The MB-59S door and window system with thermal barriers is a state-of-the-art construction conceived at ALUPROF SA that caters for expectations and requirements of our customers, architects, investors and business partners. MB-59S is an aluminum system designed to execute elements of architectural external development requiring thermal and acoustic insulation, e.g. different types of windows, doors, porch enclosures, store windows, spatial structures, etc. The structural depth of window profiles equals: 50 mm (window frame), 59 mm (sash), and of the door: 50 mm and 50 mm respectively. Such depths of sash and frame profiles give the effect of unbroken surface seen from the outside after closing – both in case of a window and a door, and - with regard to the door – aligned effect of leaf and frame surface also from the inside.

The MB-59S windows and doors are characterized by a low value of overall heat transfer coefficient U thanks to the application of special thermal breaks and gaskets. The profiles of this system comply with thermal requirements for the material group 2.1. according to DIN 4108. Applied by the system molded thermal breaks of “omega” type, 16 and 22 mm wide, are made of polyamide reinforced with fiberglass. Such shape of breaks enhances rigidity of profiles as compared to flat breaks and facilitates deflection of water from profiles. Prefabrication of the MB-59S system products is simple and time-efficient due to eliminating most of time-consuming workings. Special grooves enable mounting of hinges, strike plates and deadbolts. Window profiles are equipped with grooves of such dimensions as to enable fixing of multi-point locking hardware and connecting members in accordance with EURO standard, designed both for aluminum and plastic windows. This solution makes it possible to mount hardware manufactured by the majority of renowned companies such as: Dr Hahn, Roto, Geze, Fapim, Wala.

An essential feature of the MB-59S system is an option of bending profiles that enable to make various arches and arch constructions is possible. Treatment required in connecting profiles is reduced to minimum thanks to the use of aluminum connecting members and auxiliary accessories provided with the system. Corner connections of “L” type are executed by trimming the ends of frame or leaf profiles at the angle of 45° followed by kneading or pinning and gluing (with CORALGLUE® - two-component glue) to aluminum corner cleats embedded in the inner chambers of profiles. Application of glue ensures high rigidity and tightness of the joint and cleats secure perpendicularity of joined profiles. Crosswise joints of the “T” type are performed by pinning of lacings with embedded connecting members and gluing with CORALGLUE®. Assembling door thresholds is carried out in such a way as to enable their dismantling without having to unscrew other door elements. The threshold made of HPVC and EPDM gasket secures good thermal performance and tightness to water and air infiltration. Detailed information on particular connections is contained on the pages that follow.

Glass panels and other types of infills are fitted in by means of glazing beads and gaskets. The system enables application of glazing units of thickness ranging between 4.5 mm and 40.5 mm in window sashes, and between 4.5 mm and 31.5 mm in fixed windows and door leaves. Glazing and closing gaskets as well as central gasket are made of synthetic rubber EPDM. External glazing bead is fitted as continuous stripping, without any corner cuts. The ends of gasket are joined in mid-length of a crossbar of a window frame. Such system of glazing secures perfect tightness to water and air infiltration. Glazing beads are hardly visible, hence the effect of so called “obituary notice frame” around the pane is considerably reduced. The central gasket is trimmed at the angle of 45° and glued in corners or trimmed at the angle of 90° and glued to a rubber corner.

Each window or door structure of the MB-60 system, designed to be fitted in external development must be equipped with efficient ventilation and drainage system, deflecting water from the pane chamber as well as from the space between the sash and frame. Ventilation and drainage holes are covered from the outside with a plastic sheath.

A characteristic feature of the MB-59S door and window system is its compatibility with other systems manufactured by ALUPROF SA. Such constructional solution allows an application of many common elements, e.g. glazing beads, corner cleats, weather-stripping, locks and a number of identical technological processes,

such as pinning of lacings and crossbars, pinning or kneading of corner cleats, cutting out various holes, etc.