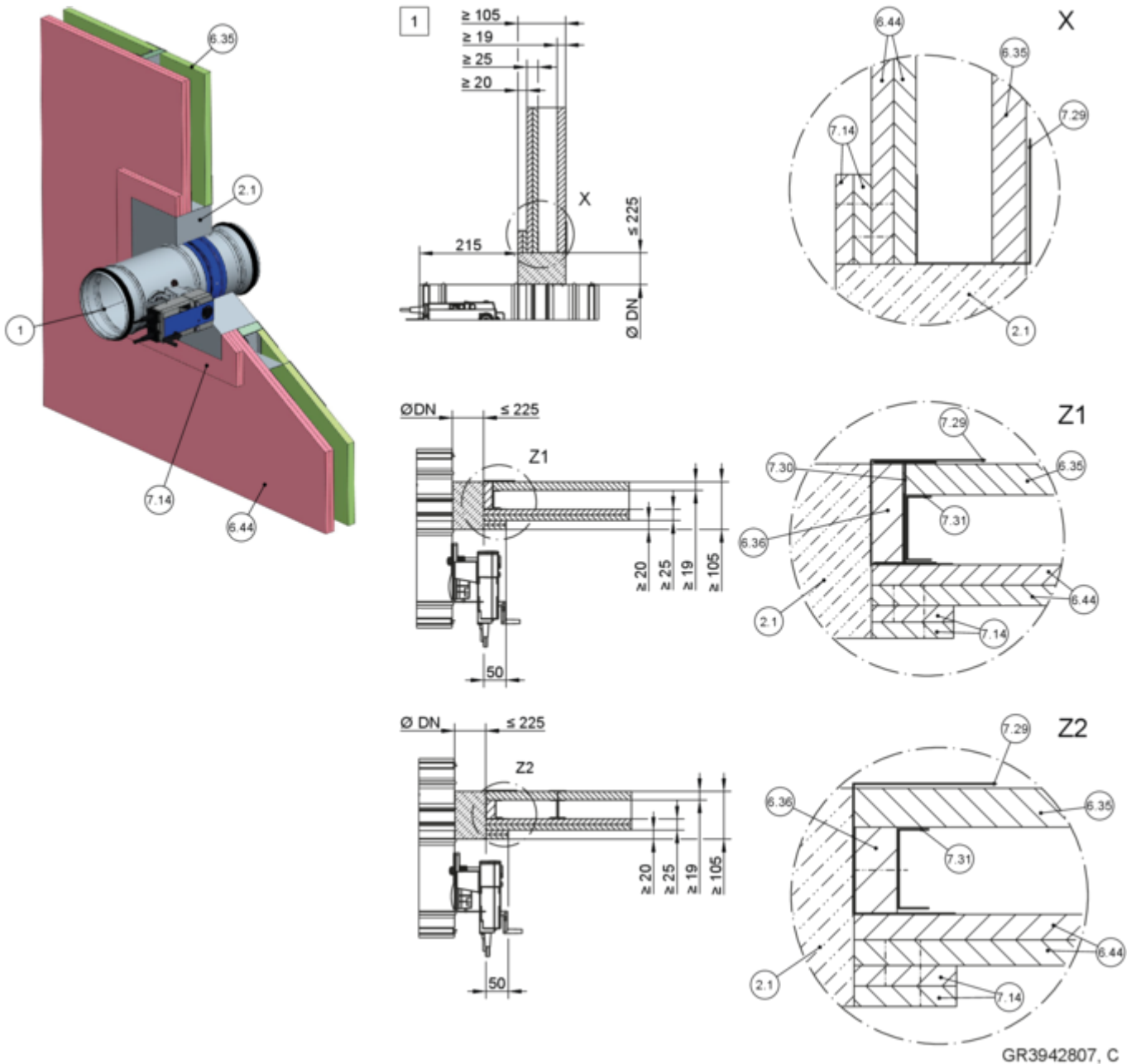


Fig. 3: Mortar-based installation in asymmetrical shaft wall within framed openings EI 60 S

1	FKRS-EU	7.14	Reinforcing board made of wall construction materials
2.1	Mortar	7.29	Gypframe Extra Deep Flange Floor & Ceiling Channel or Gypframe 'J' Channel
6.35	Gyproc CoreBoard 19 mm	7.30	Gypframe 'I' Stud
6.36	Gyproc CoreBoard packer (consisting of 6.35, cut on site)	7.31	Gypframe Retaining Channel
6.44	Gyproc FireLine 12.5 mm		

2.1.2 Knauf

Fire resistance class: EI 120 S

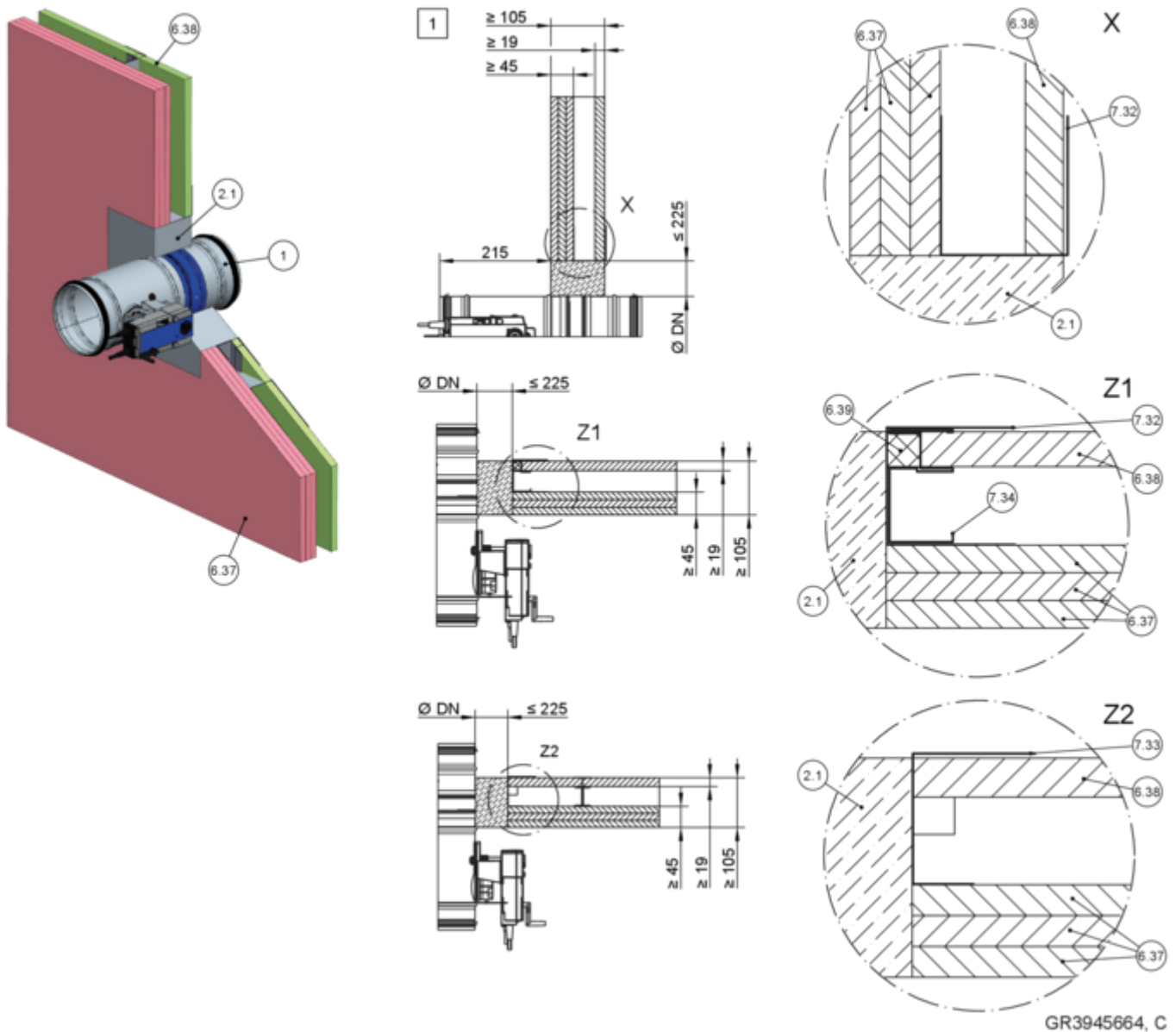
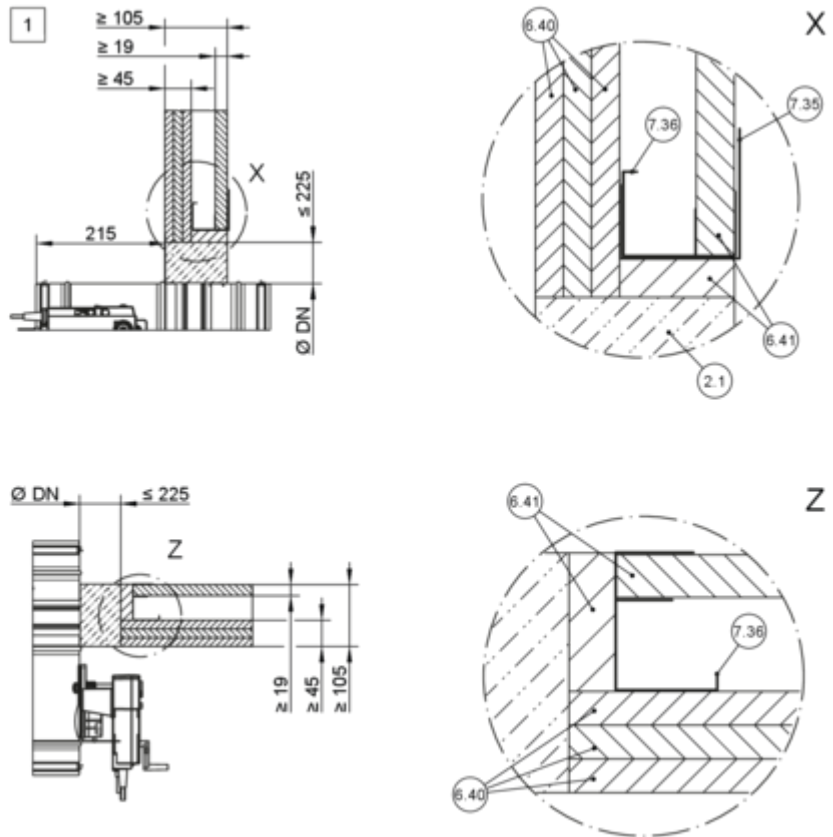
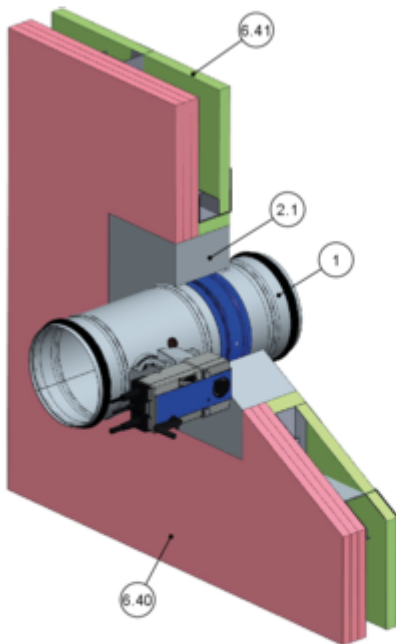


Fig. 4: Mortar-based installation in asymmetrical shaft wall within framed openings EI 120 S

1	FKRS-EU	6.39	Knauf Insulation Rocksilks RS60
2.1	Mortar	7.32	Knauf Deep Flange "U" Channel
6.37	Knauf Plasterboard 15 mm	7.33	Knauf "J" Channel
6.38	Knauf Core Board 19 mm	7.34	Knauf "CT" Stud

2.1.3 Siniat

Fire resistance class: EI 120 S



GR3951298, C

Fig. 7: Mortar-based installation in asymmetrical shaft wall within framed openings EI 120 S

