

The MB-86US window system with a concealed window and high performance thermal insulation is designed to execute elements of architectural external development, e.g. different types of windows, porch enclosures, shop windows or spatial structures featuring high thermal and sound insulation performance, as well as tightness to water and air infiltration. The windows made of elements of this system have sashes imperceptible from the external side of development. It is not possible to notice the layout of fields in a row of fixed and active window adjacent to each other. The system meets all the requirements in respect of energy efficiency and environmental protection. The parameters of windows based on the MB-86US system exceed the most stringent applicable regulations and standards.

## FEATURES OF THE MB-86US WINDOW SYSTEM:

- The constructional depth of window profiles equals: 77 mm (window frame), 80.8 mm (sash). On the outside sash profiles are concealed behind the frame profiles. The width of frames as seen from the external development is small, hence the structure gives the impression of being slender and light.
- The profiles used in the system feature three-chamber construction, the core of which is an insulating chamber placed between thermal spacers 43 or 42 mm wide.
- The external surfaces of glass panes installed in active and fixed fields are aligned.
- The system allows for building windows that come in the same variants with regard to thermal insulation as in the case of the MB-86. The first variant (MB-86US ST) with an empty central chamber inside compound profiles, between thermal spacers features the lowest thermal insulation performance. The variant MB-86 SI with a thermal break between thermal spacers dividing the inner air chamber into two parts has higher insulation performance. The option of windows with the central chamber filled with a special insulation insert (MB-86US AERO) features the highest insulation parameters.
- The MB-86US AERO is fitted with innovative inserts made of materials of the highest thermal insulation properties.
- Due to excellent values of thermal transmittance  $U_f$  in the window frames, the system belongs to the absolute market leaders in this category.
- High tightness to water penetration and air infiltration, as well as excellent thermal insulation performance has been possible to achieve, just as in the MB-86 base system, mainly due to the special shape of 2-component central gasket (with cellular insulating part) as well as glazing and closing gaskets.
- Glazing and internal closing gaskets are fitted as continuous stripping, without any corner trimming. The ends of gaskets are joined in mid-length of the top rail of the window frame. The central gasket is trimmed at the angle of 45° and glued in the corners or trimmed at the angle of 90° and glued to a rubber corner. The central gasket is also available in the form of a vulcanized frame. Such manner of gasket fitting guarantees very high tightness to water penetration and air infiltration.
- Glazing strips of the closed shape, both in the Standard and Prestige versions allow for secure installation of infills, which significantly facilitates fabrication of burglar-proof constructions. Positioning strips made of EPDM are fitted in the said glazing strips, which makes it easier to fit strips in the window frame.
- Internal glazing gaskets are deep-fitted in glazing strips, which is why they are hardly visible from the outside.
- Possible glazing ranges: window frame – from 7 to 52 mm, window sash – from 15 to 60 mm. Such a wide glazing range allows for the installation of all available on the market types of two-chamber glass panels, sound proof or burglar-proof.
- Application of standard Euro grooves makes it possible to accommodate most hardware types available on the market, intended for aluminium and plastic windows.
- Both hidden and traditional hinges may be fitted in windows of this system. Handles may be either with an escutcheon or without.
- Drainage of profiles may be either hidden or may come with a decorative cap.
- Compound profiles of the MB-86US ST and SI versions as well as the profile of the MB-86US AERO sash may be subjected to the process of powder coating or anodic oxidation, however, profiles of the MB-86 AERO version must be painted and oxidized before crimping thermal spacers.

## MB-86US ST

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- The technology of fabrication of the construction is simplified and similar to the one applied in the MB-86 base system.
- Tooling, such as drilling templates, presses or blanking dies may be used for most workings.
- Maximum dimensions of window sashes significantly exceed the values regarded as the standard ones for this type of structure. Hs max=2.5 m, Ls max =1.6 m. Maximum weight of the sash - 150 kg. In order to reinforce the sash profiles of large dimensions, insulating glass units are glued in the profiles.
- The MB-86US system is compatible with other systems manufactured by Aluprof, especially with the MB-86 system. That is why a great number of elements may be applied in more than one system, e.g. glazing strips, gaskets, hardware and most accessories.

In the event of any queries or doubts, ALUPROF S.A. specialists are always ready with their assistance and advice.

