

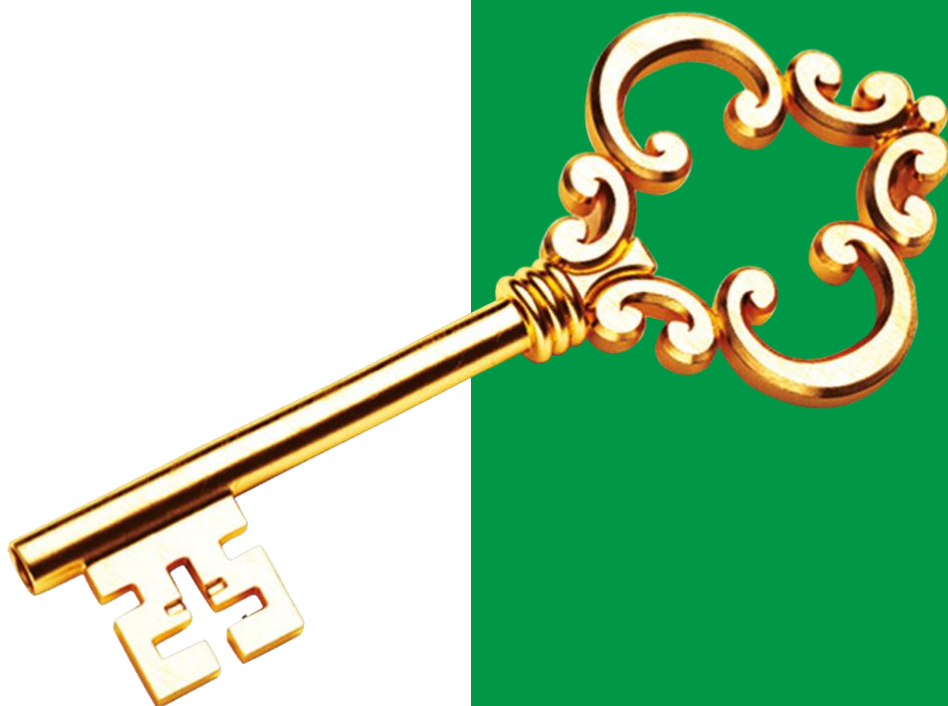


«CARLO PORTE»[®]



Папа Карло[®]
фабрика дверей

Description of PLATO collection doors



2021

1. General Description

Designed in a modern minimalist style, the PLATO collection represents flat door leaves covered with RENOLIT polypropylene film (Germany) and decorated with various combinations of aluminum, glass, or mirror inserts located in the plane of the door leaf.

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.

The essential of the PLATO collection is a coplanarity of the door leaf, door frame, and platbands (fig. 1), i.e., the front surfaces of all elements are located in the same plane.

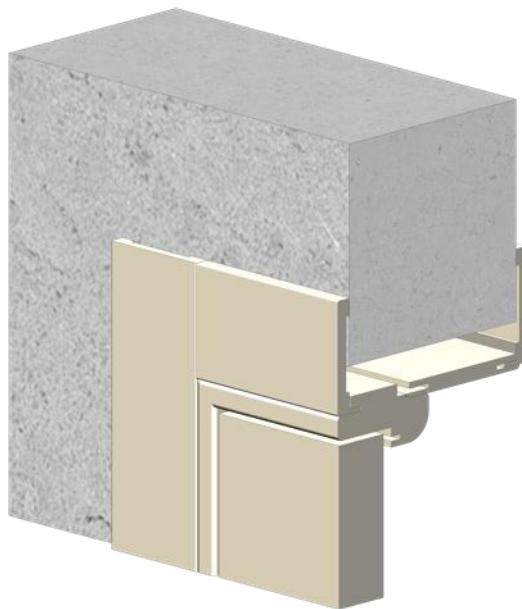


fig. 1

2. Main materials and components

Door leaf

The door leaf framework is made of a finger-joint pinewood obtained by gluing dry flawless timbers under pressure. While assembled, the timbers are carefully selected to ensure different fiber directions in each layer. It helps to avoid the door leaf deformations during exploitation.

A honeycomb filler characterized by high strength and, at the same time, low weight is used as the core of the door leaf to reduce its weight. The door leaf framework is covered with MDF panels with a thickness of 6 mm and 8 mm for direct and reverse opening doors, respectively (fig. 2).