1	FKRS-EU	6.41	GTEC Core Board 19 mm
2.1	Mortar	7.35	GTEC "J" Track
6.40	GTEC Fire Board 15 mm	7.36	GTEC "E" Stud

Fire resistance class: EI 90 S

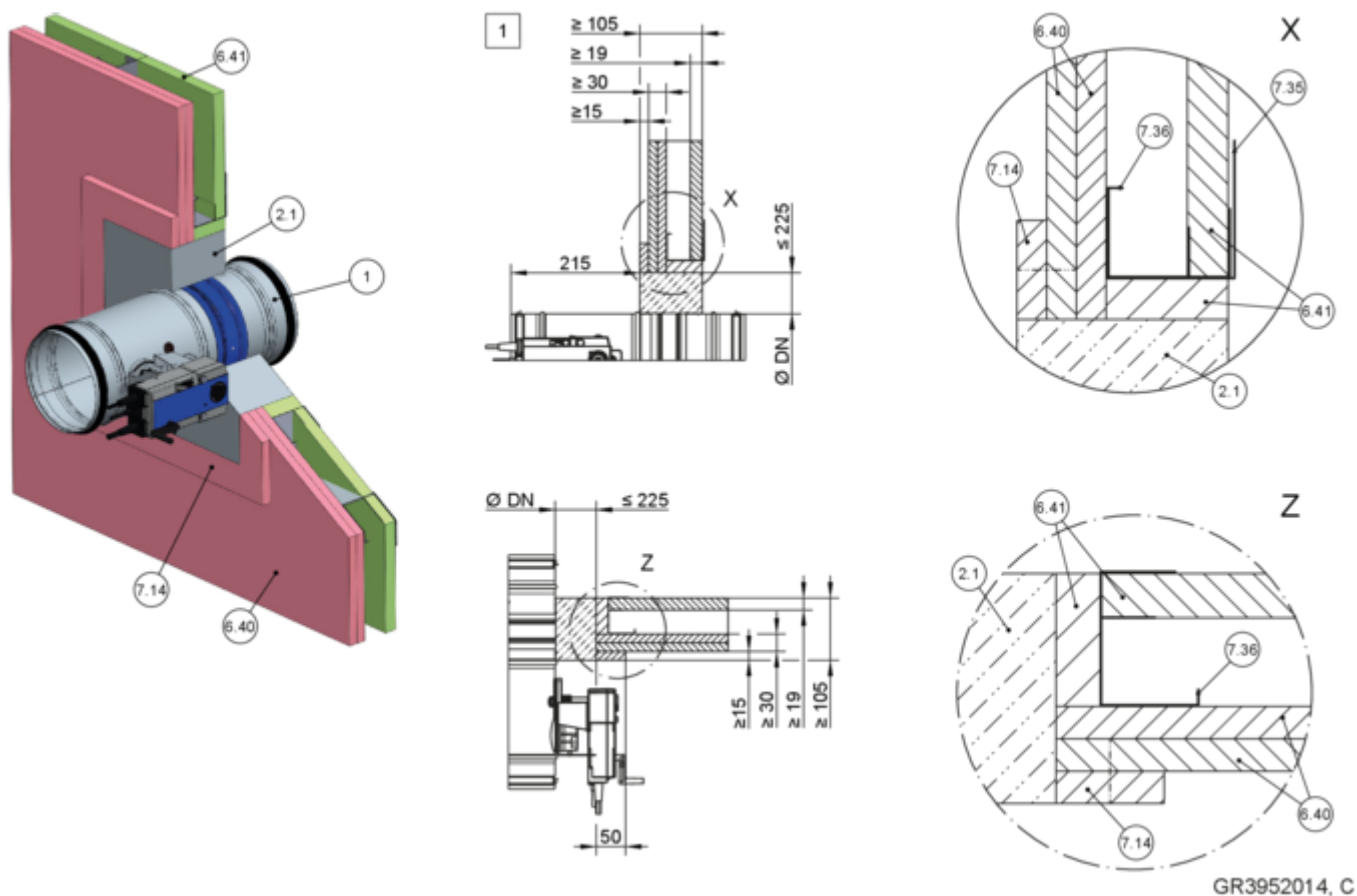
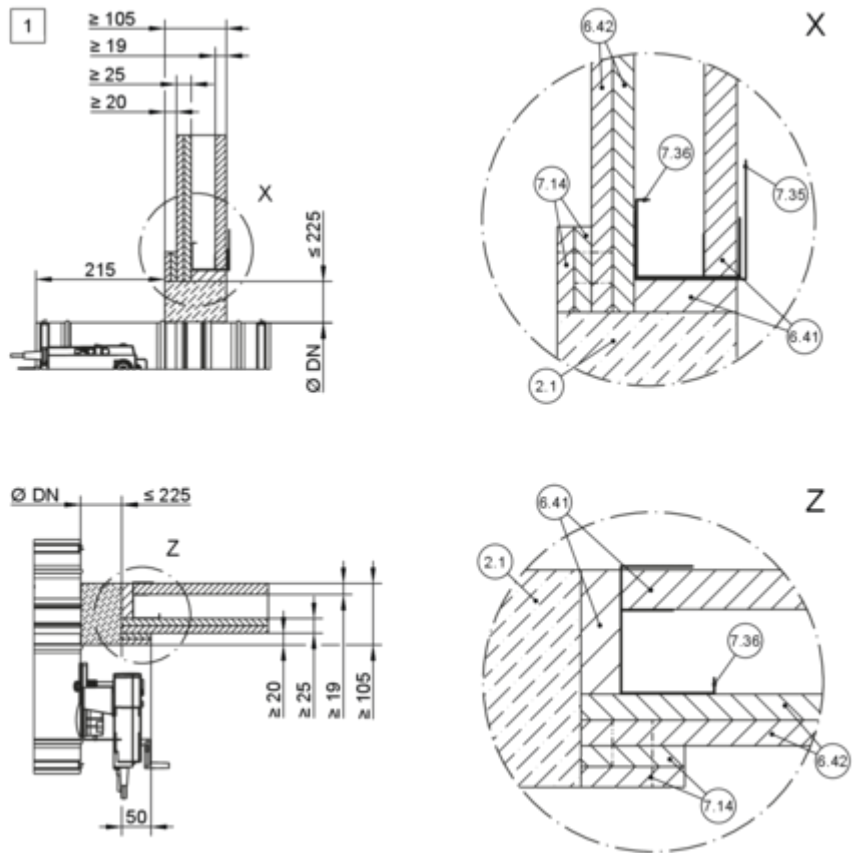
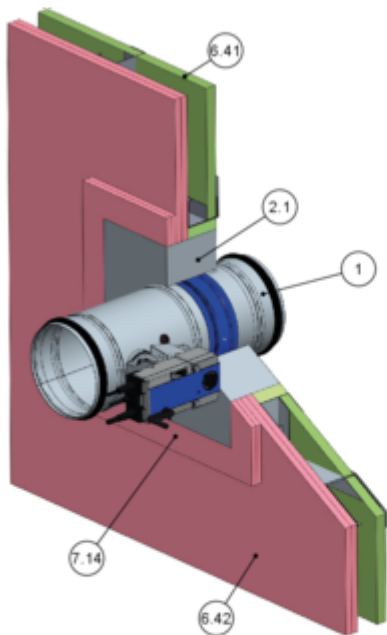


Fig. 8: Mortar-based installation in asymmetrical shaft wall within framed openings EI 90 S

1	FKRS-EU	7.14	Reinforcing board made of wall construction materials
2.1	Mortar	7.35	GTEC "J" Track
6.40	GTEC Fire Board 15 mm	7.36	GTEC "E" Stud
6.41	GTEC Core Board 19 mm		

Fire resistance class: EI 60 S



GR3953240, C

Fig. 9: Mortar-based installation in asymmetrical shaft wall within framed openings EI 60 S

1	FKRS-EU	7.14	Reinforcing board made of wall construction materials
2.1	Mortar	7.35	GTEC "J" Track
6.41	GTEC Core Board 19 mm	7.36	GTEC "E" Stud
6.42	GTEC Fire Board 12.5 mm		

Fire resistance class: EI 90 S

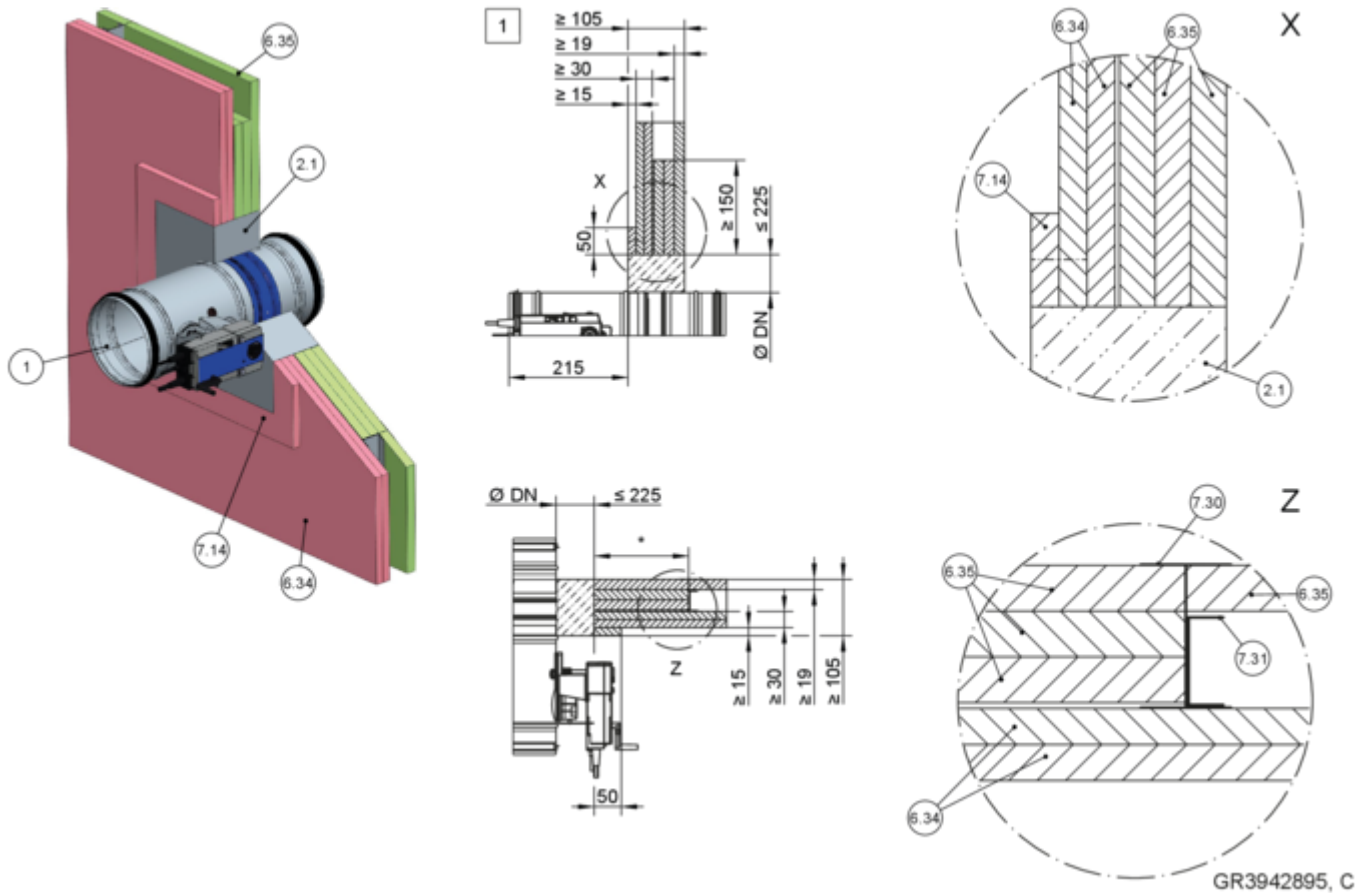
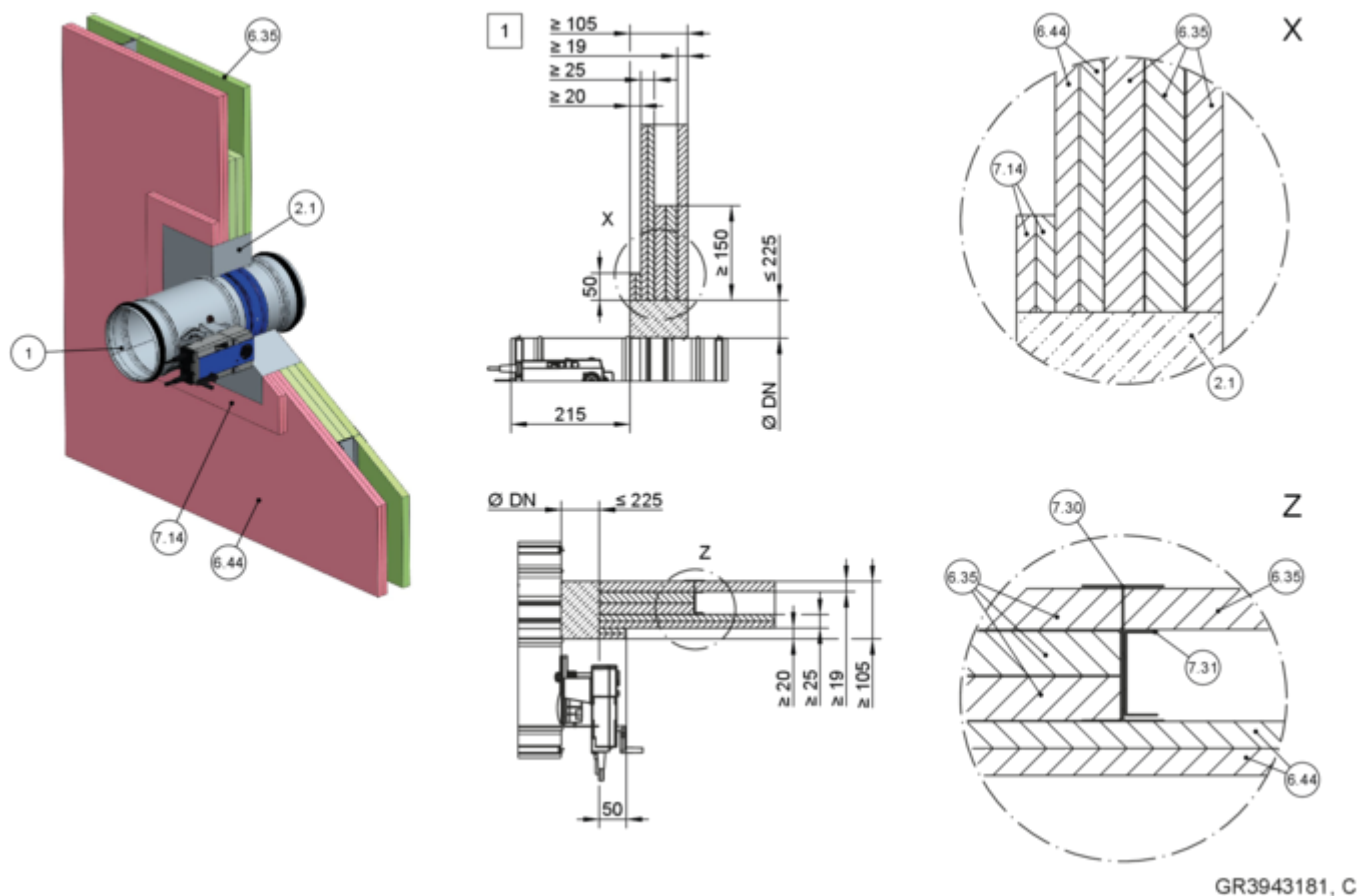


Fig. 11: Mortar-based installation in asymmetrical shaft wall with additional core boards EI 90 S

1	FKRS-EU	7.14	Reinforcing board made of wall construction materials
2.1	Mortar	7.30	Gypframe 'I' Stud
6.34	Gyproc FireLine 15 mm	7.31	Gypframe Retaining Channel
6.35	Gyproc CoreBoard 19 mm		

Fire resistance class: EI 60 S



GR3943181, C

Fig. 12: Mortar-based installation in asymmetrical shaft wall with additional core boards EI 60 S

1	FKRS-EU	7.14	Reinforcing board made of wall construction materials
2.1	Mortar	7.30	Gypframe 'I' Stud
6.35	Gyproc CoreBoard 19 mm	7.31	Gypframe Retaining Channel
6.44	Gyproc FireLine 12.5 mm		

