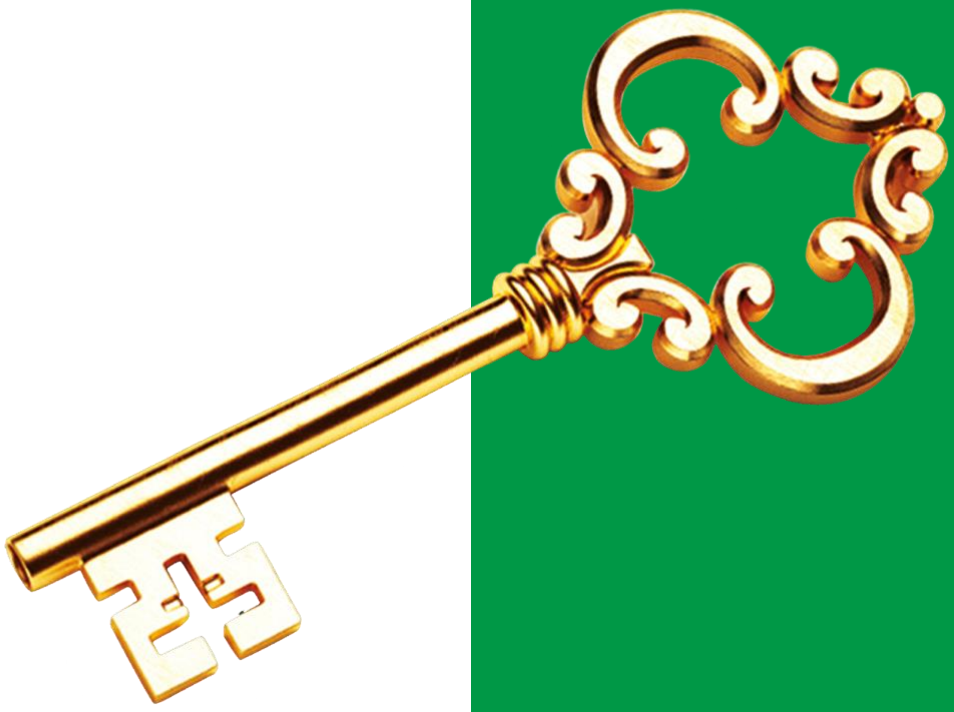
«CARLO PORTE»®

Папа Карло®
фабрика дверей

Description of STYLE collection doors



2023

1. General description of the collection

The STYLE collection is a door with modern minimalist design. The model range consists of flat door leaves finished with RENOLIT (Germany) polypropylene film with various patterns applied using 3D milling technology on CNC machines.

Door can be made in two versions of opening: external (direct) and internal INSIDE (reverse) .

The edge of the leaf can be covered with an anodized aluminum profile (colors: silver, black), with an ABC edge in the color of the front of the leaf (not applicable in all colors, see price list), or black matte ABC edge.

An important feature of the STYLE collection is that the design of the products is coplanar, i.e. the door leafs is in one plane with the door frame and platbands (fig. 1).

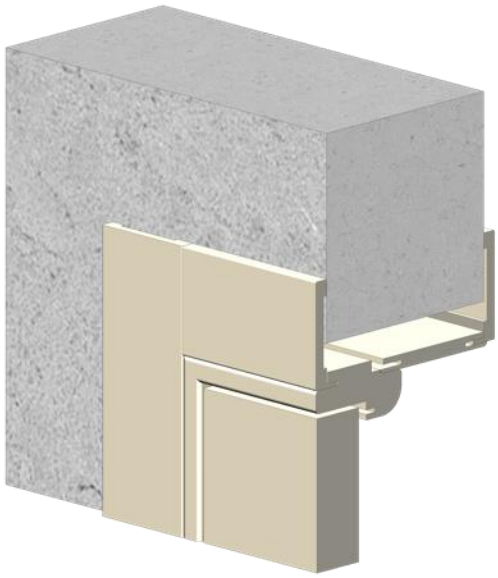


fig. 1

2. Main materials and components

Door leaf

Inside the door leaf is glued laminated timber, obtained by gluing wood under pressure, from which all defects are pre-cut. This technology allows you to avoid deformation of the door leaf in the future.