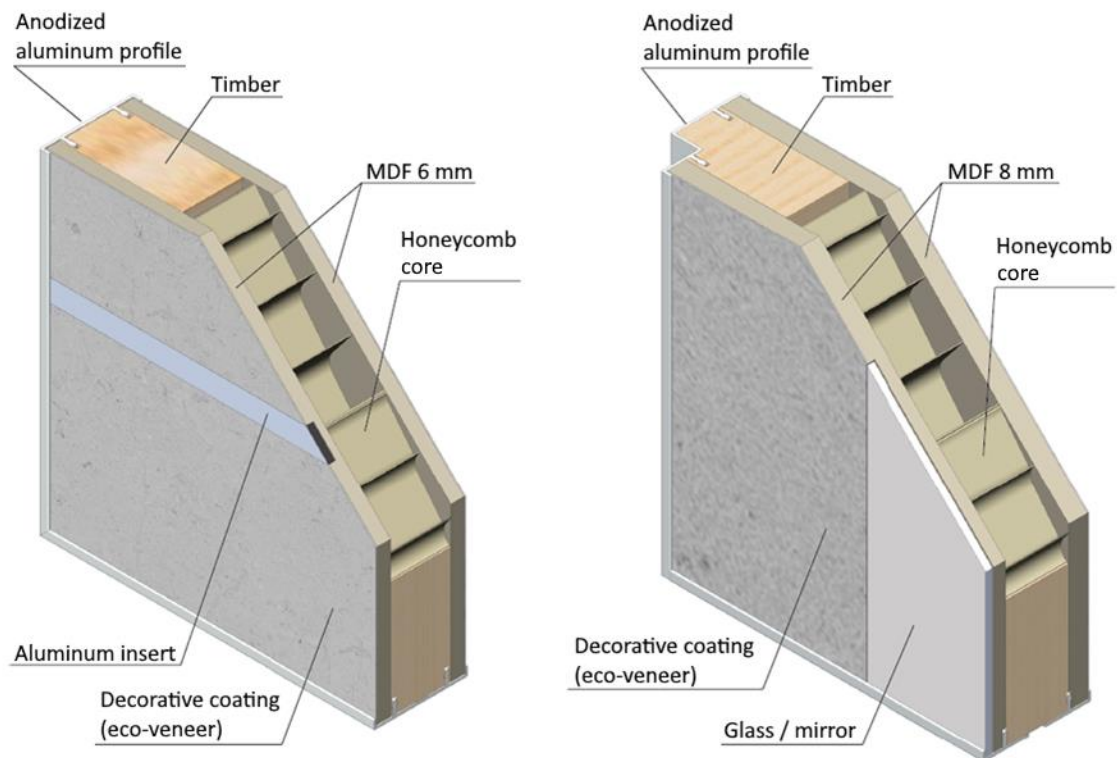


fig. 2

A high-quality polypropylene-based eco-veneer manufactured by RENOLIT (Germany) is used for the PLATO doors decoration. This coating reproduces the natural structure of wood and has a textured relief surface. Today, the RENOLIT eco-veneer is one of the best materials for polymer-coated door manufacturing. Despite the artificial origin, the eco-veneer is environmentally friendly and does not contain any harmful contaminants. Polypropylene, used for eco-veneer manufacturing, is widely applied in the medical field and food packaging. This decorative coating has all necessary certificates and is characterized by high performances. Doors covered with eco-veneer are durable thanks to the coating resistance to high mechanical impacts and organic solvents, and, at the same time, its ease to clean.

For rooms with high traffic, the factory also offers HPL plastic with an anti-vandal coating for door leaves decoration.

ECO-VENEER ADVANTAGES:

- Fully meets modern safety and environmental standards for finishing materials, thus can be used in childcare and medical facilities.
- Enables wet cleaning using household chemicals.
- Can be used in wet rooms.
- Differs in high wear resistance; does not crack, fade and change structure over time; does not wear off during exploitation.
- Pleasant to the feel and visually.
- Ensures a long service life without loss of consumer properties.
- Does not emit toxic substances (polypropylene is used for medical accessories and baby food packaging).
- Produced with the use of environmentally friendly pigments and colorants.