2.2.2 Knauf

Fire resistance class: EI 120 S

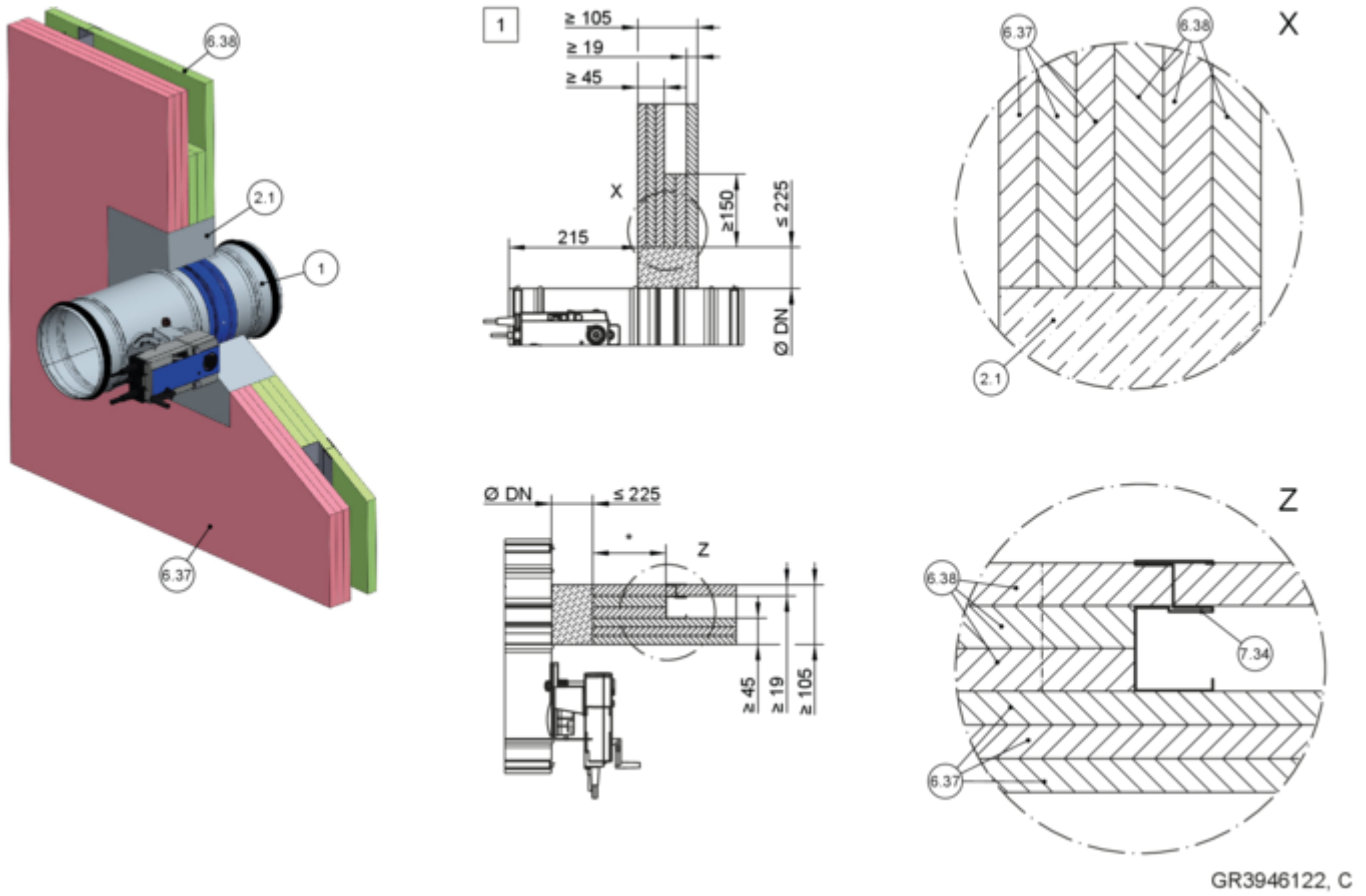
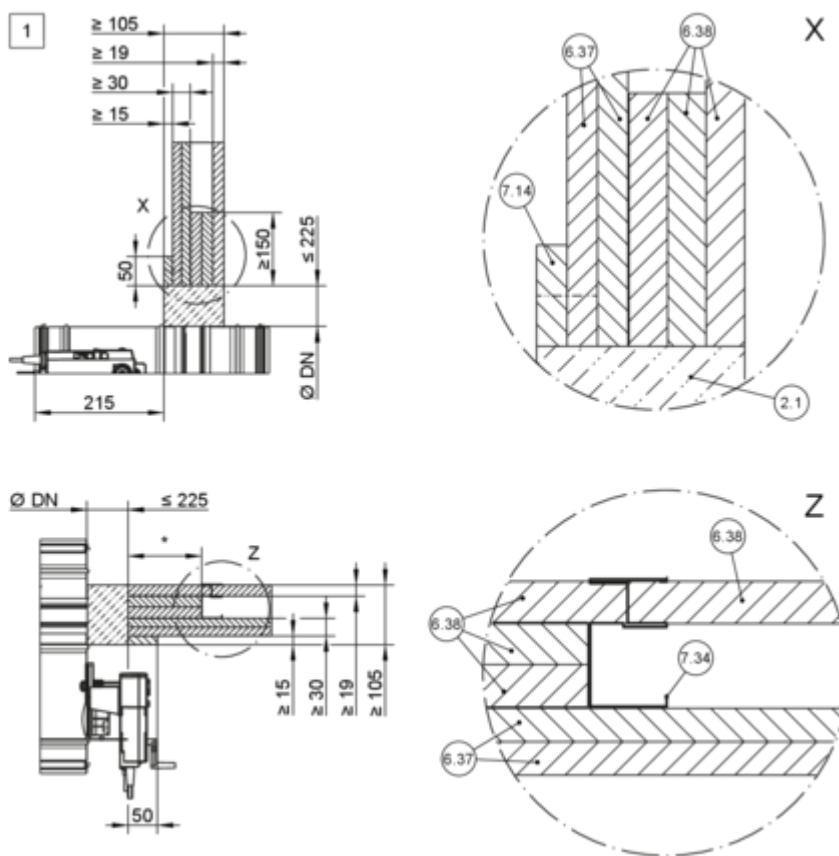
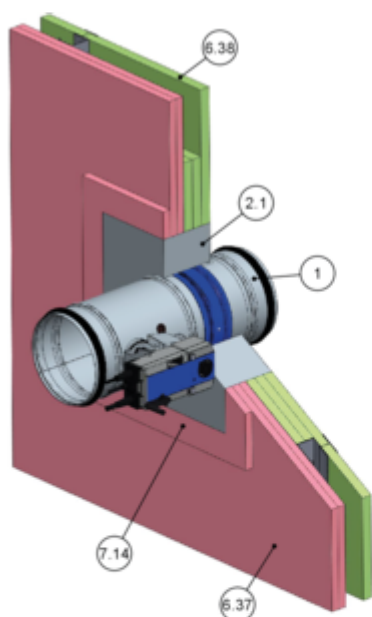


Fig. 13: Mortar-based installation in asymmetrical shaft wall with additional core boards EI 120 S

1	FKRS-EU	6.38	Knauf Core Board 19 mm
2.1	Mortar	7.34	Knauf "CT" Stud
6.37	Knauf Plasterboard 15 mm		

Fire resistance class: EI 90 S

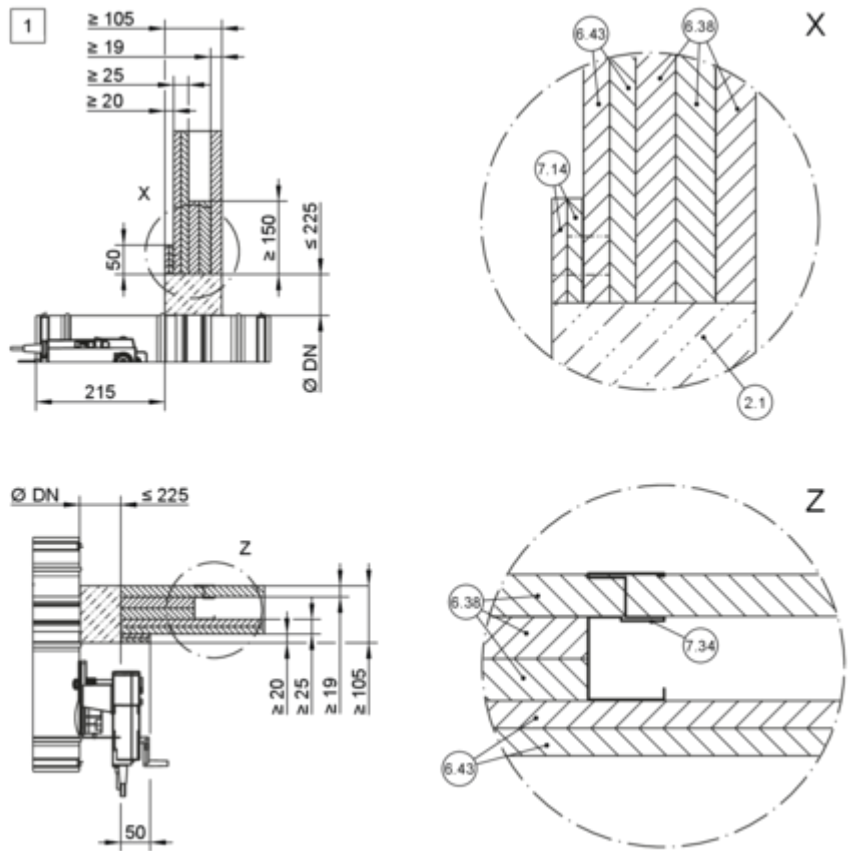
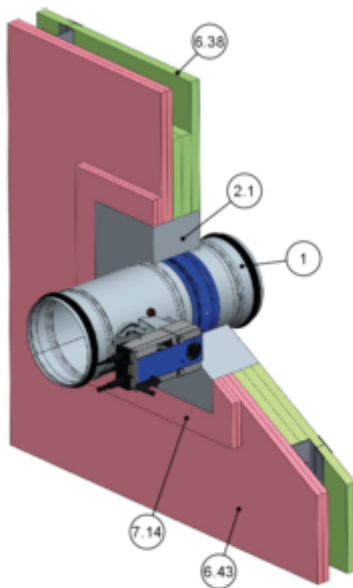


GR3948841, C

Fig. 14: Mortar-based installation in asymmetrical shaft wall with additional core boards EI 90 S

1	FKRS-EU	6.38	Knauf Core Board 19 mm
2.1	Mortar	7.14	Reinforcing board made of wall construction materials
6.37	Knauf Plasterboard 15 mm	7.34	Knauf "CT" Stud

Fire resistance class: EI 60 S



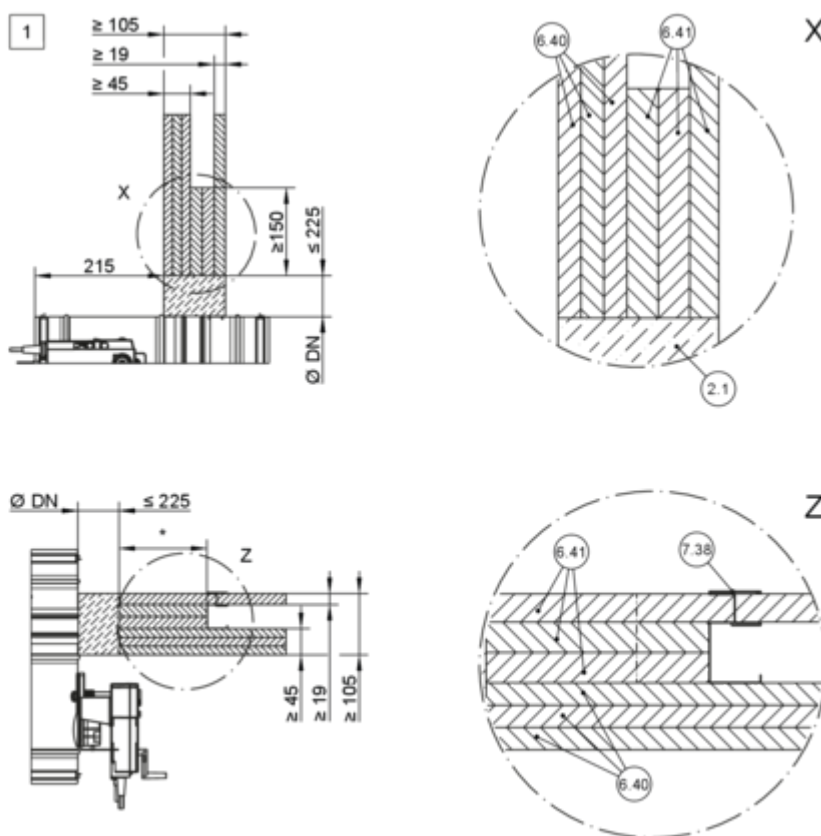
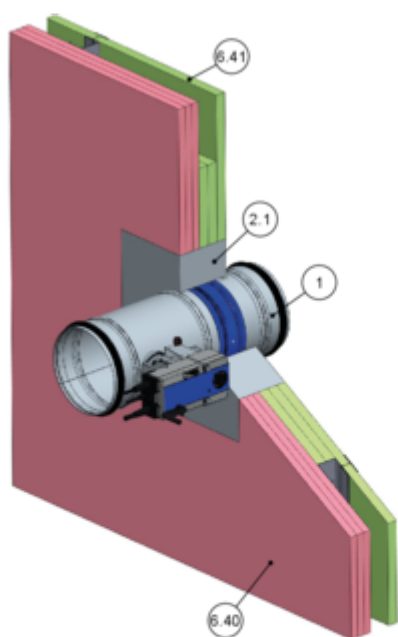
GR3950001, C

Fig. 15: Mortar-based installation in asymmetrical shaft wall with additional core boards EI 60 S

1	FKRS-EU	6.43	Knauf Plasterboard 12.5 mm
2.1	Mortar	7.14	Reinforcing board made of wall construction materials
6.38	Knauf Core Board 19 mm	7.34	Knauf "CT" Stud

2.2.3 Siniat

Fire resistance class: EI 120 S



GR3950181, C

Fig. 16: Mortar-based installation in asymmetrical shaft wall with additional core boards EI 120 S