As an internal filling, a honeycomb filler is used, which has high strength properties and at the same time has a small weight so as not to weigh down the door leaf (Fig. 2). The outer side of the door leaf is finished with MDF panels 6 mm thick for direct opening and 8 mm thick for reverse opening, respectively.

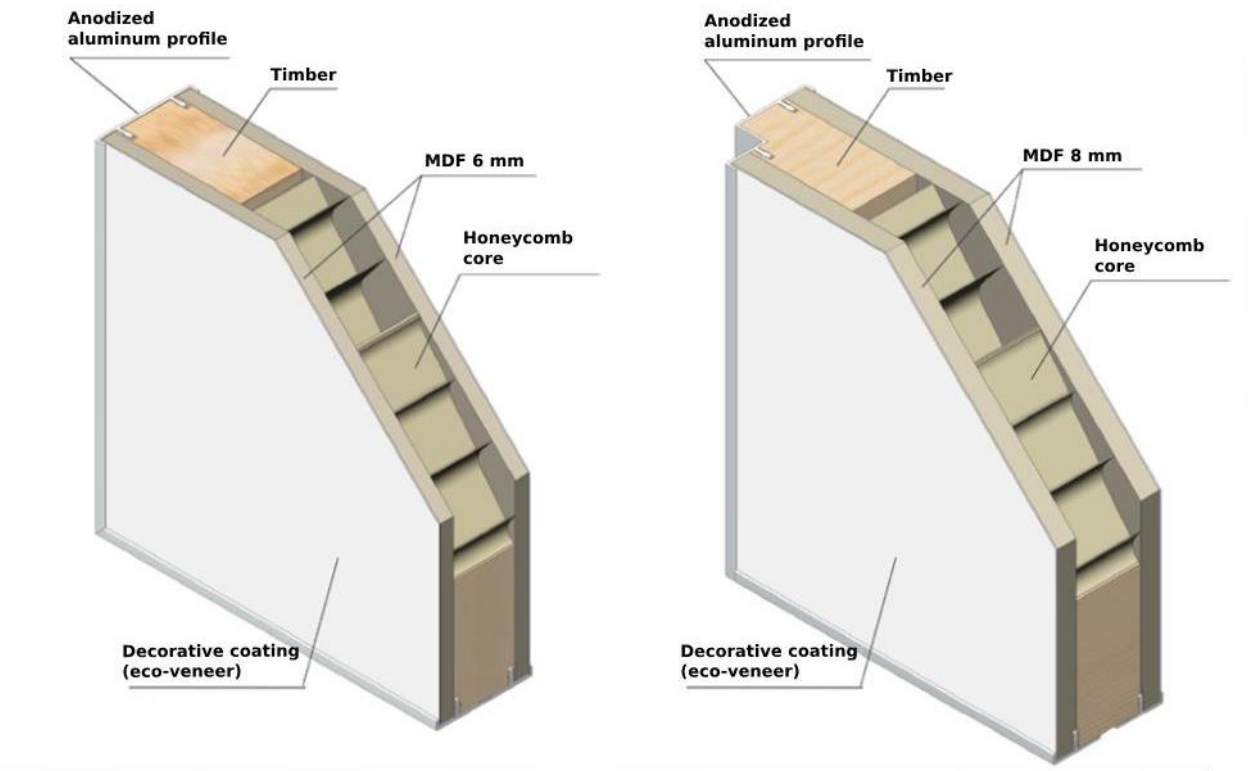


fig. 2

For the front finishing of doors of the STYLE collection, an eco-veneer based on polypropylene produced by the RENOLIT concern (Germany) is used. Such a coating reproduces the natural structure of wood as much as possible, and the texture on it is felt tactile. In the case of a smooth coating due to the high density and lack of stretching, it completely imitates the painted surface. This material is by far one of the best for the manufacture of doors with a polymer coating. An important criterion is its environmental friendliness. Despite the artificial origin, the coating does not contain harmful impurities, and the material from which it is made (polypropylene) is used in the medical field and in food packaging. This type of coating has passed all the necessary types of certification and is characterized by high performance. Doors covered with polypropylene film can rightfully be called durable, as the coating is able to withstand significant mechanical loads and at the same time is resistant to organic solvents and is easy to clean.