- Suitable for thermal recycling (combustion products are no more harmful than ones generated during wood burning).
- High resistance to fading in the sun and high moisture resistance.

Straighteners are installed into the vertical timbers of the door leaf frame to ensure structure stability (fig. 3). If the door leaf height is less than 2100 mm, a single straightener is installed in the center of the door leaf. If the door leaf height is more than 2100 mm or the door has different cover materials on opposite sides (e.g., mirror on the one side and laminated material or veneer on the other side), two straighteners are installed into the timbers located at the edges of the door leaf.

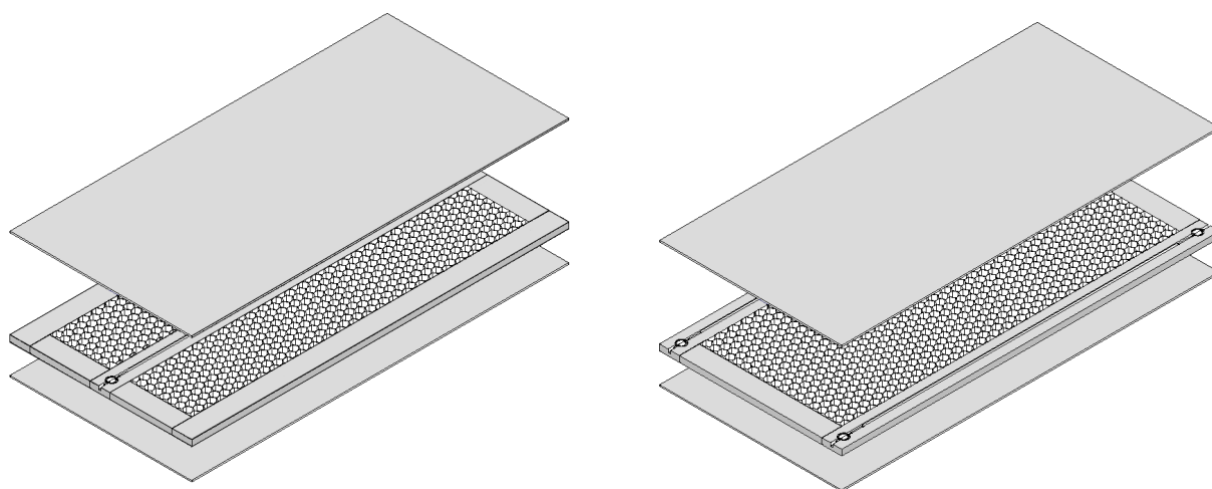


fig. 3

The door leaf alignment is performed by rotating the screws at the top and bottom edges (fig. 4) using a 5 mm hex wrench. To achieve the best result, all adjustments should be made when the door leaf lays on a flat surface.