1	FKRS-EU	6.41	GTEC Core Board 19 mm
2.1	Mortar	7.35	GTEC "J" Track
6.40	GTEC Fire Board 15 mm	7.38	GTEC "CH" Stud

Fire resistance class: EI 90 S

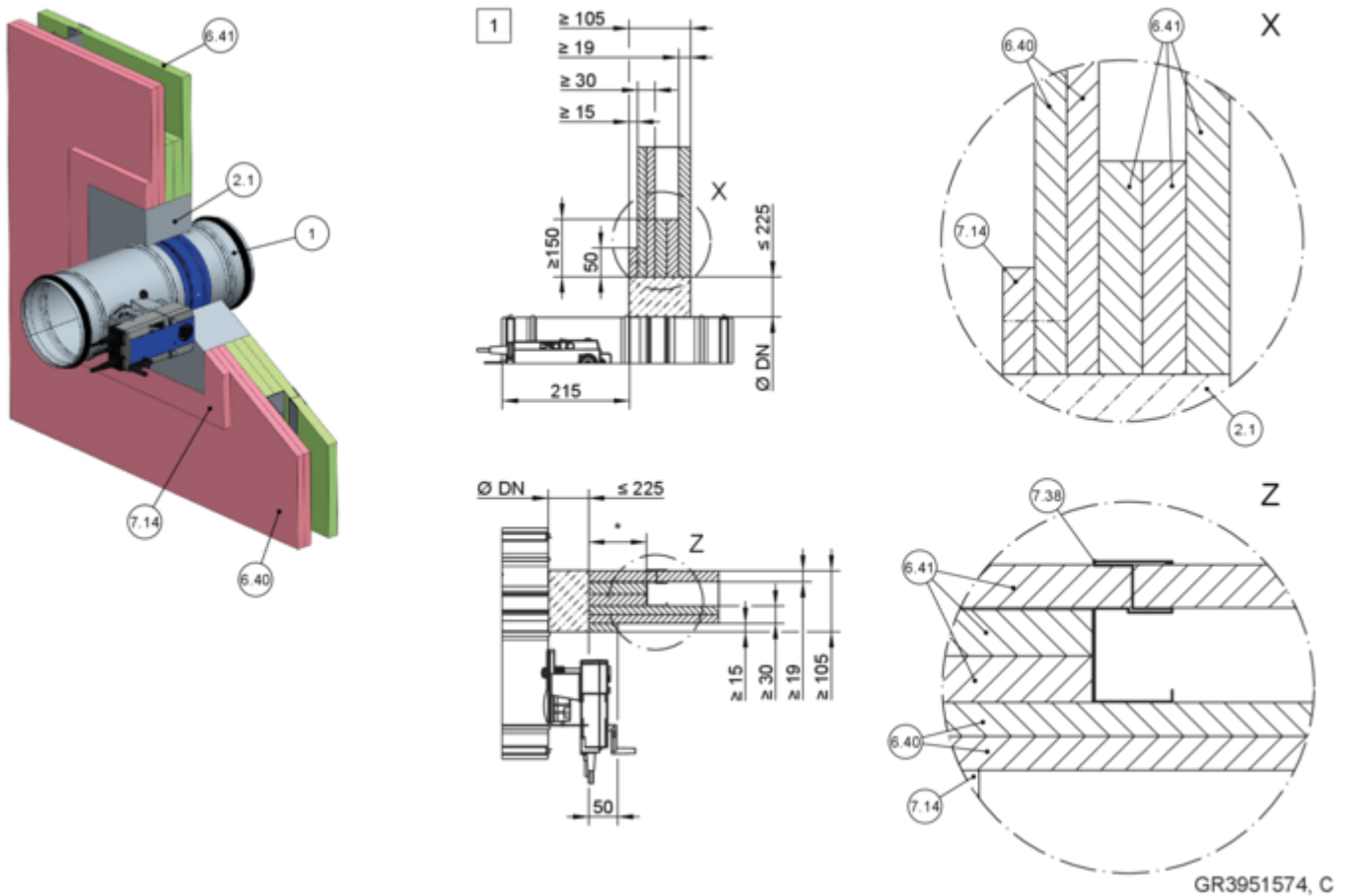
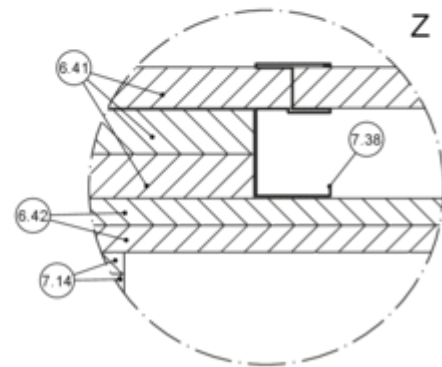
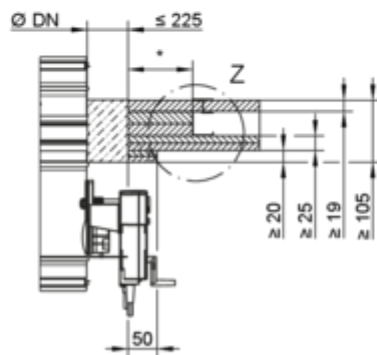
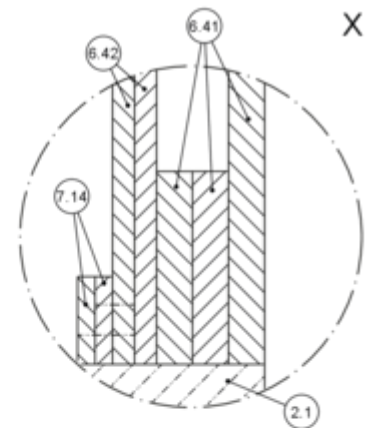
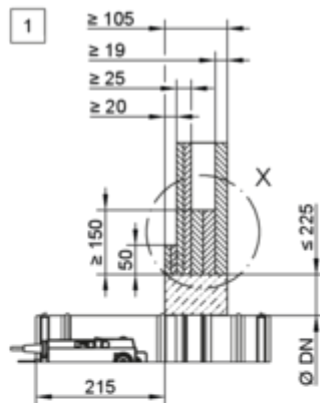
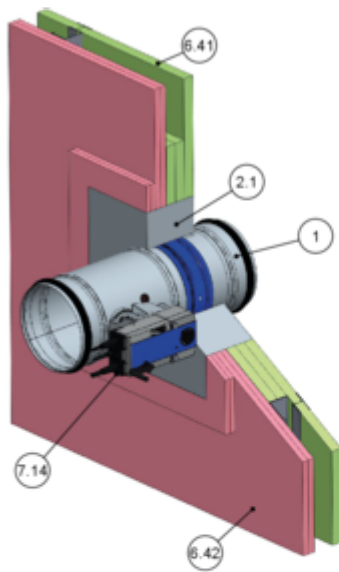


Fig. 17: Mortar-based installation in asymmetrical shaft wall with additional core boards EI 90 S

1	FKRS-EU	6.41	GTEC Core Board 19 mm
2.1	Mortar	7.14	Reinforcing board made of wall construction materials
6.40	GTEC Fire Board 15 mm	7.38	GTEC "CH" Stud

Fire resistance class: EI 60 S



GR3952621, C

Fig. 18: Mortar-based installation in asymmetrical shaft wall with additional core boards EI 60 S

1	FKRS-EU	6.42	GTEC Fire Board 12.5 mm
2.1	Mortar	7.14	Reinforcing board made of wall construction materials
6.41	GTEC Core Board 19 mm	7.38	GTEC "CH" Stud

Fire resistance class: EI 90 S

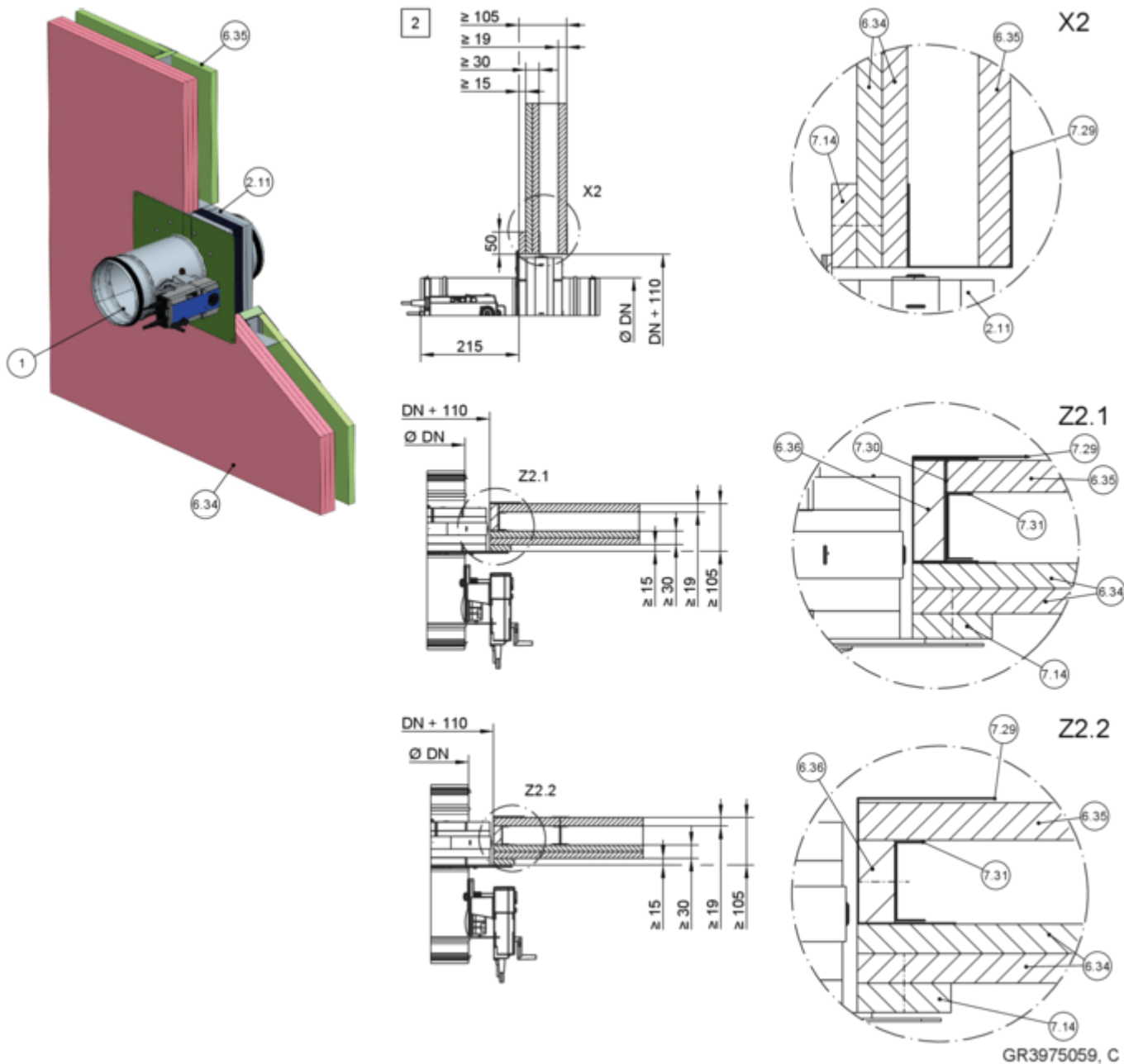
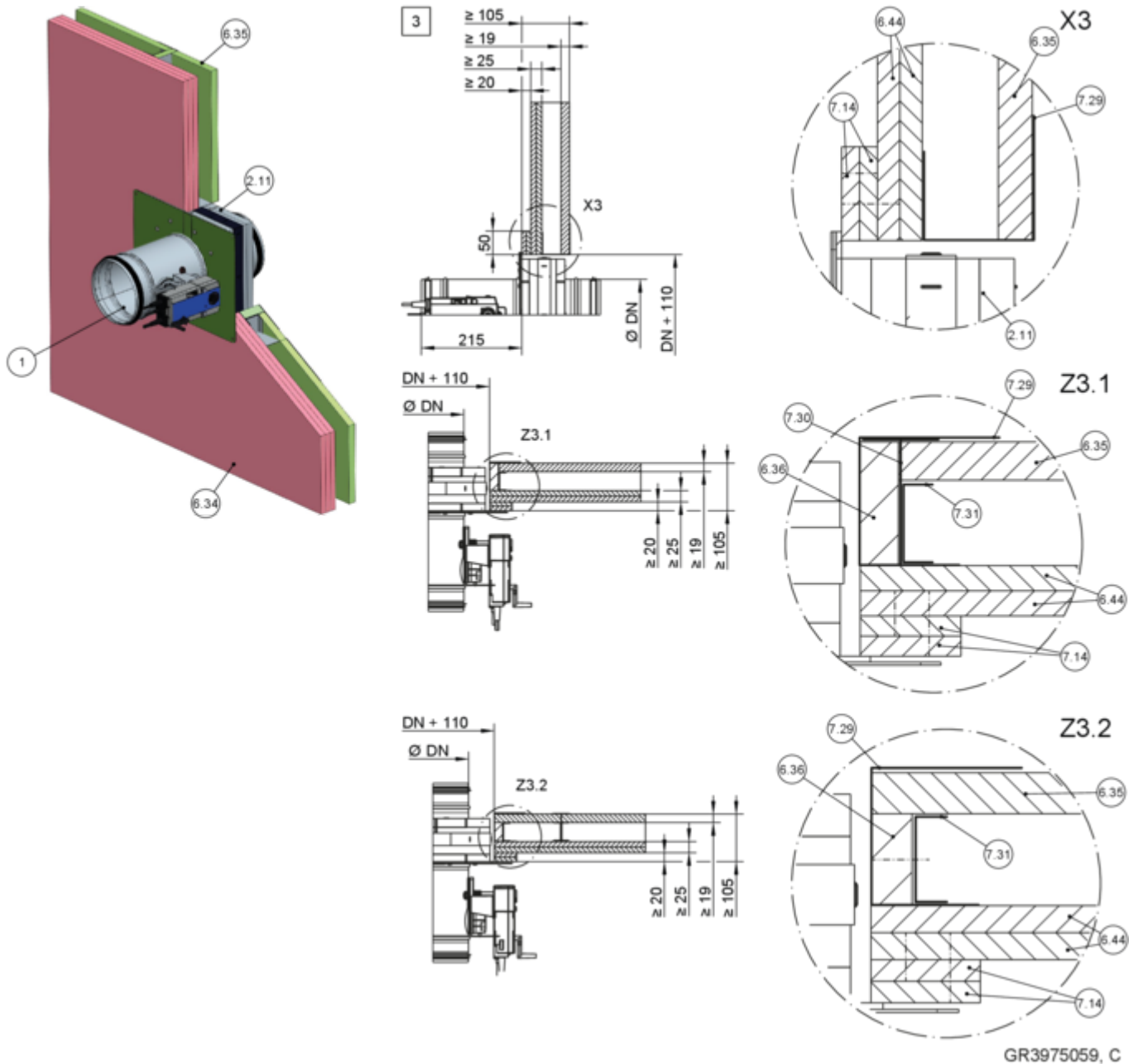


Fig. 20: Dry mortarless installation in asymmetrical shaft wall within framed openings EI 90 S

- | | | | |
|------|---|------|--|
| 1 | FKRS-EU | 7.14 | Reinforcing board made of wall construction materials |
| 2.11 | Installation kit TQ2 with cover plate (two-piece) | 7.29 | Gypframe Extra Deep Flange Floor & Ceiling Channel or Gypframe 'J' Channel |
| 6.34 | Gyproc FireLine 15 mm | 7.30 | Gyframe 'I' Stud |
| 6.35 | Gyproc CoreBoard 19 mm | 7.31 | Gyframe Retaining Channel |
| 6.36 | Gyproc CoreBoard packer (consisting of 6.35, cut on site) | | |