The advantages of polypropylene eco-veneer include:

- Fully complies with modern safety and environmental standards for finishing materials, which allows it to be used in children's and medical institutions.
- Wet cleaning with the use of household chemicals is possible.
- Can be used in wet areas.
- Differs in high wear resistance, does not crack, does not fade and does not change structure over time, is not erased during operation.
- Pleasant to the touch and visually.
- Provides long service life without loss of consumer properties.
- Does not emit toxic substances (polypropylene is used in the manufacture of medical accessories and baby food packaging).
- Eco-friendly pigments and dyes are used in the production .

To stabilize the structure of the door leaves, rectifiers are installed in the vertical timber of the internal frame (fig. 3). By default, for door leaves up to 2100 mm high, one rectifier is installed in the middle of the leaf. If the door leaves height is more than 2100 mm, then 2 rectifiers are installed, located in the along the edges of the door leaves.

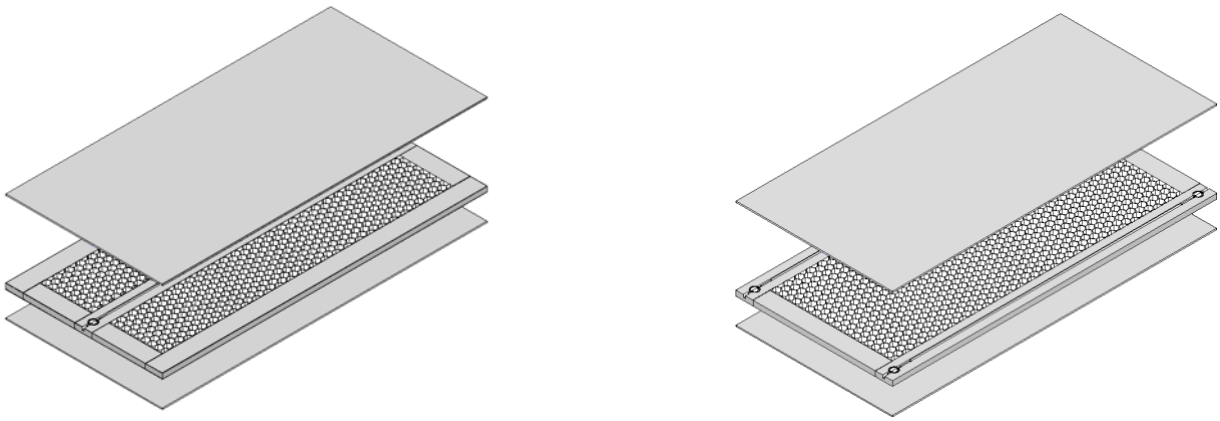


fig. 3

The door leaves are aligned with a 5 mm hex key by turning the screws located in the upper and lower ends of the door (fig. 4). For best results, all adjustments should be made with the door leaf removed and laid on a flat surface.

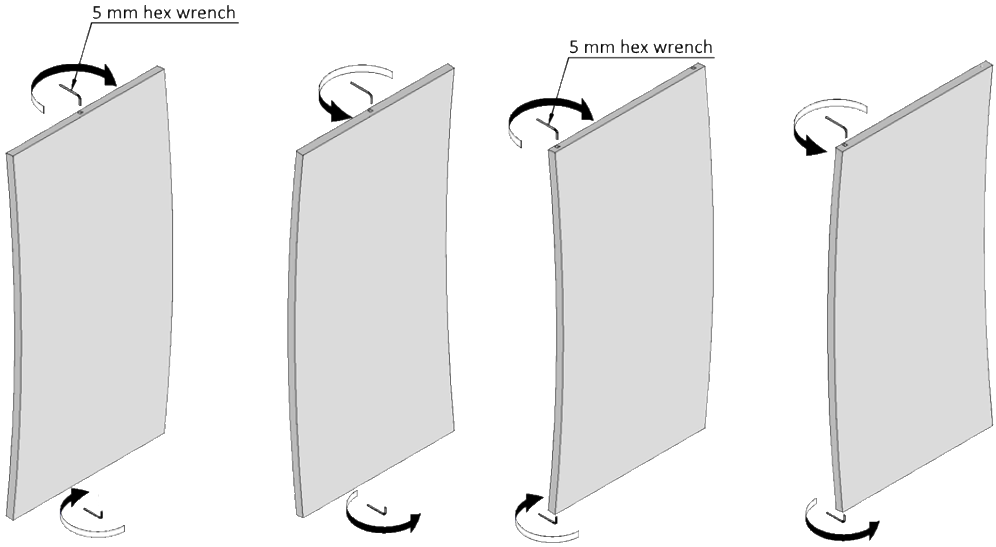


fig. 4

Door frames are offered in 4 types:

