**Construction Description**

Profile series for the production of wood-aluminium systems with equal wood thicknesses of sash and frame system AC20 LS.

**Technical Requirements and System-Specific Verifications**

The aluminium profiles are available in EN AW-6060 T66 in anodised quality and in accordance with DIN EN 755 and DIN EN 12020. The execution must be in accordance with the relevant standards and guidelines, the recognised rules of technology and the information provided by the system provider.

The test values are to be classified in contrast to the window systems.

Driving rain resistance E1050

Air permeability class 4

Operating forces class 1

Resistance class C3

Thermal insulation of the frame e.g. spruce, U - values according to DIN 10077-2:2003-10, Uf = 1.3 to 2.3 W/m2K depending on profile geometry and frame design.

Depending on the glass design, a UD= 0.9 W/m²K can be achieved.

**Required Basic System**

**Wood Construction**

The wooden construction is to be executed according to the requirements of DIN 68121. The fixed glazing is to be provided with milled glazing bead. The system must allow glazing from the outside.

The insulating glass edge seal is accommodated in the wooden rebate on two sides.

Grooves in the wooden profiles to accommodate the aluminium profiles are not permitted.

**Aluminium Frame**

A system is to be provided in which a glass strip is inserted into the frame groove from the outside. The glazing bead depth is 10 mm.

The elevation width of the frame including glazing bead is matched to the module dimensions of the standard frames from the AC20 OR and AC20 FL system family.

Drainage of the rebate area takes place through concealed punching in the lower profile crosspiece. As an option, visible drainage with an aluminium cover cap in the same colour as the aluminium frame must be possible. It must be possible to design the aluminium frames with either mechanical or welded joints.

The following design is provided:

Optional:

Mechanical connection (punched) with anodised finish

Welded joint for powder coating finish.

The visible depth of the sash frames is covered by means of system profiles including clip holders, visible width 145 mm.

The design can be found in the system documents.

**Fixing of the Aluminium Frame**

The aluminium frame is attached to the wooden frame using removable turn and turn clip holders made of high-quality, temperature-resistant plastics such as impact-resistant modified POM. Turn holders are always used for the sash. Stress-free expansion of the aluminium cladding towards the wooden part and full rear ventilation of the gap between the wooden and aluminium frame must be ensured. The gap must therefore be at least 4 mm. For exact dimensional positioning, the holders must be prepared with cast-in spacer nubs.

**Threshold**

Thermal system threshold type MACO Fiber Therm.

Construction depth and height depend on the lift and slide scheme.

The design is prepared to accommodate the roller guide and locking of the fixed panels.

Concealed drainage must be provided.

Seals on frames and inserted elements must be made according to the system specifications.

**Gaskets**

Sash sealing on the frame and fixed panel is carried out using system seals which are inserted in the locking area.

Glazing must be carried out with a surrounding dry glazing seal on the outside. The sealing lip on the glass must not be visible wider than 5 mm. On the inside, it must be possible to provide dry glazing with APTK seals in graduated seal thicknesses. It must be possible to design the system as wet glazing on both the inside and outside.

The following design is planned:

Optional:

Dry glazing

outside

inside

Wet glazing

outside

inside

Key data:

Frame depth 239 mm +14 mm cladding

Sash depth 78 mm + 14 mm cladding.

Elevation width outside frame 58 mm

Elevation width outside sash 88 mm

Elevation width of centre 92 mm

Excluded are wooden windows with metal cover and rain rail, as well as constructions which are clad with wooden profiles on the room side.

For reasons of recycling, foamed profile systems are not permitted.

**Lift-Slide Fitting for Frameless Fixed Glazing IV78**

Lift-slide fitting Maco Panorama - or equivalent - for sashes from 300 to 400 kg

The installation of the fitting components must be coordinated with the sash formats.

Lifting gear lock DM 37.5

Lift-slide hook gear

Locking part hook gear

Connecting rod perforated HS 16,4x4

Package trolley 300 kg with busts

Package additional weight 400 kg

Guide rail flush

Accessories for flush mounting rail

MACO Fiber Therm base body 240

MACO Fiber Therm running track

MACO frameless fixed glazing

MACO step threshold HS Alu for GFK 240

Connecting plate, sealing plate, sealing piece, sealing rails, stop sealing plate, sash seal, corner connecting parts.

Buffer at bottom, stop at rear for upper guide

MACO Fiber Thern slide-in profile

MACO Fiber Therm substructure insulation profile.

Lift-slide handle 12 with cover

Shell handle short for lift and slide handle.

**Glazing**

**Technical data**

Light transmission TL: \_\_\_\_ (%)

Total energy permeability g: \_\_\_\_ (%)

Light reflection outside RLa: \_\_\_\_ (%)

U-value Ug: \_\_\_\_\_\_ (W/m²K)

Sound insulation Rw: \_\_\_\_ (dB)

Light and energy values according to DIN EN 410.

The Ug-value indicated was calculated according to DIN EN 673.

**Thermal insulation of elements (Uw) according to ENEV:** Regulation on energy-saving thermal insulation and energy-saving systems engineering in buildings.

Heat transfer coefficient of the door element

Ud = W/m²K