Fire resistance class: EI 60 S



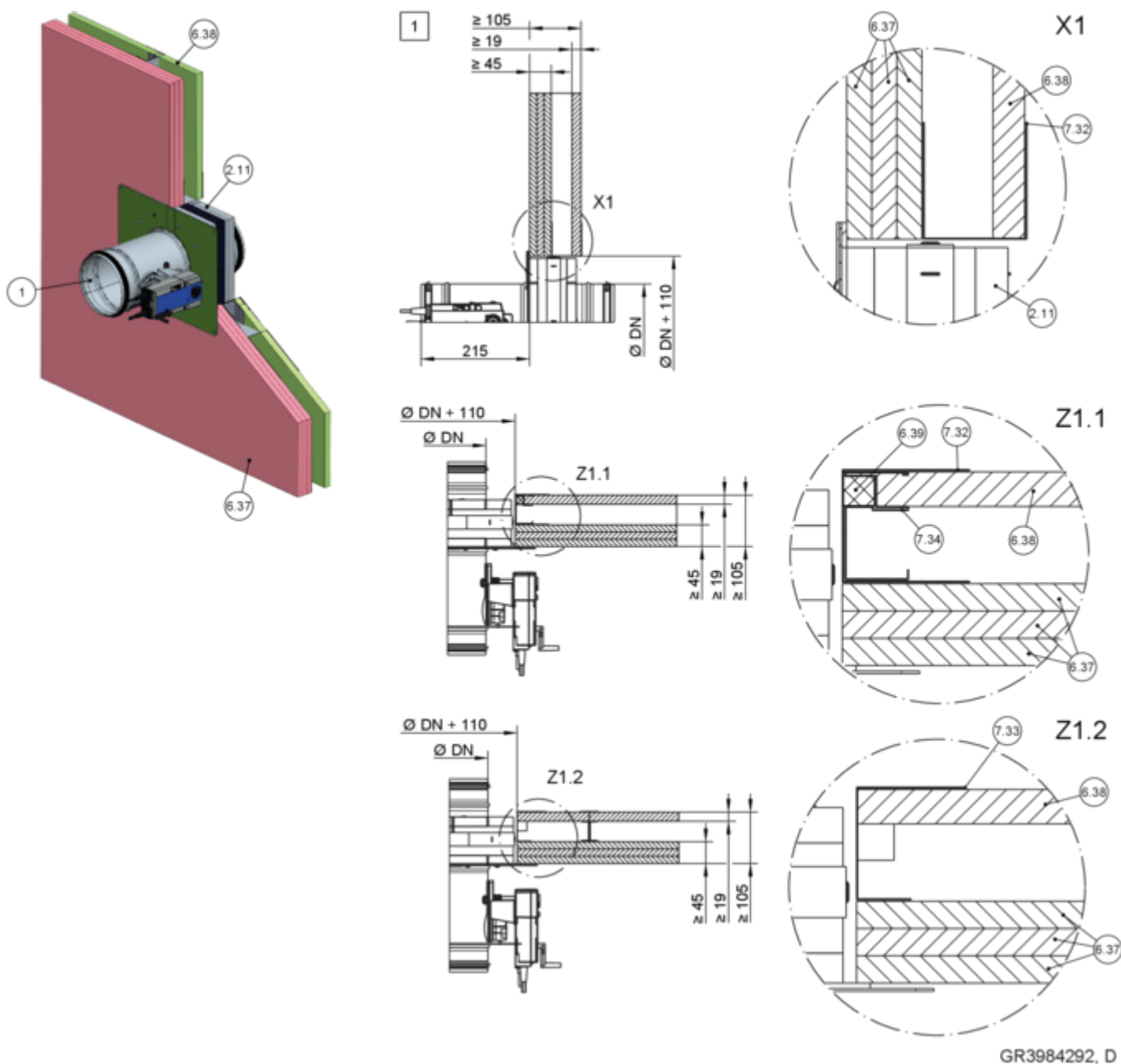
GR3975059, C

Fig. 21: Dry mortarless installation in asymmetrical shaft wall within framed openings EI 60 S

- | | | | |
|------|---|------|--|
| 1 | FKRS-EU | 6.44 | Gyproc FireLine 12.5 mm |
| 2.11 | Installation kit TQ2 with cover plate (two-piece) | 7.14 | Reinforcing board made of wall construction materials |
| 6.34 | Gyproc FireLine 15 mm | 7.29 | Gypframe Extra Deep Flange Floor & Ceiling Channel or Gypframe 'J' Channel |
| 6.35 | Gyproc CoreBoard 19 mm | 7.30 | Gypframe 'I' Stud |
| 6.36 | Gyproc CoreBoard packer (consisting of 6.35, cut on site) | 7.31 | Gypframe Retaining Channel |

2.3.2 Knauf

Fire resistance class: EI 120 S



GR3984292, D

Fig. 22: Dry mortarless installation in asymmetrical shaft wall within framed openings EI 120 S

1	FKRS-EU	6.39	Knauf Insulation Rocksilks RS60
2.11	Installation kit TQ2 with cover plate (two-piece)	7.32	Knauf Deep Flange "U" Channel
6.37	Knauf Plasterboard 15 mm	7.33	Knauf "J" Channel
6.38	Knauf Core Board 19 mm	7.34	Knauf "CT" Stud

Fire resistance class: EI 90 S

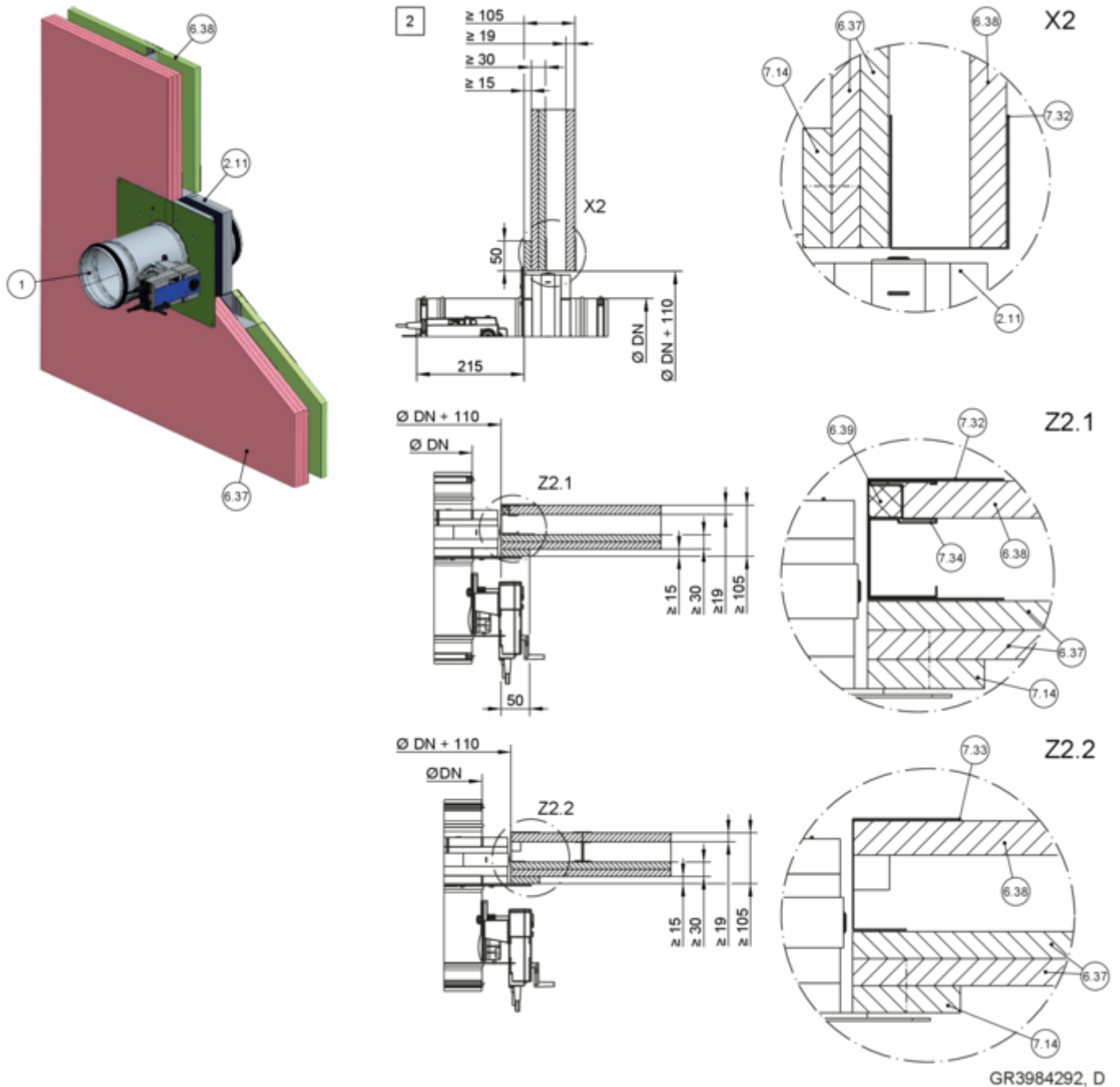
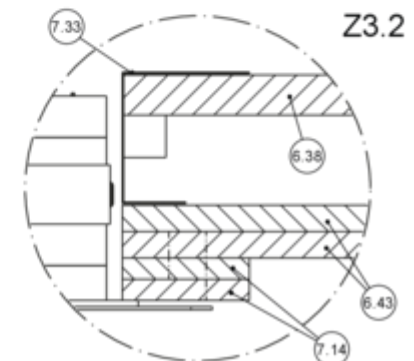
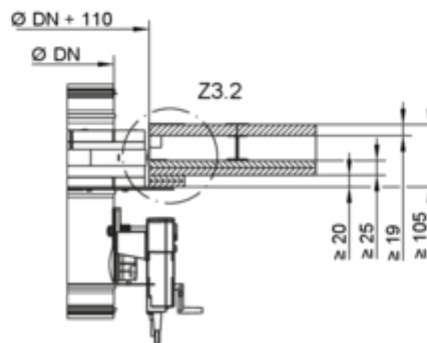
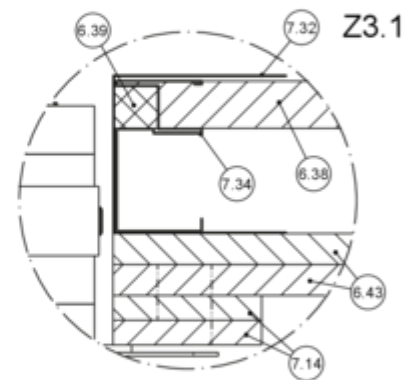
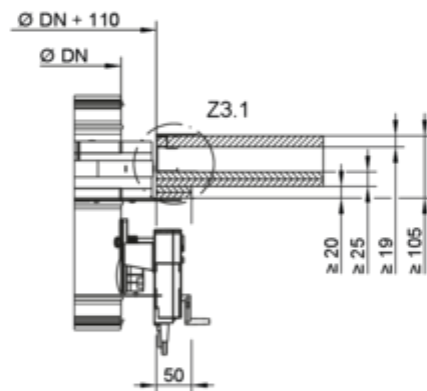
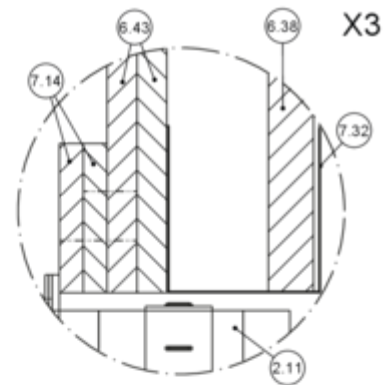
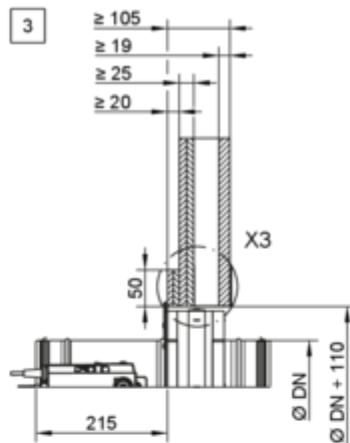
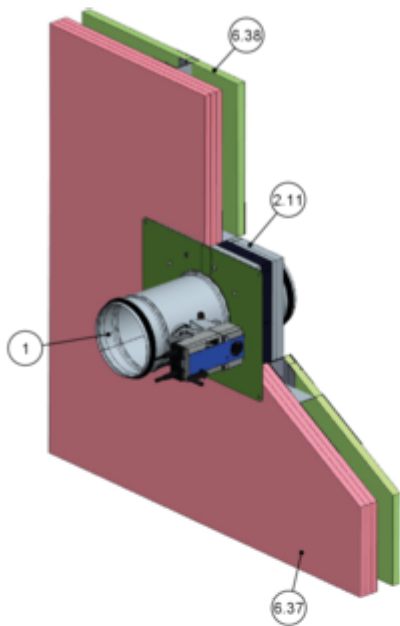


Fig. 23: Dry mortarless installation in asymmetrical shaft wall within framed openings EI 90 S

- | | | | |
|------|---|------|---|
| 1 | FKRS-EU | 7.14 | Reinforcing board made of wall construction materials |
| 2.11 | Installation kit TQ2 with cover plate (two-piece) | 7.32 | Knauf Deep Flange "U" Channel |
| 6.37 | Knauf Plasterboard 15 mm | 7.33 | Knauf "J" Channel |
| 6.38 | Knauf Core Board 19 mm | 7.34 | Knauf "CT" Stud |
| 6.39 | Knauf Insulation Rocksilks RS60 | | |

Fire resistance class: EI 60 S



GR3984292, D

Fig. 24: Dry mortarless installation in asymmetrical shaft wall within framed openings EI 60 S

1	FKRS-EU	6.43	Knauf Plasterboard 12.5 mm
2.11	Installation kit TQ2 with cover plate (two-piece)	7.14	Reinforcing board made of wall construction materials
6.37	Knauf Plasterboard 15 mm	7.32	Knauf Deep Flange "U" Channel
6.38	Knauf Core Board 19 mm	7.33	Knauf "J" Channel
6.39	Knauf Insulation Rocksilks RS60	7.34	Knauf "CT" Stud