- Coplanar door frame direct (external) opening with casing
- Coplanar door frame INSIDE reverse (internal) opening with casing
- Door frame made of anodized aluminum with direct (external) opening
- Door frame made of anodized aluminum reverse (internal) opening INSIDE

So way, doors STYLE collections can have both direct and reverse opening. At the same time, the appearance, from the side where the door leaf is located, will be exactly the same.

Coplanar door frame direct (external) and reverse INSIDE (internal) opening

The design of a wooden door frame for direct (Fig. 5) and reverse (Fig. 6) opening assumes that the platband installed on the front side will be in the same plane with the door leaf. The door frame is made 80 mm wide and expandable to any size. A seal is installed around the perimeter for better insulation when closing the door leaf.

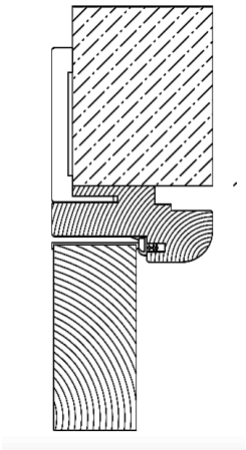


fig. 5

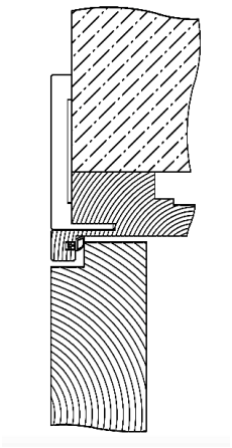


fig. 6

Aluminum door frame hidden montage, direct (external) and reverse INSIDE (internal) opening

The design of the profiles (fig. 7 - direct opening profile and fig. 8 - reverse opening profile) allows the use of doors up to 2300 mm high and weighing up to 80 kg.

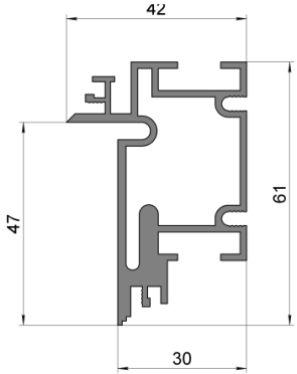


fig. 7

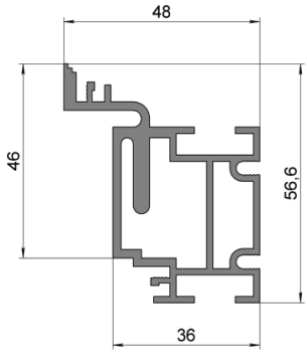


fig. 8

Platband coplanar

A flat platband (Fig. 9) with a special “wing” 20 mm long facilitates its installation and makes it possible to level the curvature of the walls. Platband width 75 mm, thickness 10 mm. During installation, it is cut at an angle of 90° (please pay attention to this to your installers). The chamfer on the edges of the casing is 1 mm. Thus, it is possible to ensure a minimally noticeable gap at the junction between the vertical and horizontal architraves.

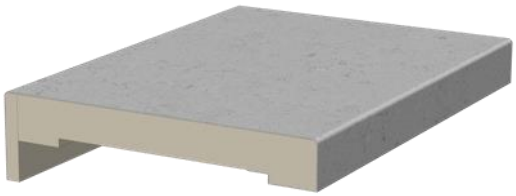


fig. 9

Door frame extension

The door frame extension (Fig. 10) is made in 2 widths: 100 mm - for a wall up to 150 mm thick and 200 mm - for a wall up to 250 mm thick. The door frame extension has a groove for attaching the platband.

