

INSTRUCTION FOR THE USE, INSTALLATION, AND MAINTENANCE OF FIRE-RESISTANT GLASS-ALUMINUM STRUCTURES WITH DOORS NO. ALI EI30/ALI EI60

APPROVED: 2021.06.04

OPERATION

Fire-resistant doors and windows (with side windows, skylights, or without them) "ALI EI30", "ALI EI60" are manufactured for the protection of residential and commercial building spaces from fire spread. The fire resistance classes are indicated in each product's declaration of conformity and on the labels marking the product: on doors – at the handle level on the hinge side on the inner surface of the frame and under the glazing bead near the handle; on showcases (non-load-bearing walls) – on the right side in the central vertical part under the glazing bead.

It is prohibited to make any structural modifications (removing construction parts, cutting and drilling structural elements of doors or showcases, etc.), installing additional hardware on doors (chains, support legs, etc.) without prior coordination with the door manufacturer. If modifications are made or the doors are incorrectly installed, the manufacturer does not provide a warranty and assumes no responsibility for the declared values.

TRANSPORTATION AND STORAGE:

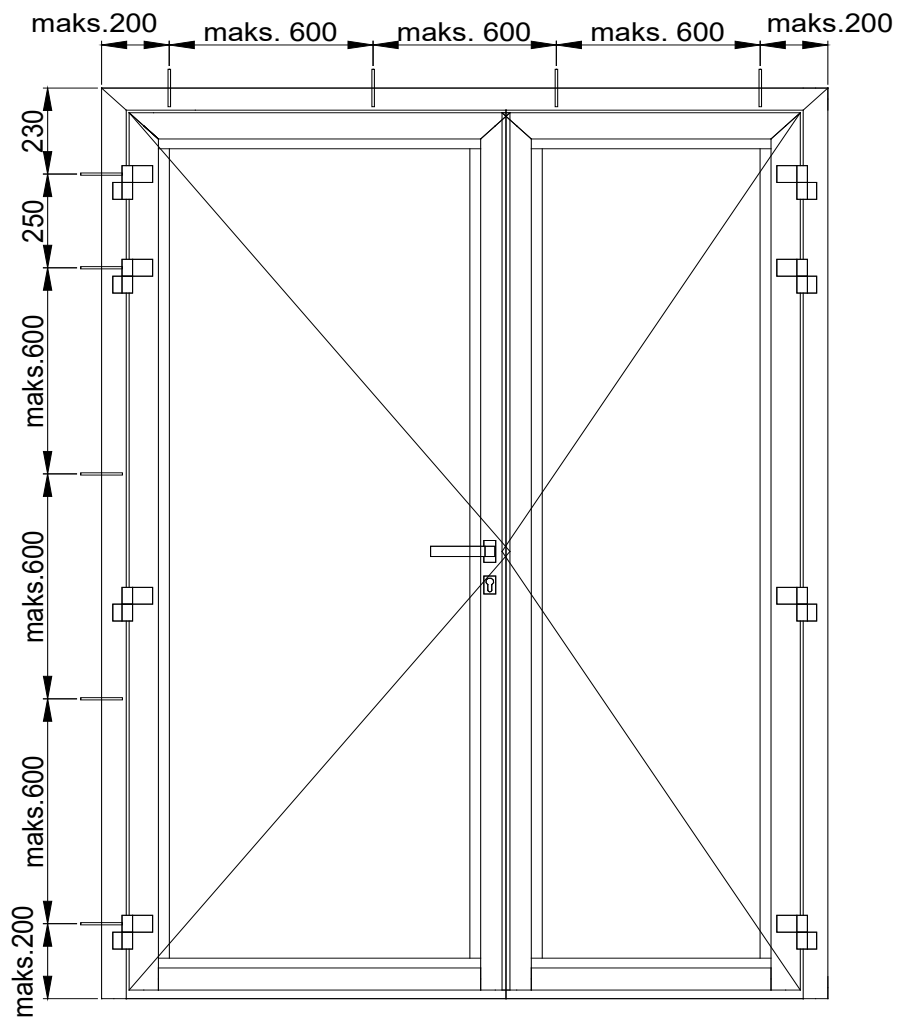
- Doors, windows, display windows, and their components are transported in the manufacturer's packaging. It is essential to protect the products from mechanical damage (scratches, dents, impressions, etc.).
- Transport the products to the installation site using enclosed vehicles to protect them from atmospheric effects (rain, snow, etc.).
- Door leaves must be transported and stored in a correct vertical position (with the bottom of the leaf at the bottom) or laid on the side edge (with the hinges at the bottom). Transporting glazed products in other positions is prohibited.
- When transporting multiple products or segments of a single product, they must be separated from each other with wooden slats or foam spacers to prevent contact between the products.
- During transportation, securely fix the products inside the vehicle to a specially equipped support or on a pyramid. Additional soft elements (cardboard, plastic, etc.) must be placed under the fastening elements in contact with the doors.
- Glass products must be transported only on a special frame or pyramid, stacking them in descending order of size. Cork spacers must be placed between the glass panels.
- Carrying or lifting the doors by the handles is prohibited.
- Unpack the products only at the installation site.
- Store the products only in dry rooms without significant temperature fluctuations.