2.3.3 Siniat

Fire resistance class: EI 120 S

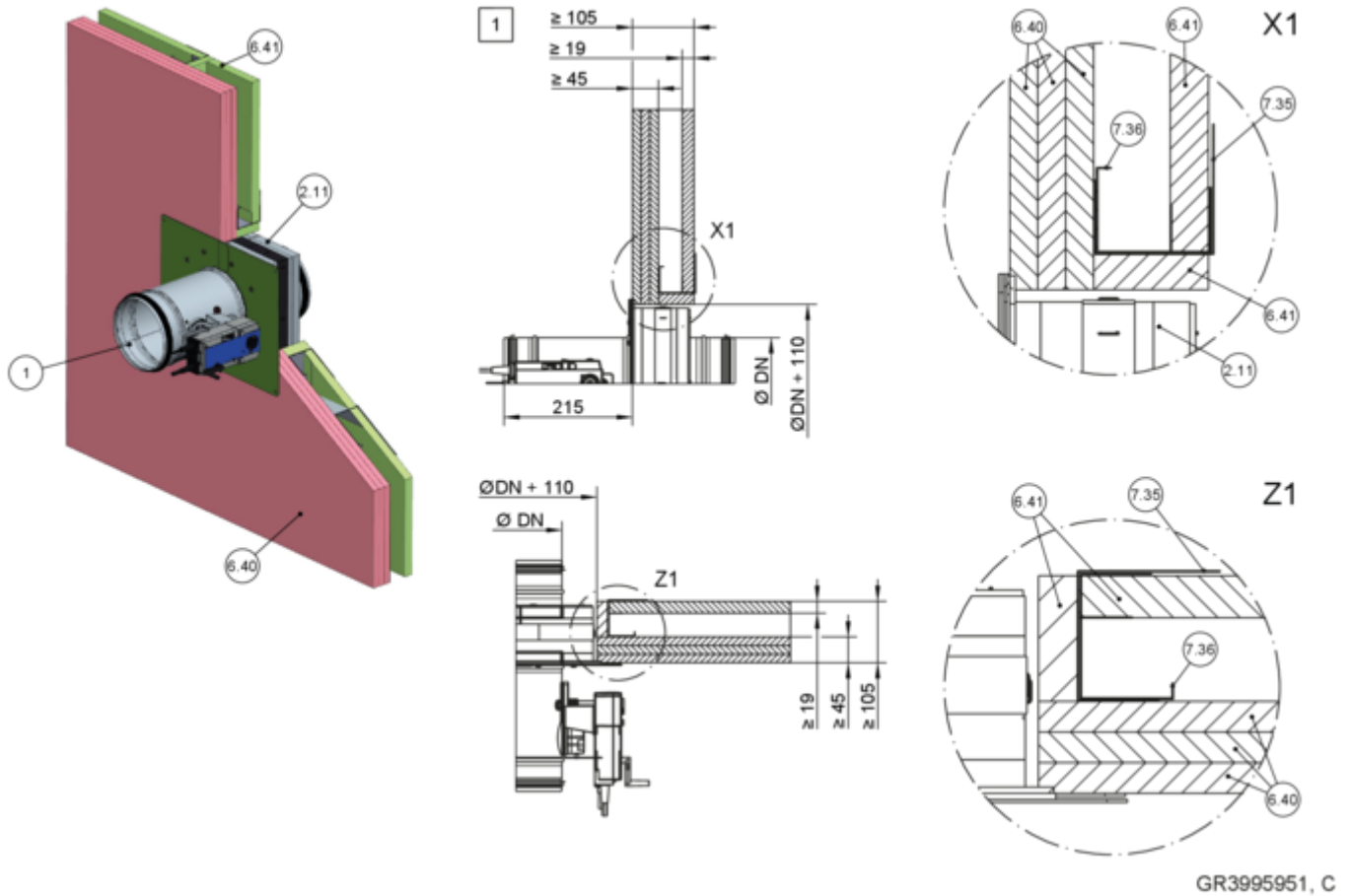
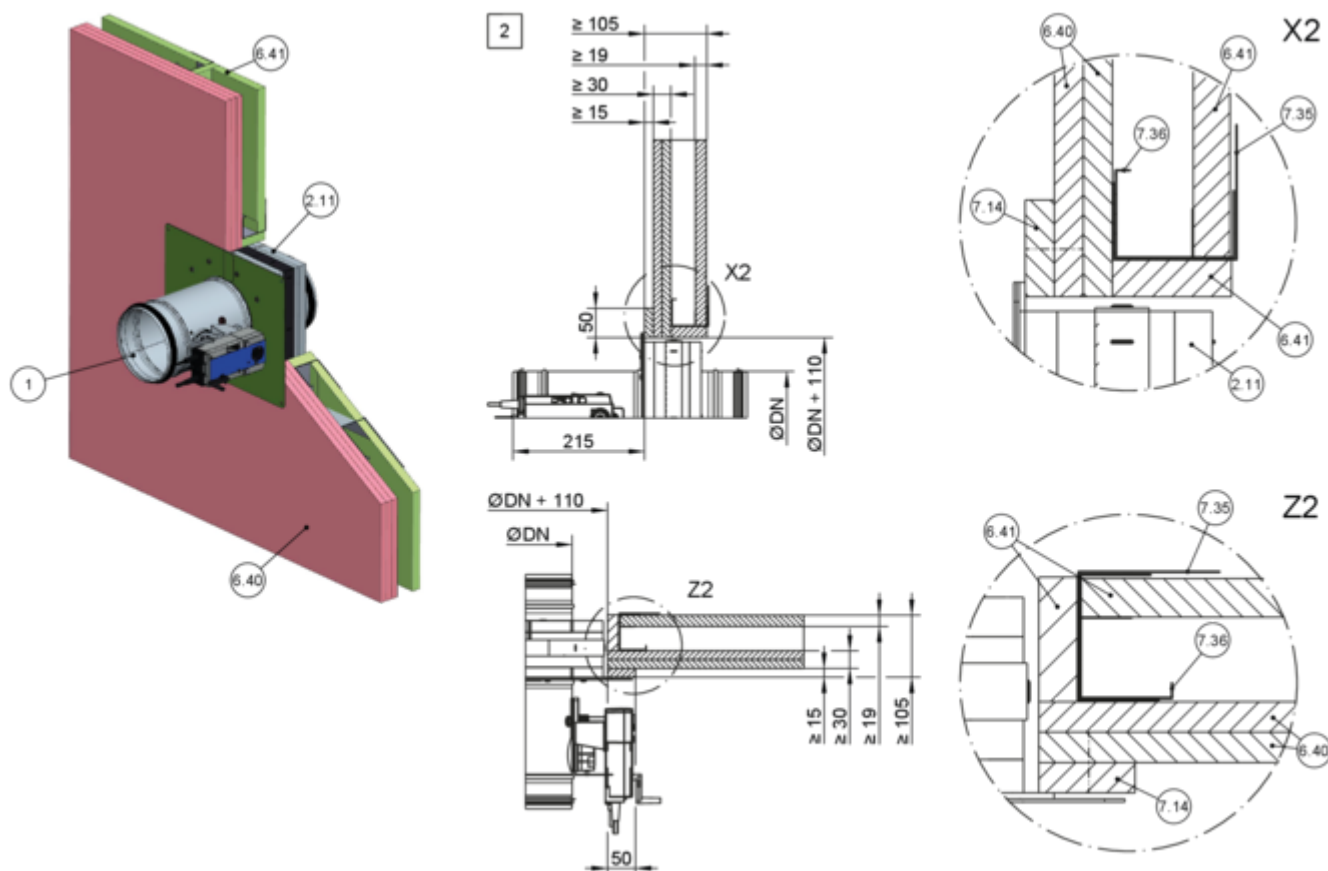


Fig. 25: Dry mortarless installation in asymmetrical shaft wall within framed openings EI 120 S

1	FKRS-EU	6.41	GTEC Core Board 19 mm
2.11	Installation kit TQ2 with cover plate (two-piece)	7.35	GTEC "J" Track
6.40	GTEC Fire Board 15 mm	7.36	GTEC "E" Stud

Fire resistance class: EI 90 S

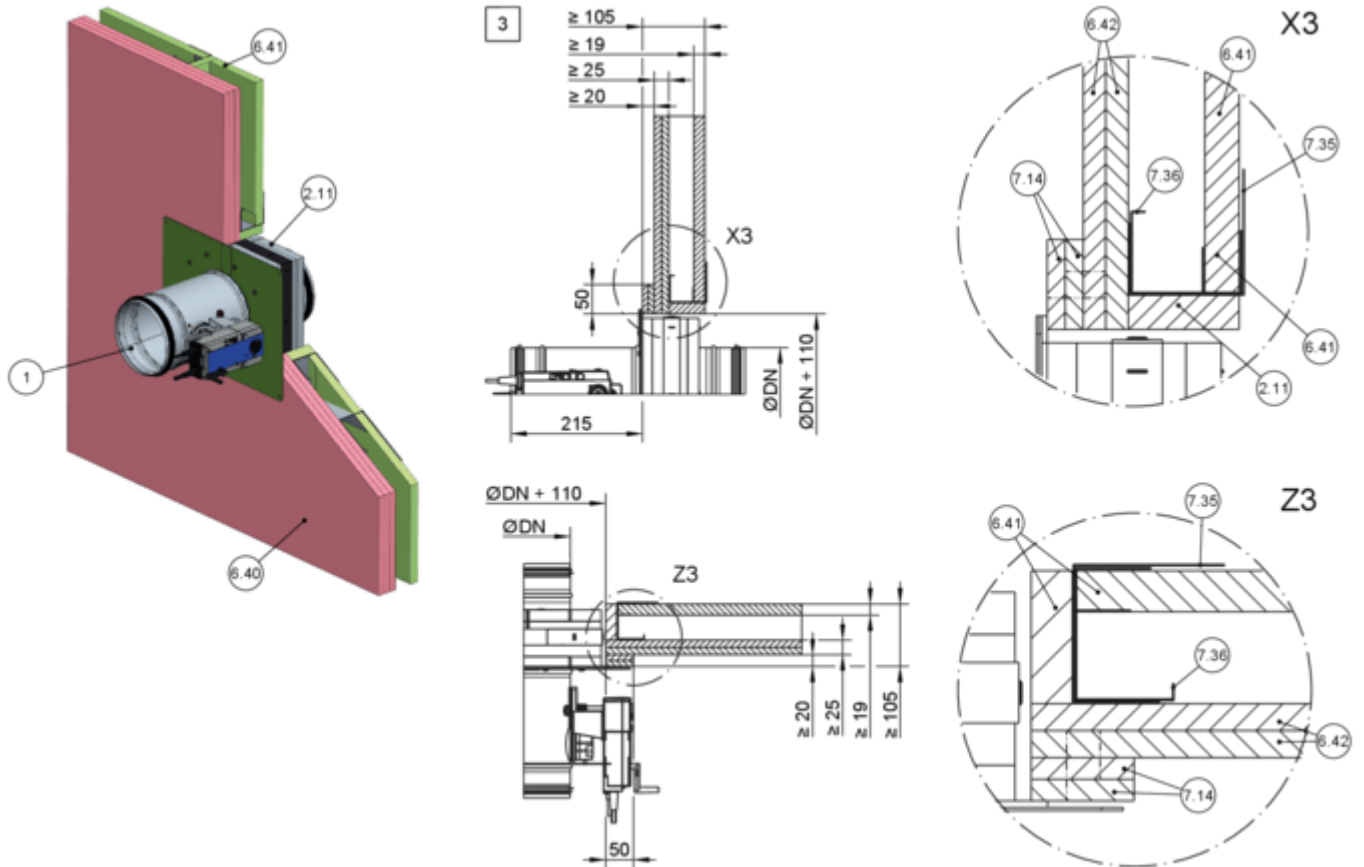


GR3995951, C

Fig. 26: Dry mortarless installation in asymmetrical shaft wall within framed openings EI 90 S

1	FKRS-EU	7.14	Reinforcing board made of wall construction materials
2.11	Installation kit TQ2 with cover plate (two-piece)	7.35	GTEC "J" Track
6.40	GTEC Fire Board 15 mm	7.36	GTEC "E" Stud
6.41	GTEC Core Board 19 mm		

Fire resistance class: EI 60 S



GR3995951, C

Fig. 27: Dry mortarless installation in asymmetrical shaft wall within framed openings EI 60 S

1	FKRS-EU	6.42	GTEC Fire Board 12.5 mm
2.11	Installation kit TQ2 with cover plate (two-piece)	7.14	Reinforcing board made of wall construction materials
6.40	GTEC Fire Board 15 mm	7.35	GTEC "J" Track
6.41	GTEC Core Board 19 mm	7.36	GTEC "E" Stud

2.4 Dry mortarless installation with TQ2 installation kit in wall construction with additional core boards

Additional requirements:

- General installation information, ↗ 4
- Distance between two fire dampers ≥ 200 mm (Installation in separate openings)
- Distance to load-bearing structural elements ≥ 55 mm (with shortened cover plate)
- Dry mortarless installation in a wall structure with core boards also allows the installation opening to be subsequently inserted between standard studs. Installation opening $DN + 110 \pm 2$ mm.