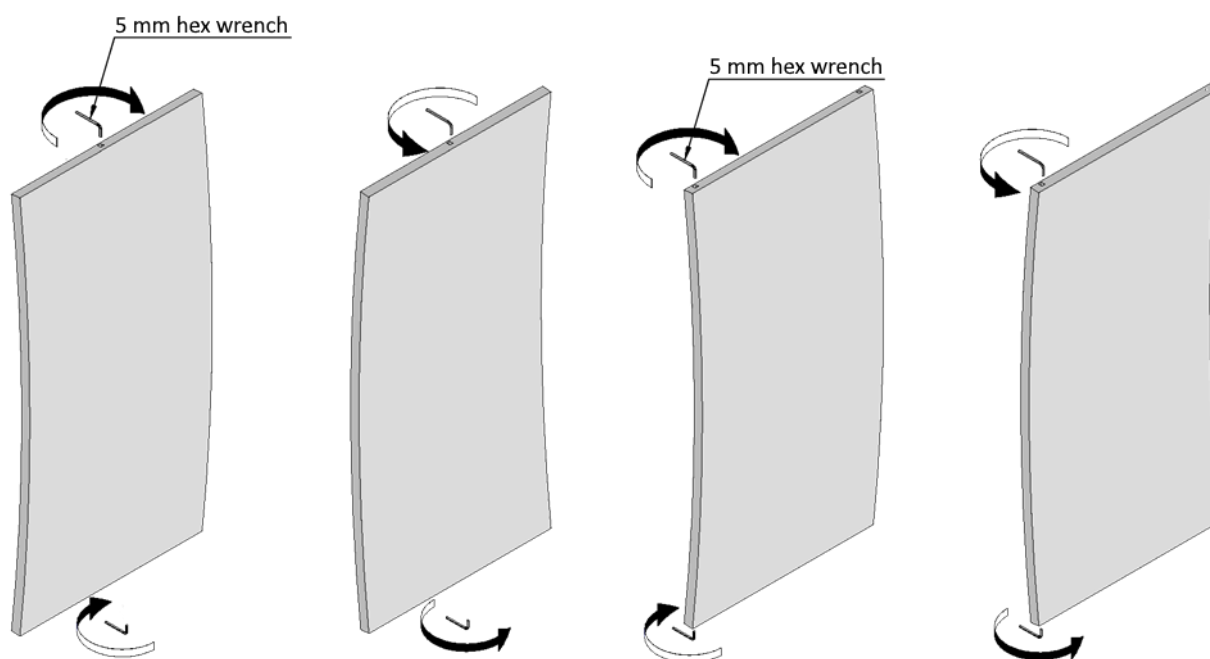


fig. 4

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.

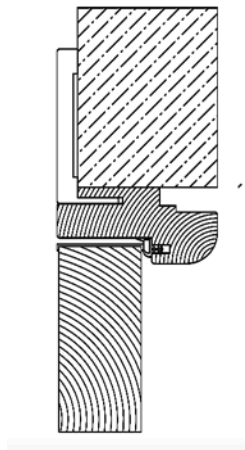


fig. 5

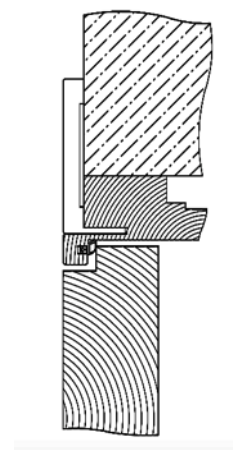


fig. 6

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.

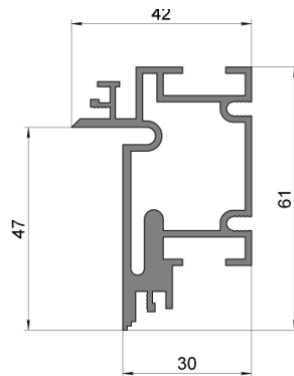


fig. 7

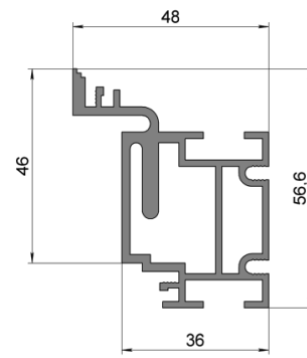


fig. 8

Coplanar platband

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.

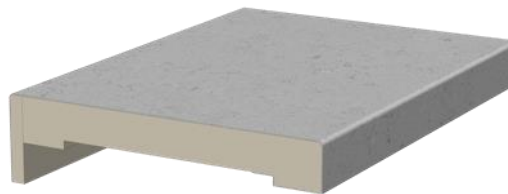


fig. 9

Door Extender

The extender (fig.10) is manufactured in two widths:

- 100 mm for the wall thickness up to 152 mm
- 200 mm for the wall thickness up to 252 mm

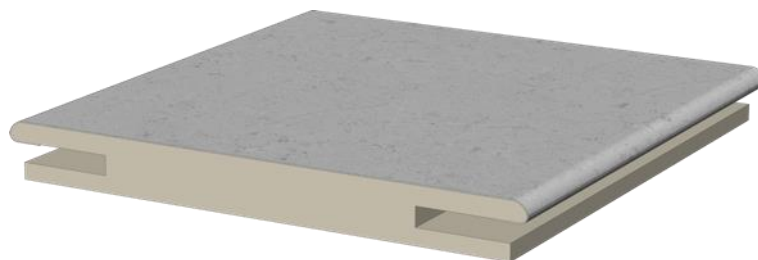


fig. 10

The extender has a groove for the platband fixation.

If the thickness of the wall is more than 250 mm, the extenders should be assembled using an H-shaped profile or a connecting strip (fig.11).