INSTALLATION:

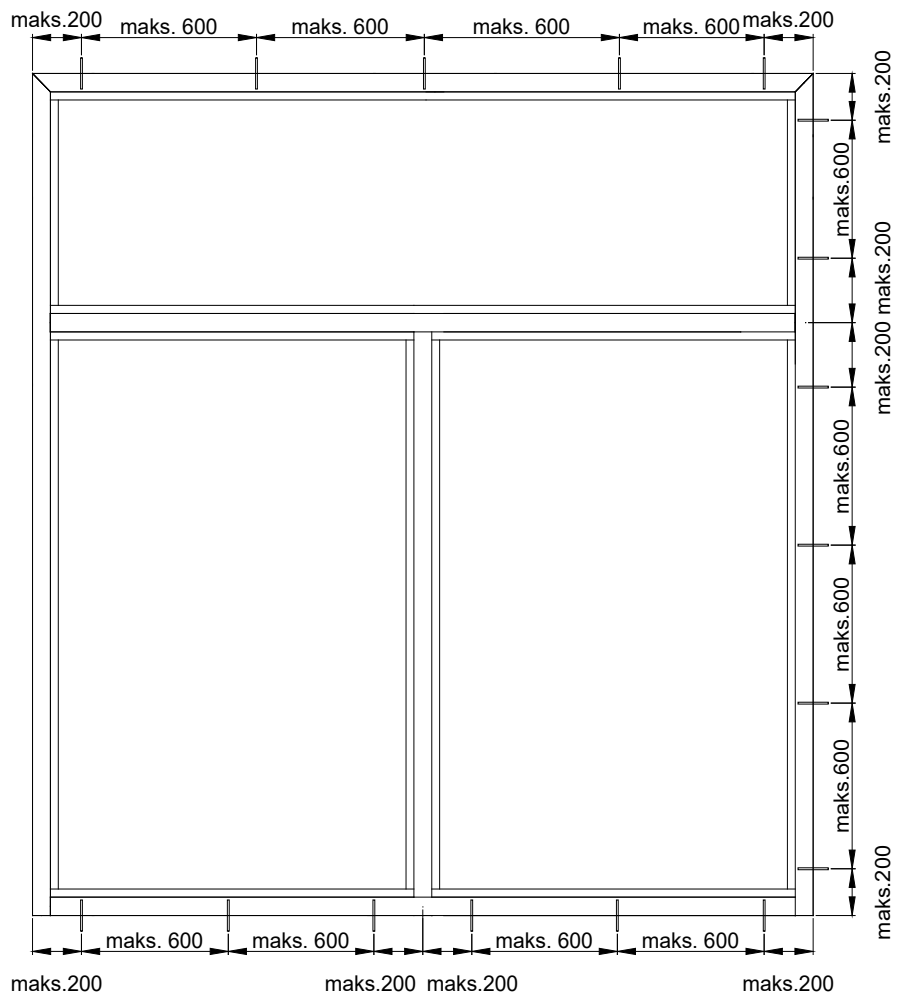
- Doors should not be installed in rooms where wet cycle construction work is not completed.
- Fire-resistant structures should be installed only after reading this instruction.
- Mounting holes in the product frame and frame brackets (or folding frame brackets) in the required quantity and distances are prepared during the manufacturing process.