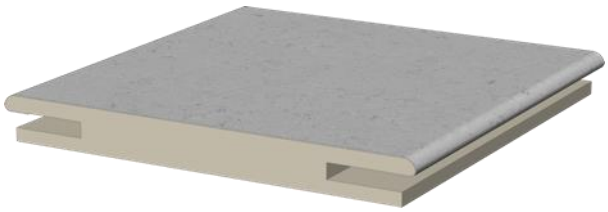


fig. 10

With a wall thickness of more than 250 mm, the door frame extension must be joined using a connecting H-profile or a special insert, as shown in fig. 11.

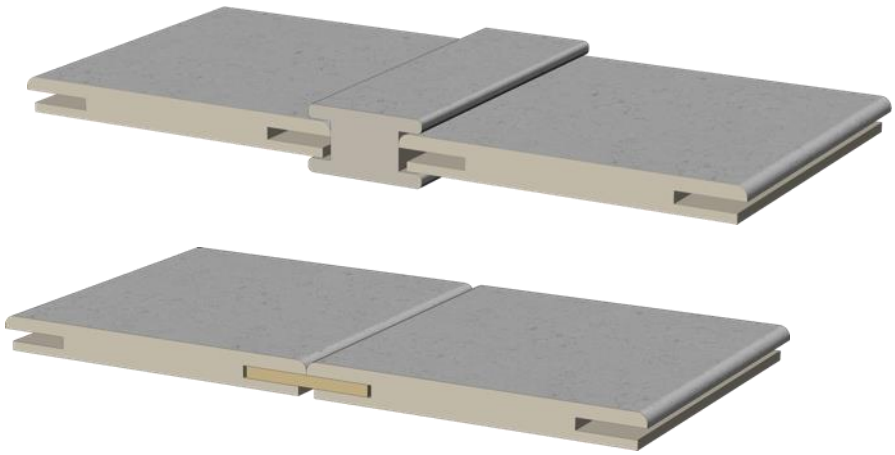


fig. 11

The door frame extension enters the groove of the door frame by 20 mm, and is screwed before installation. If necessary, the door frame extension can be reduced in width by cutting it along the non-front side.

3. Dimensions of doors

The following sizes are considered standard doors:

Box coplanar direct opening:

- door leave: 2000 x 610 / 710 / 810 / 910 mm;
- door frame: 2030 x 670 / 770 / 870 / 970 mm;
- recommended opening size: 2060 x 700 / 800 / 900 / 1000 mm

Box coplanar reverse opening:

- door leave: 2011 x 610 / 710 / 810 / 910 mm;
- door frame: 2030 x 680 / 780 / 880 / 990 mm;
- recommended opening size: 2070 x 710 / 810 / 910 / 1010 mm.

Box aluminum direct opening :

- door leave: 2000 x 610 / 710 / 810 / 910 mm;
- door frame: 2033 x 676 / 776 / 876 / 976 mm;
- recommended opening size: 2060 x 700 / 800 / 900 / 1000 mm.

Reverse opening aluminum box:

- door leave: 2011 x 610 / 710 / 810 / 910 mm;
- door frame: 2051 x 688 / 788 / 888 / 988 mm;
- recommended opening size: 2080 x 710 / 810 / 910 / 1010 mm.

On request, the factory produces doors of other sizes.

4. Installation diagrams

Installation diagrams for STYLE doors with a coplanar door frame for direct and reverse opening are shown in fig.12.