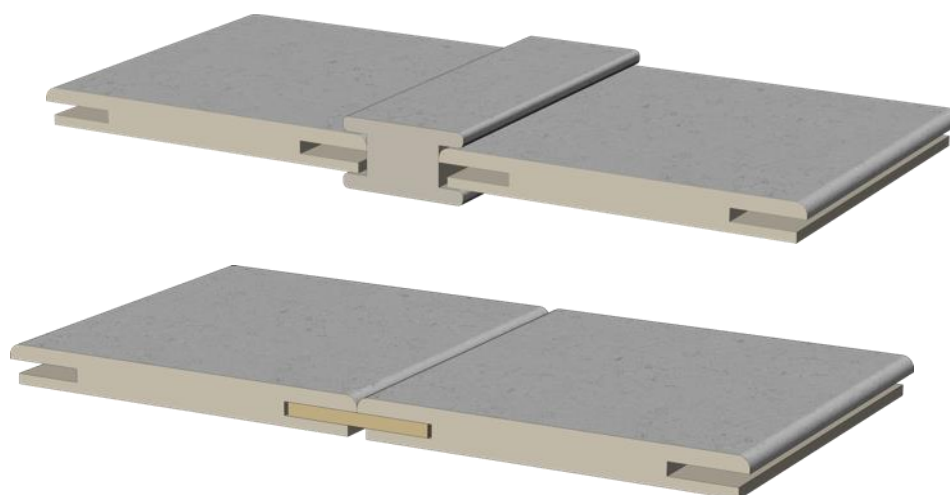


fig. 11

The extender goes into the door frame groove for 15-20 mm and is screwed to the frame before the installation. If necessary, the extender width should be reduced by trimming it from the backside.

3. Door set sizes

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.