- Fire-resistant doors are mounted in rigid structures with fire resistance not less than that of the installed doors, and in fire-resistant aluminum-glass structures with fire resistance corresponding to the installed doors. The overall dimensions of fire-resistant aluminum-glass structures with doors should not exceed 2980 mm x 3000 mm.
- Fire-resistant doors and display windows are installed according to the following requirements and drawings 1-8.
- Unpack the products. Remove the door leaf from the frame (if the product was transported assembled). Do this while the door is in a vertical position. Later dispose of the plastic door packaging in a designated place. If the product was transported in segments (doors with side windows or attached display windows), follow the drawing to connect the product segments.
- Place the door frame into the designated opening. The frame must stand on a solid, level concrete surface. Check the base level with a spirit level not shorter than 500 mm. The permissible deviation is 1 mm per meter.
- Do not leave a gap between the door threshold and the floor. Seal the threshold to the concrete base with fire-resistant silicone "Dow Corning Firestop 700".
- The installation gap in the masonry opening should be 10-20 mm around the perimeter (except the bottom).
- Using a spirit level not shorter than 1500 mm, ensure the vertical straightness of the frame. The permissible deviation is 1 mm per meter.
- Through the holes in the frame (or using folding frame brackets), fasten the hinge side with 10x132 mm anchor bolts at the top and bottom fastening points, and the opposite lock side at the top fastening point.
- Insert the door leaf into the frame and check that the gap between the door leaf and the frame part with the frame seal is uniform: requirement 2.5 ± 1.5 mm. Check the uniformity and equality of the gaps with the door closed. If the gaps are not uniform, adjust by moving the frame.
- After leveling, secure the bottom of the lock side. Then check if the door operates correctly.
- Check the gaps between the leaf edge and the frame (for double doors, between each leaf and the frame, and between the leaves): requirement 5 ± 3 mm, tolerance ± 3 mm adjusted by hinge regulation.
- Check the frame deflection. Use a spirit level not shorter than 1500 mm. The maximum deflection is 1 mm per meter.
- Secure the frame at the remaining fastening points and check if the door operates without obstructions and the locks function freely.
- Fix the structures only through the holes in the frame (or using folding frame brackets).
- Apply the expanding "Pyroplex 30113" (60x2.5 mm) seal on the inner surface of the frame (covering the anchor bolt attachment points).
- Fill the gaps between the frame and the wall tightly with mineral wool with a density of ≥ 70 kg/m³ or fire-resistant foam "Soudafoam FR 1K" or "Soudafoam FR GUN".
- When covering the installation gap with aluminum angle trims, seal the edge of the trim with the aluminum frame with fire-resistant silicone "Dow Corning Firestop 700"; fix the trim to the masonry with 6x40 mm steel drive anchors.
- Seal the bottom edge of the aluminum-glass structure with fire-resistant silicone "Dow Corning Firestop 700".
- Install and adjust the door closing mechanism (the installation and adjustment scheme of the door closing mechanism is included in the mechanism package).

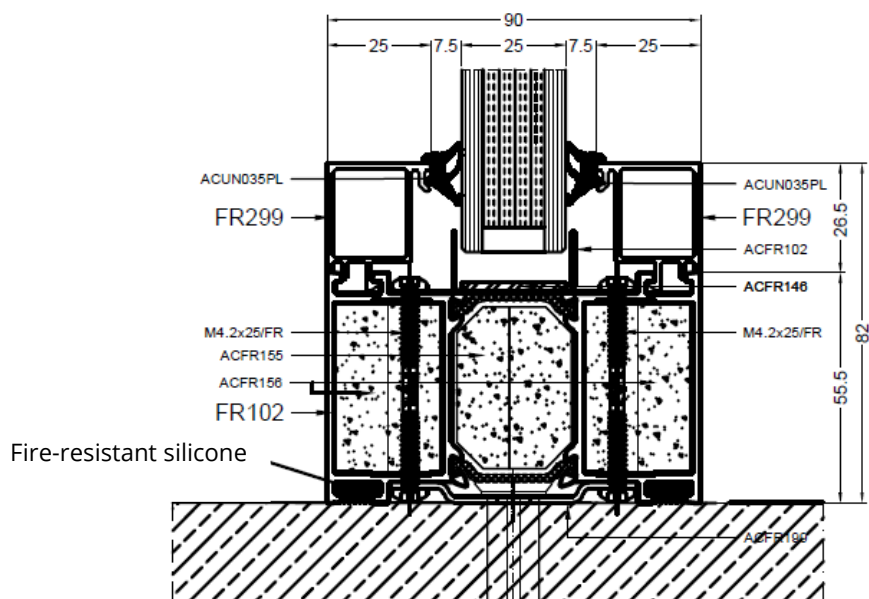
Drawing 1. Placement of mounting bolts in the doors