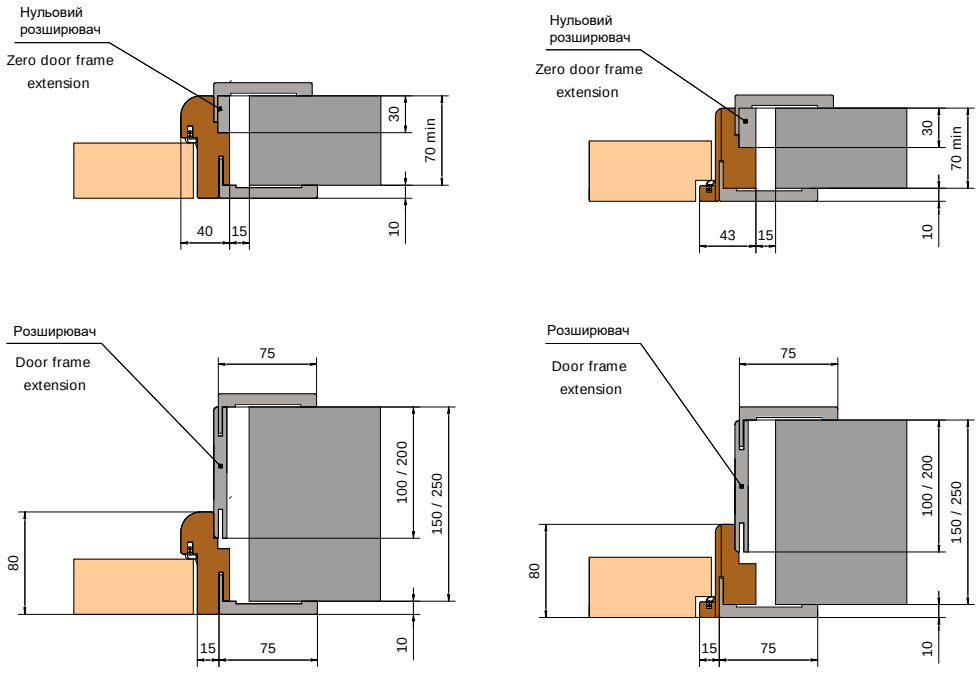


fig. 12

Installation diagrams for STYLE doors with a direct opening aluminum frame are shown in fig. 13

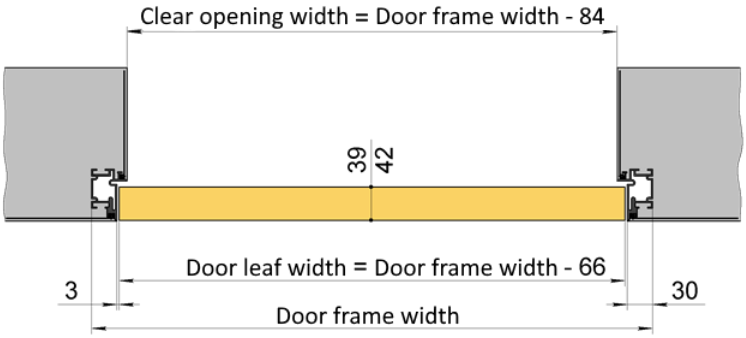


fig. 13

Installation diagrams for STYLE doors with a aluminum reverse opening frame are shown in fig. 14

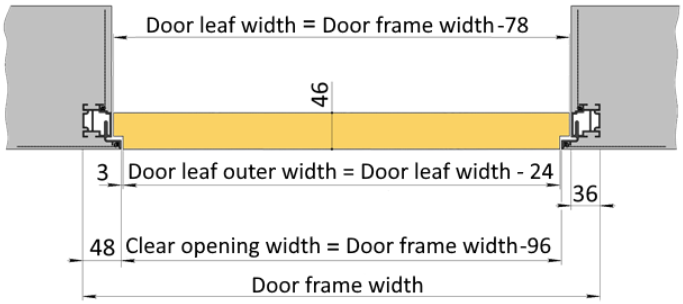


fig. 14

5. Applied fittings

Hinges

Hsnges can be of 3 types:

1) Hidden hinges (when the door is closed, the hinges are not visible)

Note: *Door leafs with aluminum edge profile are only available with hidden hinges.*

2) Overhead hinges "butterfly"

Note: *3 hinges are set by default.*

3) Overhead hinges AL143Q

Locks

Locks AGB Polaris (magnetic) or AGB Evolution (mechanical) are used. The counterpart of the mechanism is installed in the door frame at the factory.

According to the type of locking, the locks are divided into: **a latch** (just a handle: one hole is drilled under it), **a WC** (a handle with a turn signal : two holes are drilled at the factory for installing a handle with a lower turn signal , the so-called " bathroom locking"), **key** (handle with a key lock: two holes are drilled at the factory for the installation of a handle and a cylinder / secret).