2.4.1 British Gypsum

Fire resistance class: EI 120 S

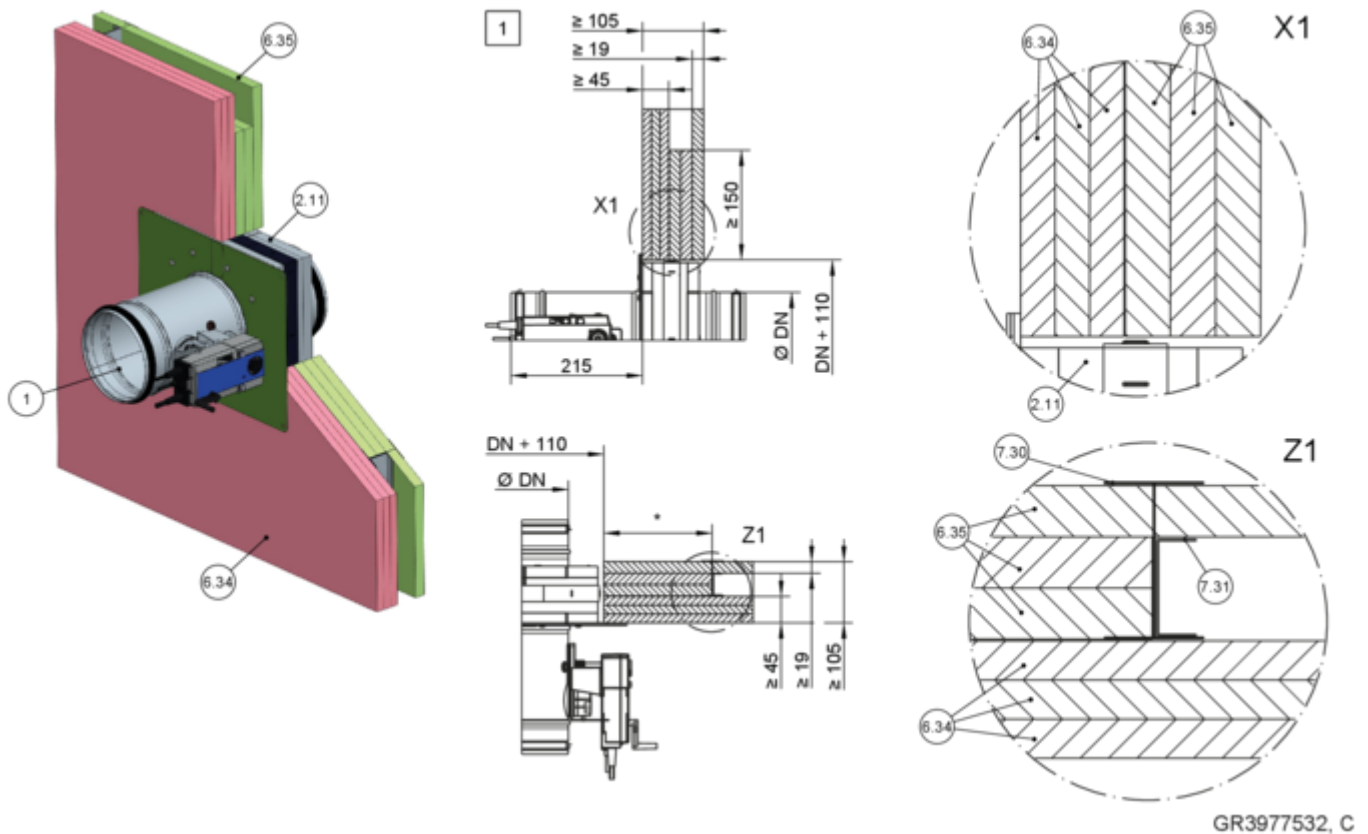
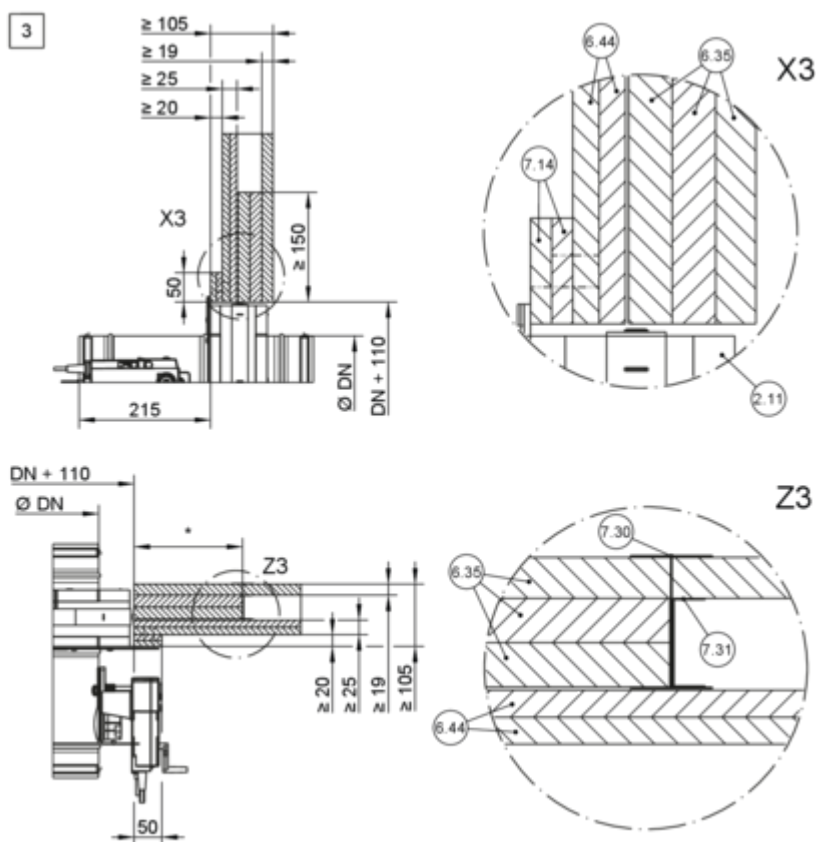
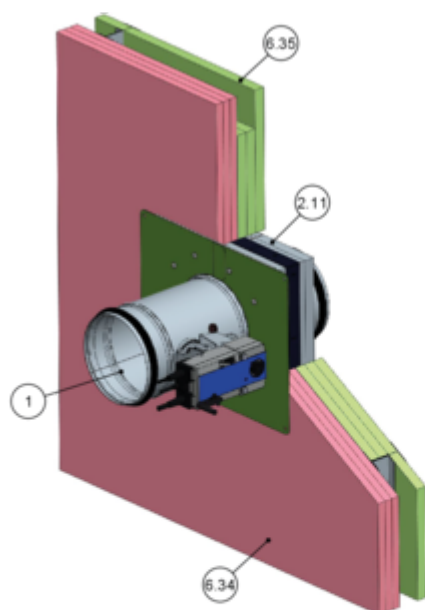


Fig. 28: Dry mortarless installation in asymmetrical shaft wall with additional core boards EI 120 S

1	FKRS-EU	6.35	Gyproc CoreBoard 19 mm
2.11	Installation kit TQ2 with cover plate (two-piece)	7.30	Gypframe 'I' Stud
6.34	Gyproc FireLine 15 mm	7.31	Gypframe Retaining Channel

Fire resistance class: EI 60 S



GR3977532, C

Fig. 30: Dry mortarless installation in asymmetrical shaft wall with additional core boards EI 60 S

1	FKRS-EU	6.44	Gyproc FireLine 12.5 mm
2.11	Installation kit TQ2 with cover plate (two-piece)	7.14	Reinforcing board made of wall construction materials
6.34	Gyproc FireLine 15 mm	7.30	Gypframe 'I' Stud
6.35	Gyproc CoreBoard 19 mm	7.31	Gypframe Retaining Channel

2.4.2 Knauf

Fire resistance class: EI 120 S

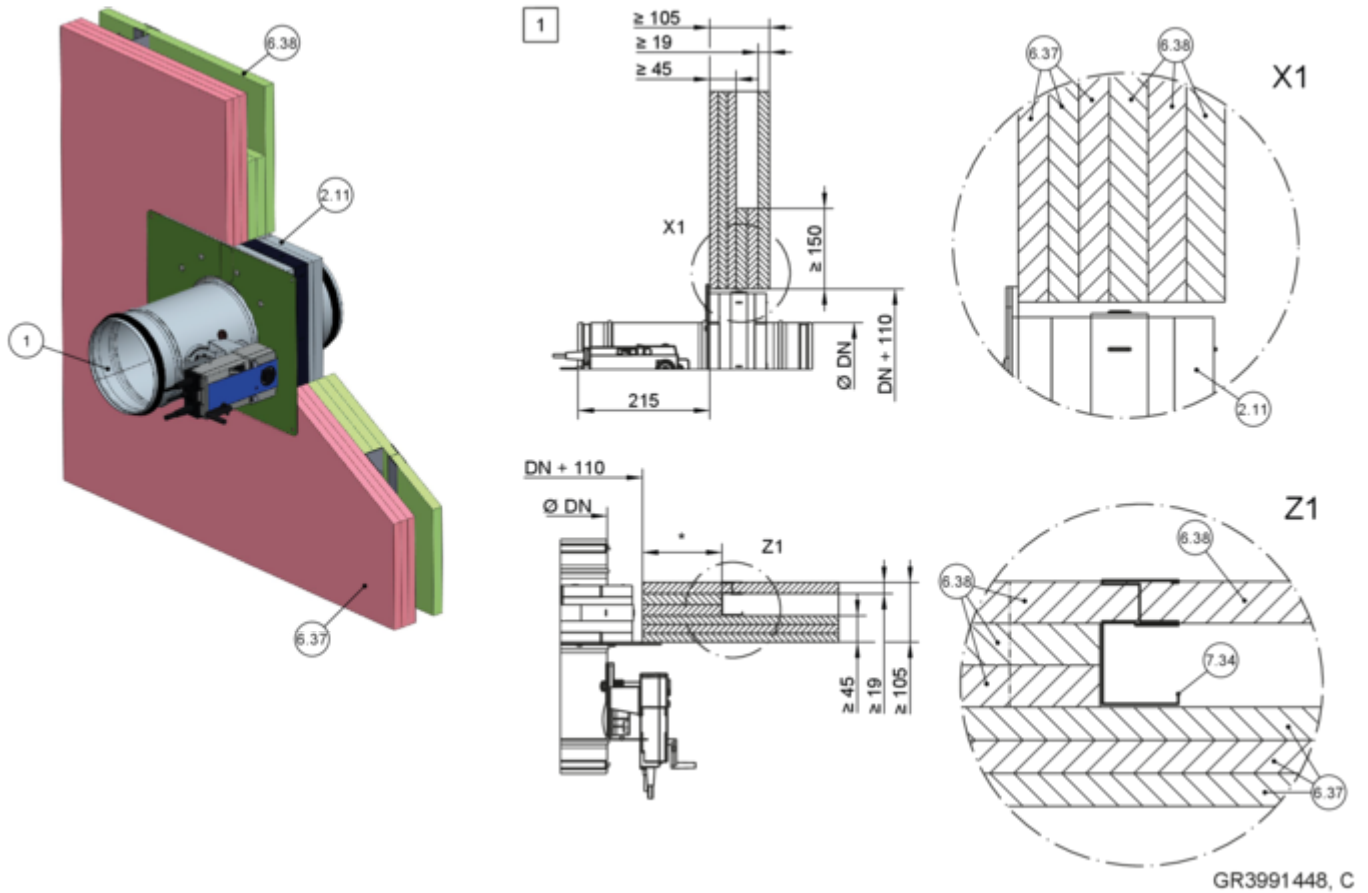
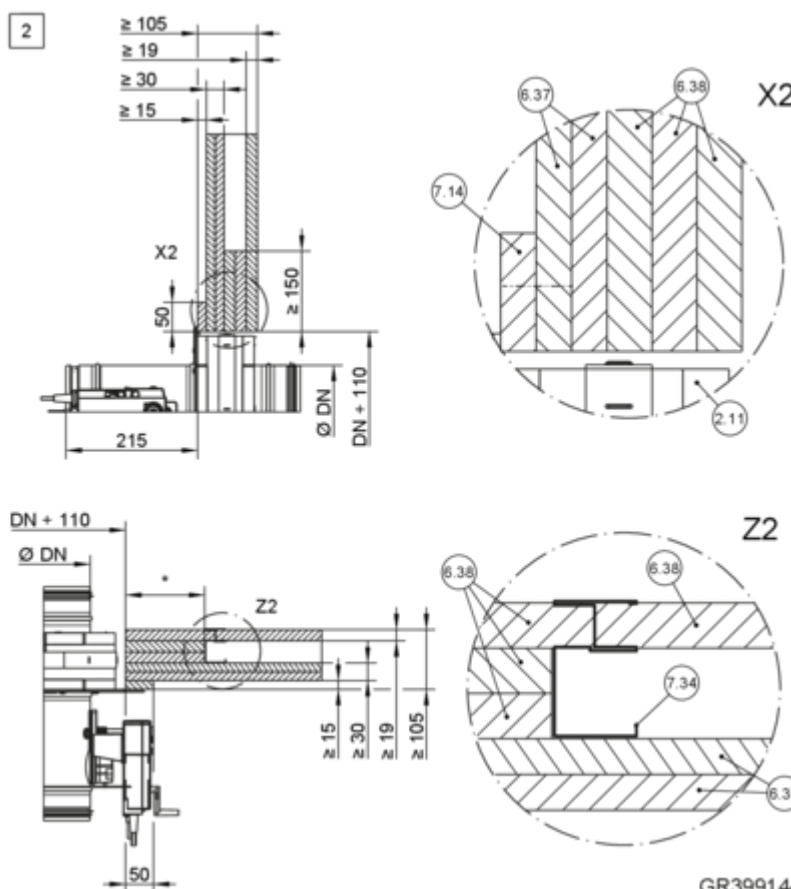
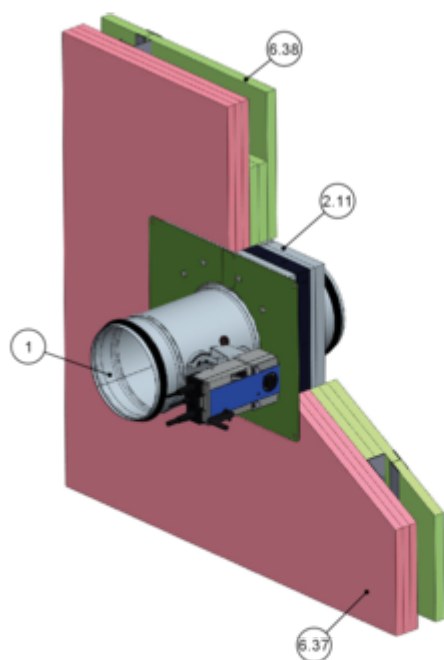


Fig. 31: Dry mortarless installation in asymmetrical shaft wall with additional core boards EI 120 S

1	FKRS-EU	6.38	Knauf Core Board 19 mm
2.11	Installation kit TQ2 with cover plate (two-piece)	7.34	Knauf "CT" Stud
6.37	Knauf Plasterboard 15 mm		

Fire resistance class: EI 90 S



GR3991448, C

Fig. 32: Dry mortarless installation in asymmetrical shaft wall with additional core boards EI 90 S

1	FKRS-EU	6.38	Knauf Core Board 19 mm
2.11	Installation kit TQ2 with cover plate (two-piece)	7.14	Reinforcing board made of wall construction materials
6.37	Knauf Plasterboard 15 mm	7.34	Knauf "CT" Stud

Fire resistance class: EI 60 S

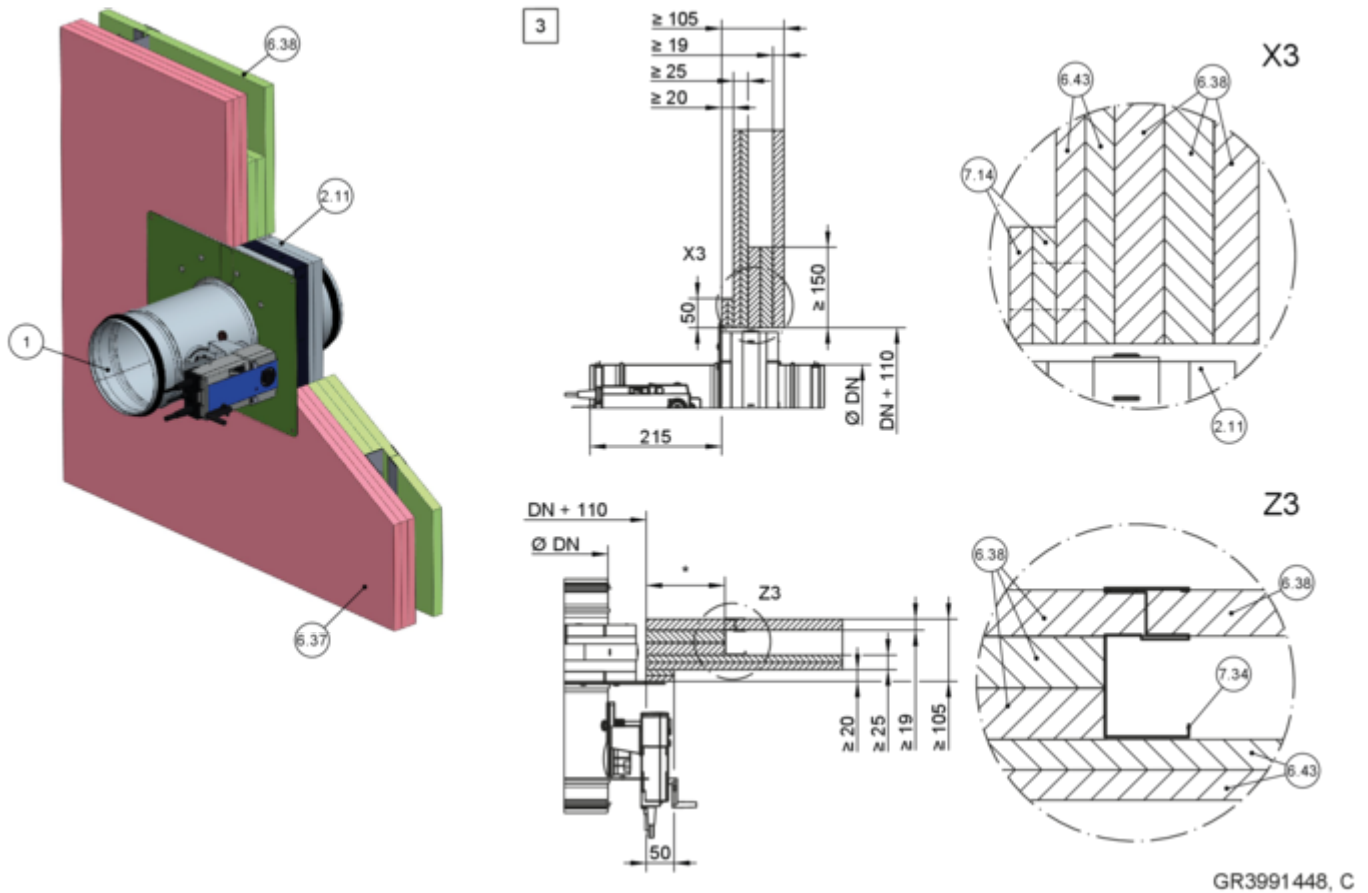


Fig. 33: Dry mortarless installation in asymmetrical shaft wall with additional core boards EI 60 S