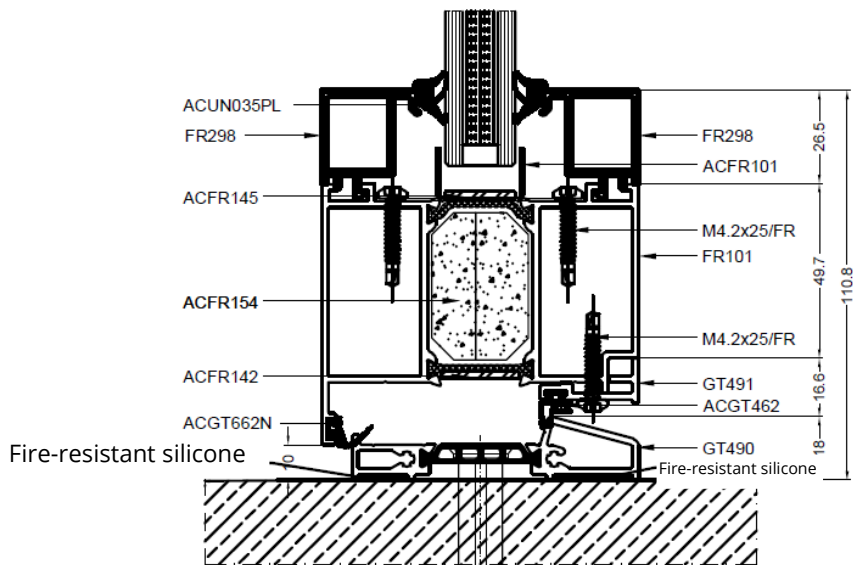
Drawing 2. Placement of mounting bolts in the combined structure



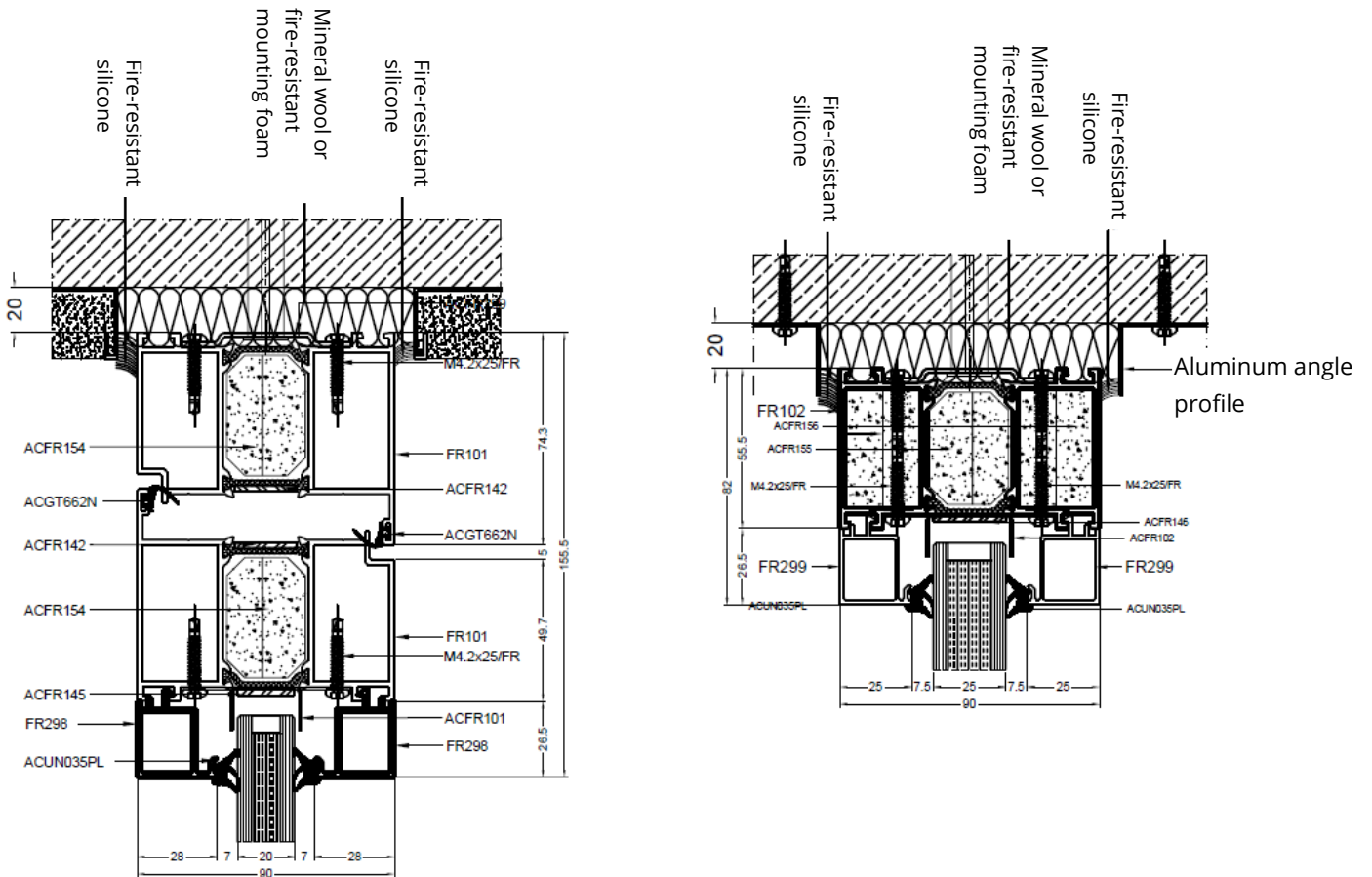
Drawing 3. Installation of display window frame on concrete base