6. Additional accessories and opening options

Thresholds hidden

It is possible to install a hidden (drop-down) threshold in STYLE door leaves (see Fig. 15).

fig. 15

double doors

It is possible to order a double-sided design only in the manufacture of door leave without an aluminum edge (Fig. 16)

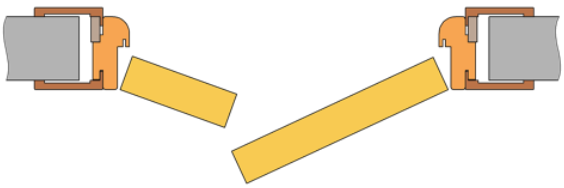


fig. 16

If needed, the gap between the door leaves can be covered by an astragal (should be ordered additionally). It should be taken into account that the astragal installed on the face surface of the door leaf protrudes beyond the surface of the door leaf, door frame, and platband by 12 mm (Fig. 17)

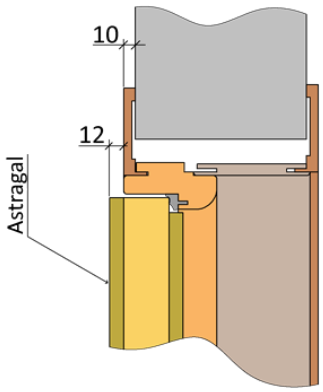
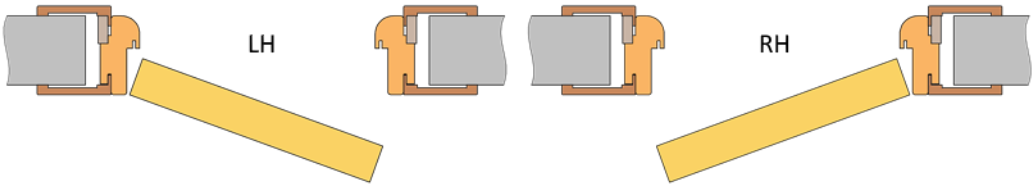


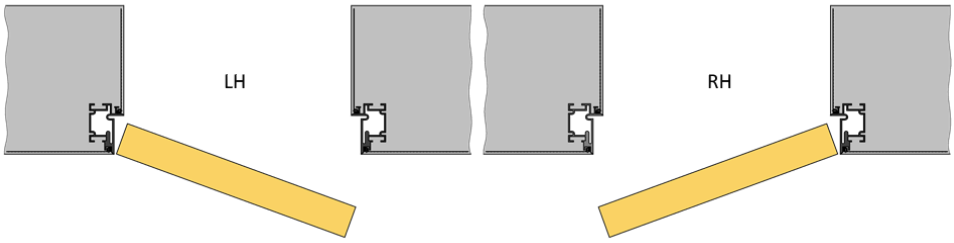
Fig. 17

According to the opening options, the doors are divided into “left” and “right”, and also, depending on the door frame used, into doors of direct and reverse opening.

Direct door opening options:



Reverse opening options



7. Quality criteria for front surfaces of doors

On the front surfaces of doors covered with decorative film materials, the dimensions and the number of permissible deviations should not exceed those indicated in the table:

No. p / p	Defect	Allowable parameters	Note
1	Irregularity of gloss or mattness: - width of not more than, mm - total area of not more than, cm^2/m^2	 5 5	Allowed in the form of stripes and separate local spots
2	Scratches caused by mechanical damage (superficial, barely visible*) - quantity of not more than, pcs/item - total length of not more than, mm/item	 2 50	Allowed to fill scratches with special materials for restoration
3	Dents	Not allowed	
4	Cracks with a film rupture	Not allowed	
5	Foreign inclusions under the film - quantity of not more than, pcs/m^2 - diameter of not more than, mm	 2 2	I.e., any inclusions trapped between the film and the base

6	Wrinkles	Not allowed	
7	Spots on film - diameter of not more than, mm - quantity of not more than, pcs/m^2	 5 2	
8	Air bubbles under the film	Not allowed	
9	Visible adhesive line between the door leaf edge and the edge band with a width of not more than, mm**	up to 0.5	Allowed in the form of a thin strip. Can be more visible in the case of light colors of the film.
10	Risks, strokes, shagreen, structural irregularities	Slightly noticeable are allowed	Irregularities of the MDF surface in the places of milling

* Scratches that are deeper than the film thickness (i.e., up to the base of the door) are not allowed.