1	FKRS-EU	6.43	Knauf Plasterboard 12.5 mm
2.11	Installation kit TQ2 with cover plate (two-piece)	7.14	Reinforcing board made of wall construction materials
6.37	Knauf Plasterboard 15 mm	7.34	Knauf "CT" Stud
6.38	Knauf Core Board 19 mm		

2.4.3 Siniat

Fire resistance class: EI 120 S

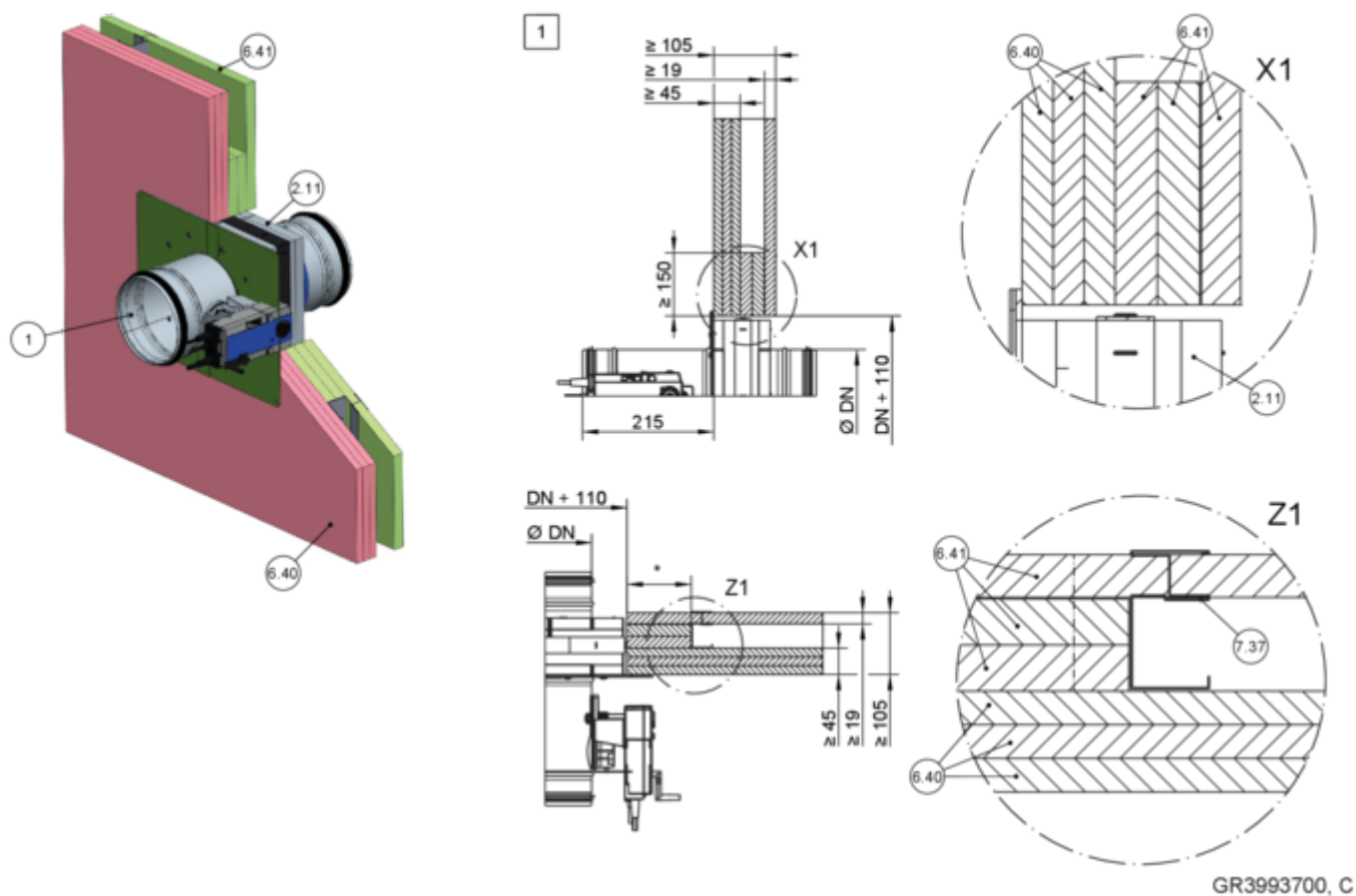


Fig. 34: Dry mortarless installation in asymmetrical shaft wall with additional core boards EI 120 S

1	FKRS-EU	6.41	GTEC Core Board 19 mm
2.11	Installation kit TQ2 with cover plate (two-piece)	7.37	GTEC "CH" Stud
6.40	GTEC Fire Board 15 mm		

Fire resistance class: EI 90 S

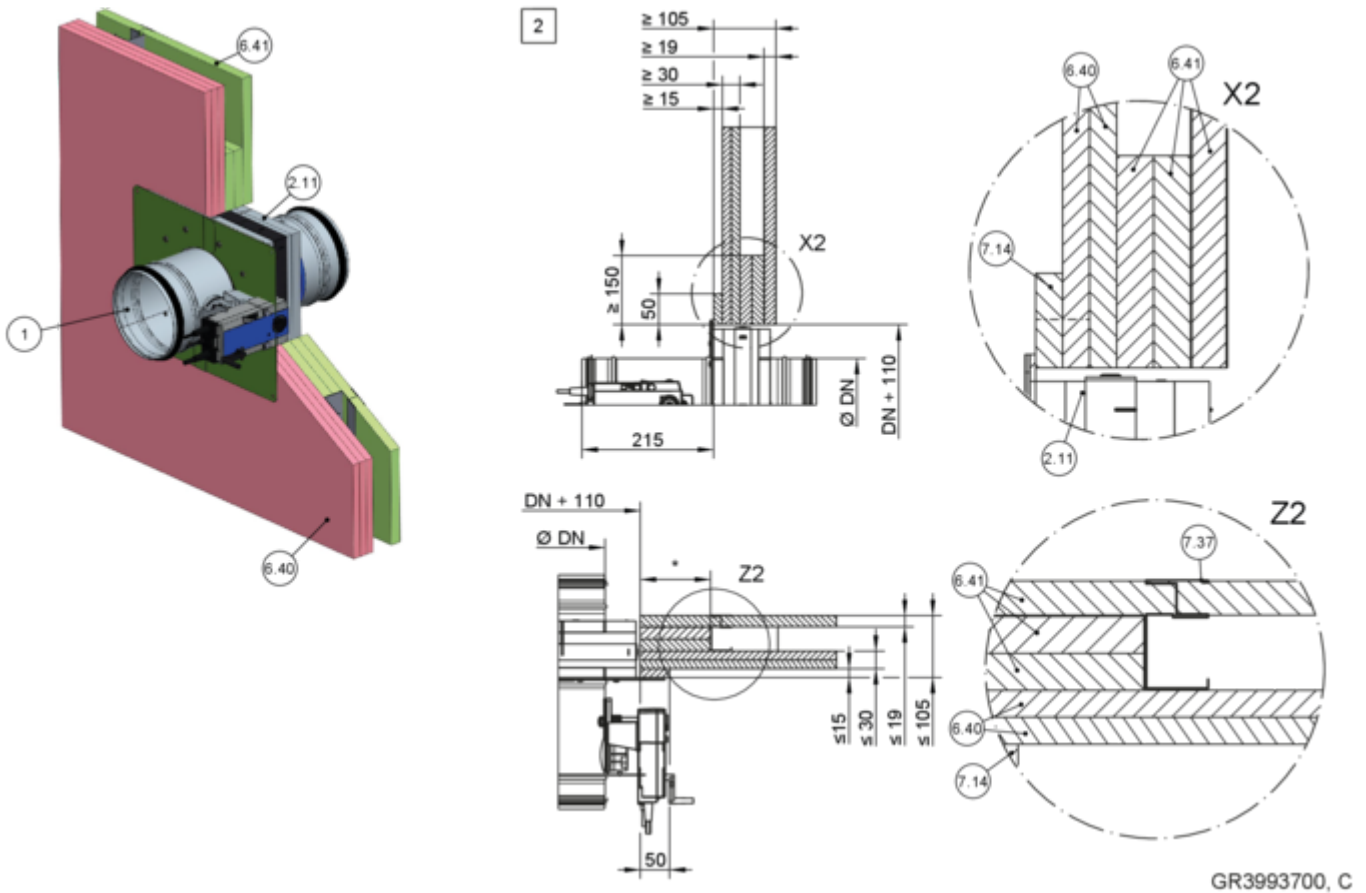


Fig. 35: Dry mortarless installation in asymmetrical shaft wall with additional core boards EI 90 S

1	FKRS-EU	6.41	GTEC Core Board 19 mm
2.11	Installation kit TQ2 with cover plate (two-piece)	7.14	Reinforcing board made of wall construction materials
6.40	GTEC Fire Board 15 mm	7.37	GTEC "CH" Stud

Fire resistance class: EI 60 S

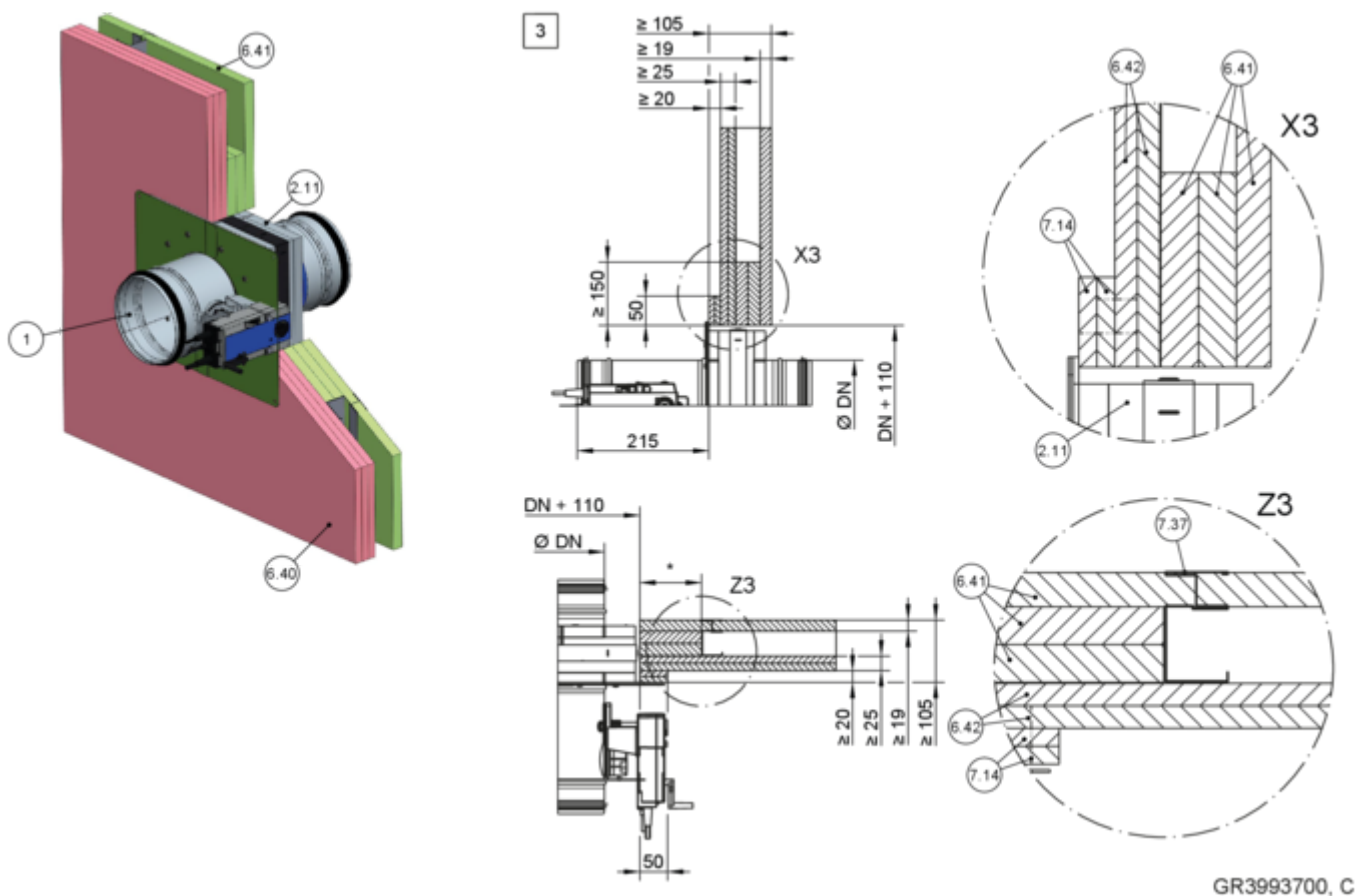


Fig. 36: Dry mortarless installation in asymmetrical shaft wall with additional core boards EI 60 S

1	FKRS-EU	6.42	GTEC Fire Board 12.5 mm
2.11	Installation kit TQ2 with cover plate (two-piece)	7.14	Reinforcing board made of wall construction materials
6.40	GTEC Fire Board 15 mm	7.37	GTEC "CH" Stud
6.41	GTEC Core Board 19 mm		

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TROX GmbH
Heinrich-Trox-Platz
47504 Neukirchen-Vluyn
Germany

Phone: +49 (0) 2845 202-0
+49 (0) 2845 202-265
E-Mail: trox-de@troxgroup.de
<http://www.troxtechnik.com>

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