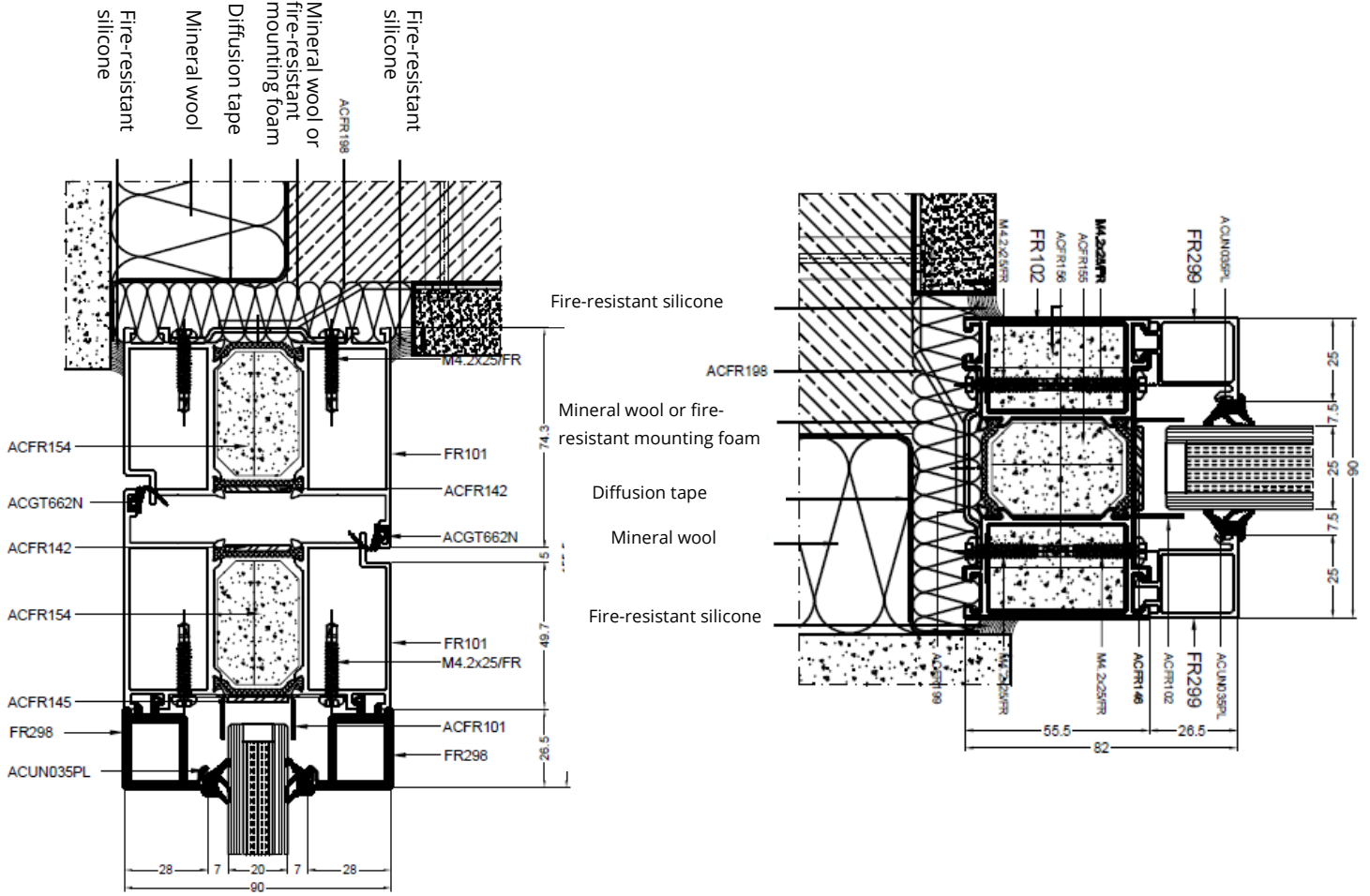
Drawing 4. Mounting of door thresholds on concrete base