** Applicable to the door leaf with edges decorated with an edge band of the same color as the door leaf.

Decoration of the door leaf edge with an aluminum profile is one of the options offered by the factory for the PLATO collection. The quality of the profile must comply with DSTU B V.2.6.-3-95 (GOST 22233-93). The surface of the profile is anodized (silver, black) to ensure a decorative appearance. Longitudinal visible stripes, which may appear on the profile surface during the anodizing process, should not be treated as defects. A gap up to 0.5 mm between the door leaf surface and the front surface of the profile is allowed after installation.

The surface quality is checked visually or using simple measuring instruments (metal ruler, tape measure, etc.)

The surface inspection is performed from a distance of 1000 mm in daylight or artificial light. All defects mentioned above, which are not visible from the specified distance, cannot be a reason for the product rejection.

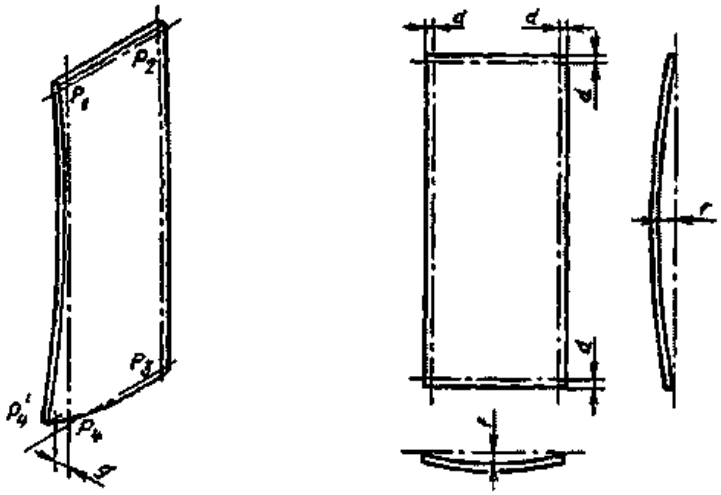
Compliance of external appearance of door surfaces covered with decorative films to the requirements of this document is assessed visually without using magnifying devices.

8. Allowable deviations of the door set geometry

The maximum deviations of dimensions of the fully assembled door frames and door leaves should not exceed the values given in table:

Dimensions, mm	Maximum deviation values, mm			
	Door frame internal dimensions	Door frame external dimensions	Door leaf external dimensions	Diagonal length difference
From 501 to 2000	+ 1,5	± 3,0	0 - 1,0	3,0
From 2001 to 3000	+ 2,0	± 4,0	0 - 1,5	4,0

The door set flatness deviation should not be more than 2.0 mm per 1 m along the height and width (referring to the deviations associated with the door leaves plane bending).

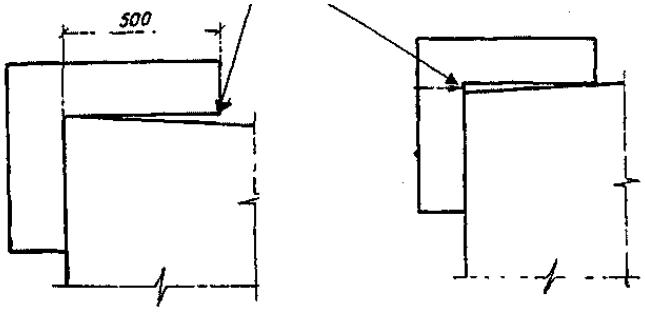


The structural element edge straightness deviation should not be more than 1.0 mm per 1 m of the length of any section of the door set elements (referring to the deviations associated with door leaf edges bending).

The surface-to-surface gap of the front surfaces of the corner joints and T-joints of adjacent elements of the door frames and door leaves, which should be installed in the same plane, should not be more than 1.0 mm (referring to the gap between the surfaces of vertical and transversal elements to be assembled in the same plane).

Gaps more than 0.2 mm in corner joints and T-joints are not allowed (referring to the gaps in the door frame corner joints and joints of vertical and transverse elements of door leaves).

The door leaf squareness deviation should not be more than 2.0 mm per 1 m of the length.



Key operational characteristics of the door sets are presented in Table 1.

Table 1

Operation characteristics	Value
Air permeability not less than, m^3 / (hour • m^2)	1.5
Sound insulation not less than, dBA	25
Reliability of mechanisms and hinges not less than, opening-closing cycles	50 000