**Construction Description**

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

**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.

Driving rain resistance class 9a

Air permeability class 4\*.

Operating forces Class 1

Suitability for RAL-tested windows system verification

Suitable for anti-fall glazing according to

DIN 18008-4, category A,C2,C3 including test certificate.

\* must also be for the invisibly screwed glazing bead if this is carried out.

Thermal insulation of the frame e.g. spruce, U - values according to DIN 10077-2:2003-10, Uf = 1.1 W/m²K depending on profile geometry.

**Required Basic System**

**Wood Construction**

The wood construction is to be executed according to the requirements of DIN 68121. The sashes must be provided with milled glazing bead, fixed glazing with screwed glazing bead. The system must allow invisibly screwed fixed glazing beads.

Design of fixed glazing:

Optional:

Visibly screwed glazing bead

Glazing bead invisibly screwed

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

Grooves in the wooden profiles to take up the aluminium profiles are not permitted.

**Aluminium Frame**

A system is to be offered in which the frame and sash are designed with 90 degree overlaps in angular optics. The frame profile height must be 10 mm. It must be possible to design the system with either a flush or offset sash to the frame.

Offset Sash

Sash profiles are to be designed with a hollow chamber to increase rigidity in the glazing area. 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 must be provided in colour of the aluminium frame can be possible. It must be possible to design the aluminium frames with either mechanical or welded joints.

The following design is intended:

Optional:

Mechanical connection (punched)

Welded connection

**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.

**Gaskets**

A circumferential, corner vulcanisable APTK seal made of APTK must be installed on the frame between the wooden frame and the wooden sash. In case of heavy exposure to driving rain, an optional cross seal must be fitted between the aluminium frame and aluminium sash at the bottom. On the outside, it must be possible to install a circumferential APTK dry glazing seal. The sealing lip on the glass must not be visible wider than 5 mm. Wedge seals as external glazing gaskets are not permitted. On the inside, it must be possible to provide dry glazing with APTK seals in gradual seal thicknesses. It must be possible to design the system as wet glazing on both the outside and inside.

The following design is planned:

Outside

Wet glazing

Inside

Dry Glazing

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.

**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 window element

Uw = W/m²K

Heat transfer coefficient of the façade element

Ucw = W/m²K

Heat transfer coefficient of the door element

Ud = W/m²K