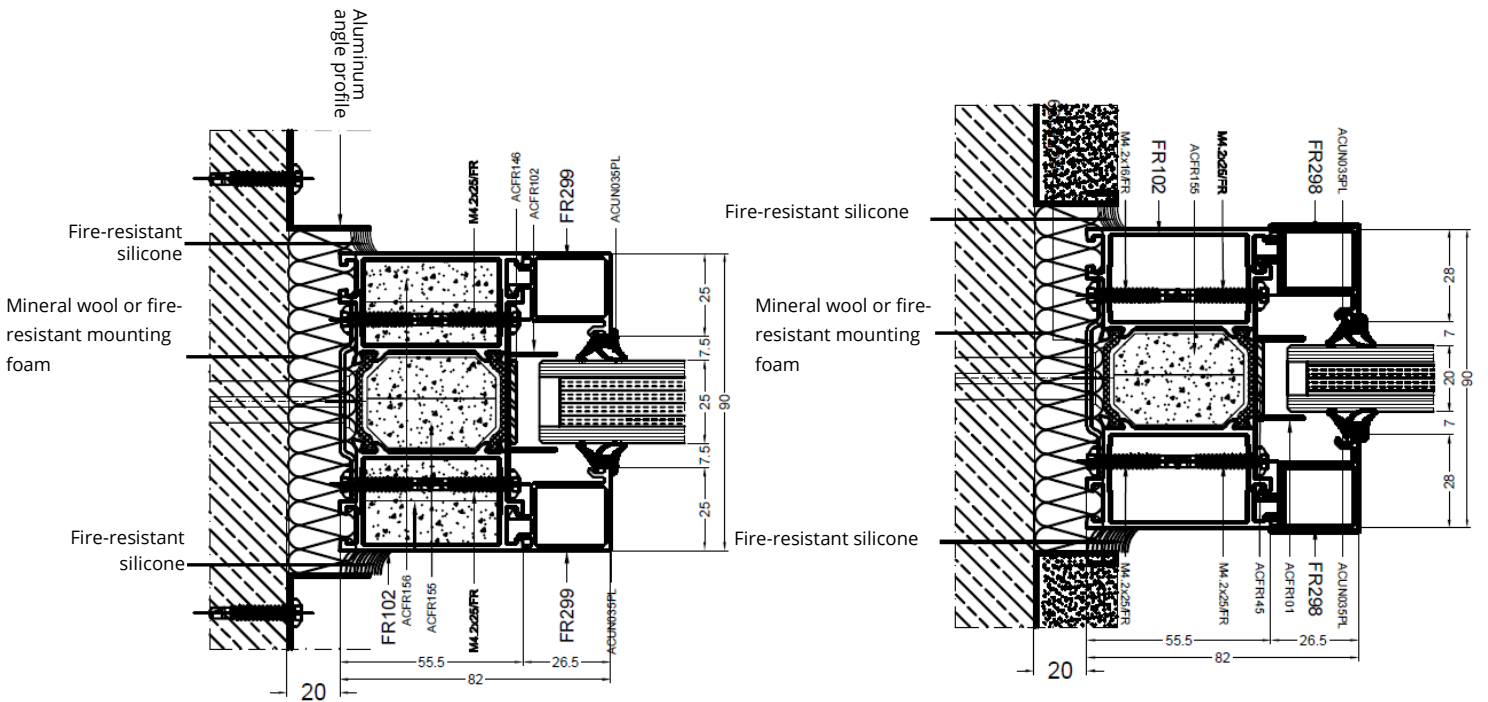
Drawing .5. Installation of the top of interior structures