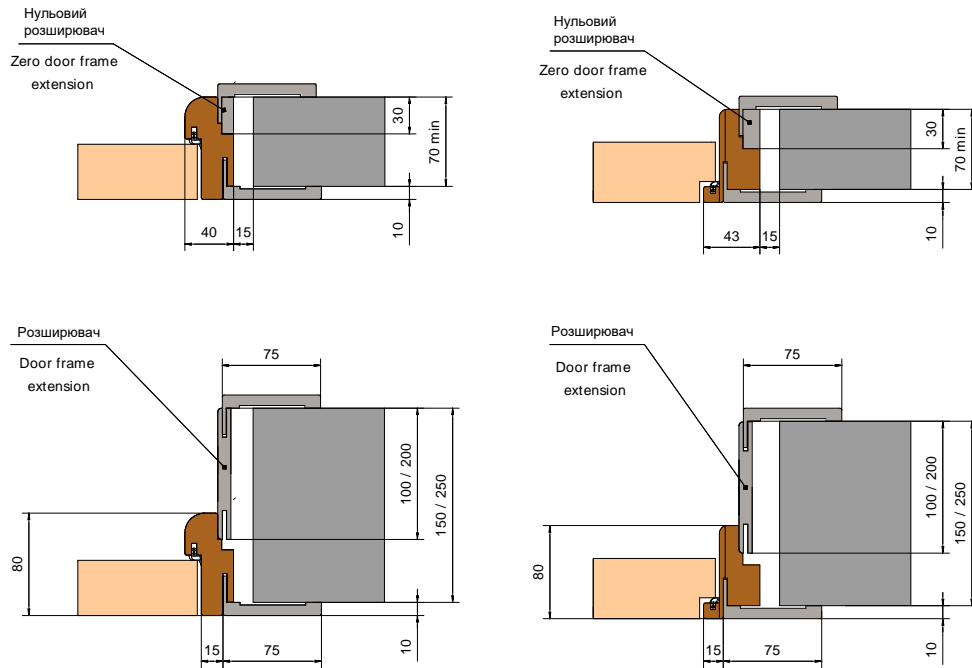


fig. 12

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

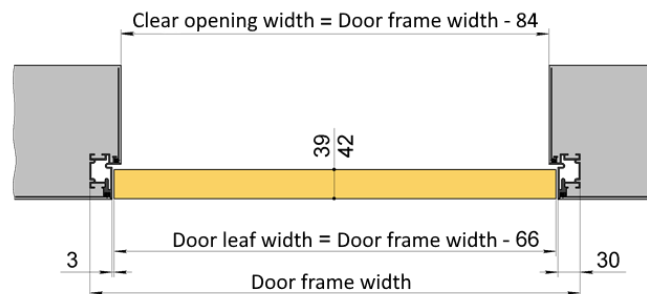


fig. 13

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

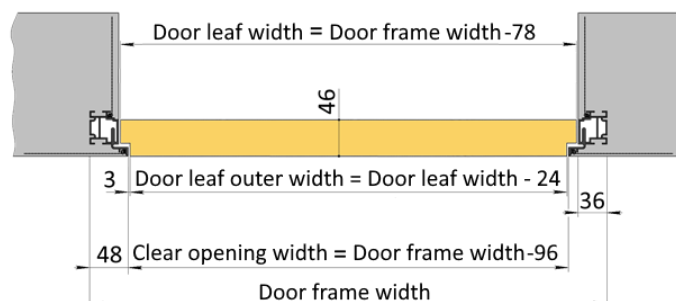


fig. 14

5. Utilized hardware

Hinges

Hinges can be of 3 types:

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

Note: Door leaves 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)

Door handle

For all PLATO doors except the PLATO-03 and PLATO-20 models, the door handle is installed in the usual way. For the PLATO-03 and PLATO-20 door leaves, it is strictly recommended to avoid using the door handles with tightening screws due to the possibility of the glass insert damaging during the door handle installation.

For the PLATO-03 and PLATO-20 models, a special hole is drilled in the glass, and an MDF insert is installed into it at the factory to enable the door handle safe installation to the glass-covered surface. The nominal diameter of the hole is 45 mm. However, considering the dimensional tolerance and the chamfer size, the hole diameter may reach 50 mm. It may lead to the situation that the door handle escutcheon will not overlap the hole. Taking into account available door handle escutcheon models, we recommend using the following escutcheon sizes for the PLATO doors:

- round escutcheon – 54 mm and more in diameter;
- square escutcheon – 52 x 52 mm and more.

Please note that:

- 1) The MDF inserts used for the door handle installation should project above the glass surface for 1 mm (fig. 17). Please, do not install the door handle if you see that the inserts are located in the plane as the glass. Contact the factory to request the new inserts and re-glue them to ensure a protrusion of 1 mm. This protrusion is needed to avoid contact between the inner part of the handle and the glass.

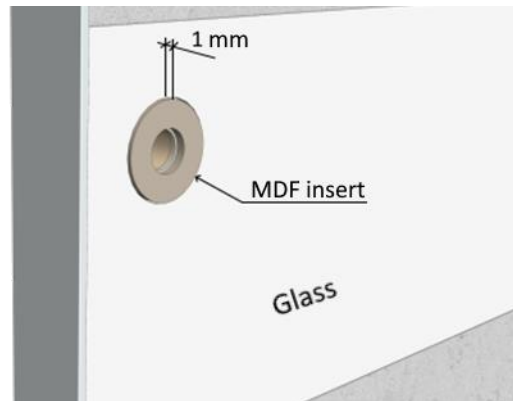


fig. 7

- 2) It is recommended to use handles with a plastic inner part. It will prevent cracks on the glass in case of contact between the plastic inner part of the handle and the glass.
- 3) If the door handle has a metal inner part, an elastic gasket should be installed between the handle and the glass. The gasket will prevent metal-to-glass contact. The gasket should be made of rubber or similar material with a thickness of about 0.5 mm and should follow the shape of the handle inner part.

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)

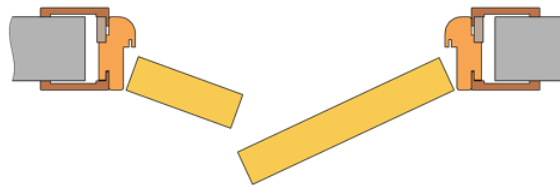


fig. 16

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)