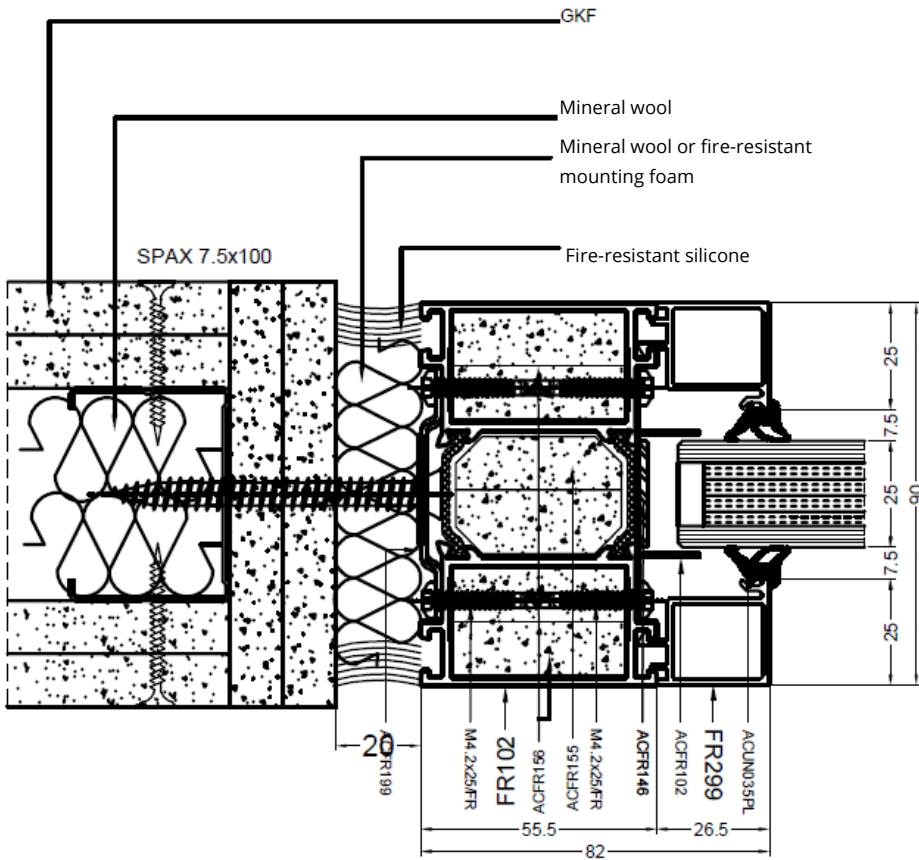
Drawing 6. Installation of the top and side of exterior structures



Drawing 7. Installation of the side of interior structures in masonry



Drawing 8. Mounting of the side of interior structures in a gypsum wall



SEALING MATERIALS AND THEIR USE:

- Mineral wool with a density $\geq 70 \text{ kg/m}^3$ - for the installation of "ALI EI30", "ALI EI60" structures.
- Fire-resistant silicone "Dow Corning Firestop 700" - for the installation of "ALI EI30", "ALI EI60" structures.
- Mounting foam "Soudafoam FR 1K" or "Soudafoam FR GUN" - only for sealing installation gaps $\leq 20 \text{ mm}$ in "ALI EI30" structures.

MAINTENANCE AND OPERATION:

- Protect the surfaces of installed products from mechanical impacts (impacts, scratches).
- It is prohibited to wash and clean the surfaces of the products with aggressive cleaners (made on the basis of gasoline, acetone, nitro solvents).
- It is recommended to clean the surfaces with soapy water, water with soda, a damp cloth, or cleaners based on surfactants.
- It is prohibited to remove deposits from the products with sharp objects and coarse materials (knives, scrapers, sandpaper, etc.).
- During finishing work, the products must be covered with protective film or similar material.
- It is recommended to lubricate the hinges once a year.
- The cylinder lock can be lubricated only with special oil.
- Warranties provided: for aluminum structures – 5 (five) years, for operating mechanisms (hinges, closers, locks) – 1 (one) year, for glass – 1 (one) year.