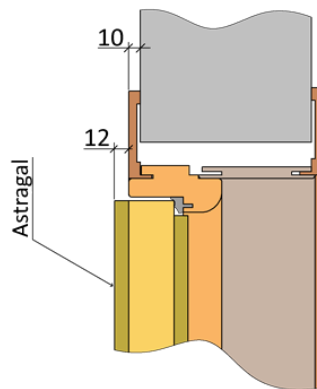
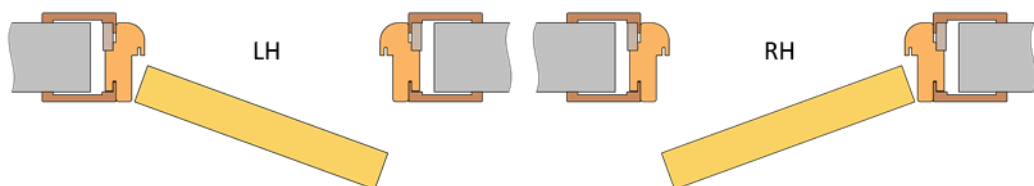


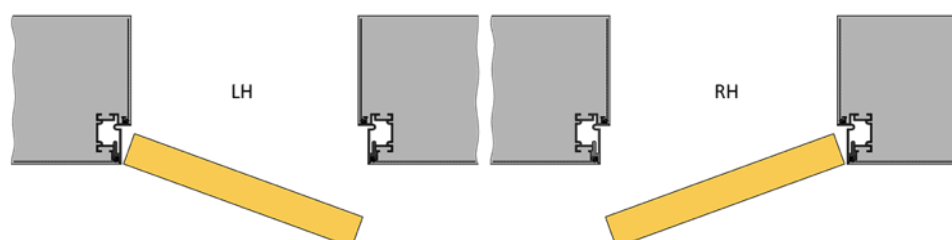
Fig. 17

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 external surfaces of doors covered with decorative films (PLATO collection)

This reference document regulates some aspects of quality criteria for external surfaces of doors covered with decorative films (the PLATO collection). Since there is no separate regulatory document for doors covered with decorative films in Ukraine, all quality requirements set in the DSTU B V.2.6-99:2009 standard also apply to this type of product.

The dimensions and the number of allowable defects on the external surfaces of doors covered with decorative films should not exceed the values indicated in table:

#	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.

* 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.

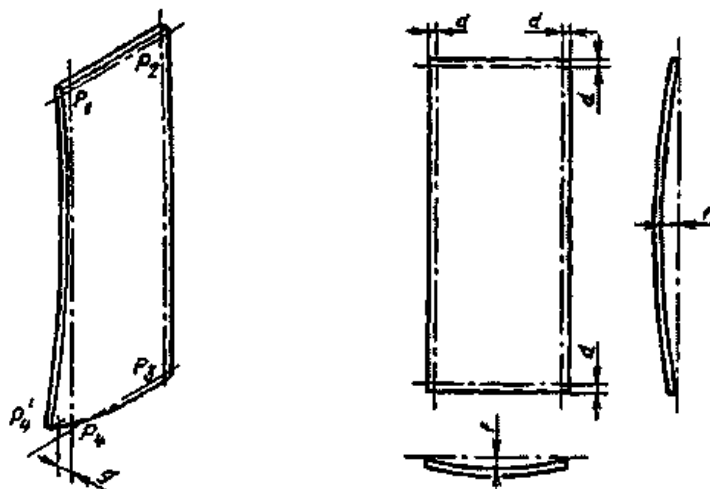
Compliance of external appearance of door surfaces covered with decorative films to the requirements of this document is assessed visually without using magnifying devices.

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).

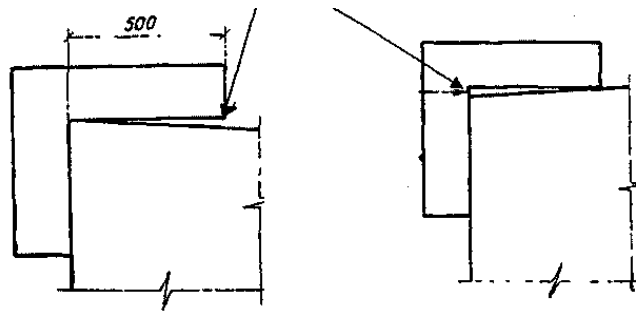


The structural element edge straightness deviation should not be more than 1.0 mm per 1 m of the length of any section of the door set elements (referring to the deviations associated with door leaf edges bending).

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