

LIVINN

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SURFACE TREATMENT



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A frame is undoubtedly the most important window component. Did you know that its task is much more than only to provide a place for window attachment? A window profile takes care of heat and sound isolation of the interior space, it resists temperature fluctuations and weather conditions and all of that with a demand for opening ability. Last but not least it is a part of the room and outer facade design. LIVINN is a new generation of profiles with top-ranking sound and heat isolation, premium design and long lasting resistance. New LIVINN profiles are constructionally simple, efficient and comparable in price with aluminium systems.

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INNOVATIONS IN LIVING

The name LIVINN stands for living innovations and thus **innovations in living**. We are a Slovak technological company and our goal is your better quality and more comfortable life. We realize that we spend most of the day at home and in the office, hence we seek ways to improve the quality of the stay in closed spaces. We do so with a use of **fibreglass**, unique composite material, which is made of glass fibres placed in a resin mat. We bring general fibreglass in a perfect formula for construction aperture panes under the name of **INFIBEC**.

LIVINN reacts by its product to nowadays increasingly stringent commercial and residential buildings' energetic austerity demands. Demands of regulators as well as the market aim to **higher energy savings and advanced ecology**. Where traditional materials cease being able to fulfil increasingly strict limits, we come with our INFIBEC. By knowing wood, PVC and aluminium, we have used our knowledge for development of stable, strong and energetically economical material, which has better properties than all traditional materials together.

We are not only sellers – we are most of all designers, developers and manufacturers. We are the pioneers in the field of fibreglass systems and we satisfy new European demand. Thanks to our local development and manufacture in our own charge, we are permanently ahead in window frames design with this exceptional material of the future. We have created a system, thanks to which we effectively manufacture all standard elements of construction aperture panes. All products are created in a Slovak manufacture base, partly also from Slovak materials. We care not only about quality but also swiftness and ecology. We use pultrusion technology during the manufacture.

We protect natural resources. INFIBEC products are particularly ecological and clean, since up to 72% of their weight is made up of fibreglass which is processed naturally occurring silicon. An appreciable asset of INFIBEC is long life and resistance of glass fibres, thanks to which it is not necessary to change window frames as often as in case of PVC. Therefore our products don't burden nature with needless plastic waste.

LIVINN is our personal presentation: one touch is enough and you will immediately feel the firmness of the innovative window frames, their pleasant steady temperature and quality, which is underlined with physical attractiveness. The result of using LIVINN profiles is your better quality life, a safer home and a responsible attitude towards nature.



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06

WINDOW TO THE FUTURE

Where lies the exceptionality of INFIBEC?

During its manufacture, we use two different materials with completely distinct properties: glass fibres and resin. By their connection we create a brand new whole, which has significantly better properties than its components separately. INFIBEC is an innovative composite that overcomes traditional materials in all key parameters required in case of filling the construction apertures, in other words, where assets of wood, aluminium and PVC end, INFIBEC only starts. The modern profile made of INFIBEC material is resistant to high and low temperatures, it is electrically non-conductive and it has great acoustic properties. It is warm to the touch material. Aluminium is either warm or cold to the touch compared to it, therefore has high emissivity. Pleasant bonus? It looks elegant.

A new generation of INFIBEC profiles is the result of our few years' development and experience. The base of our success is proven Canadian technology, which we successfully produce in Slovakia. With INFIBEC you will get Slovak quality built on worldwide basis. Thanks to local manufacturing and low energy demands this system is not only innovative and effective but also ecological.

Development and manufacture of new window profiles made of glass fibres include a plenty of complex procedures and processes, although the result is exact opposite: perfect simplicity and elegance. After all, the beauty lies in simplicity – and that is the first thing that comes to your mind at the sight of LIVINN profiles.

WHY GLASS FIBRES?

Firm as steel

Will it surprise you when you find out that LIVINN profiles are by their firmness closer to steel than to common materials which are used for window frames manufacture? The truth is that fibreglass material is used for construction of static beam constructions. That is because the material is naturally firm and thin. Thanks to that, its use is always a matter of elegance.

Heat won't get in or out

Glass has very low thermal conductivity. That's why glassmakers can manually blow glass whose temperature is almost a thousand degrees Celsius at its end without getting burnt. INFIBEC, too, benefits from this natural property and therefore doesn't need any complicated thermal bridges interruptions or unnecessarily gain profile thickness.

Resistant to temperature fluctuations

Glass gets on best with glass. If you connect two materials which react almost identically to temperature changes you will achieve a perfect harmony and the windows are never going to deform, sag or crack. Not even in case that direct sunlight affects the windows over a long period.

INFIBEC (Innovation Fiber Composite)

It is a term for material for premium window profiles made of infinite glass fibres and resin, by its quality noticeably exceeding common materials including wood, aluminium or PVC.

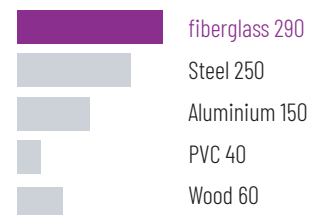
Why are they exceptional?

They will surprise with their frugality. A big part of heat losses happens exactly through the window frame. This is though not the case for INFIBEC fibreglass material used in glass LIVINN profiles, which naturally meets the strictest energetic austerity demands. Traditional materials have already reached the limit of their effectiveness. It is time for modern solutions.

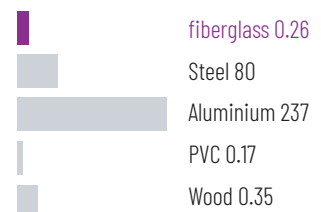
You will forget that you have them

LIVINN profiles don't require any special maintenance and they keep their appearance even after many years. They last at least as long as aluminium. They are made of one compact whole. In case of damaging the frame surface it is possible to effortlessly repair it to the original state.

Tensile strength (MPa)

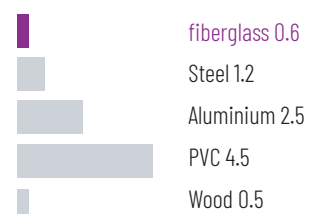


Heat transfer coefficient (W/m.K)



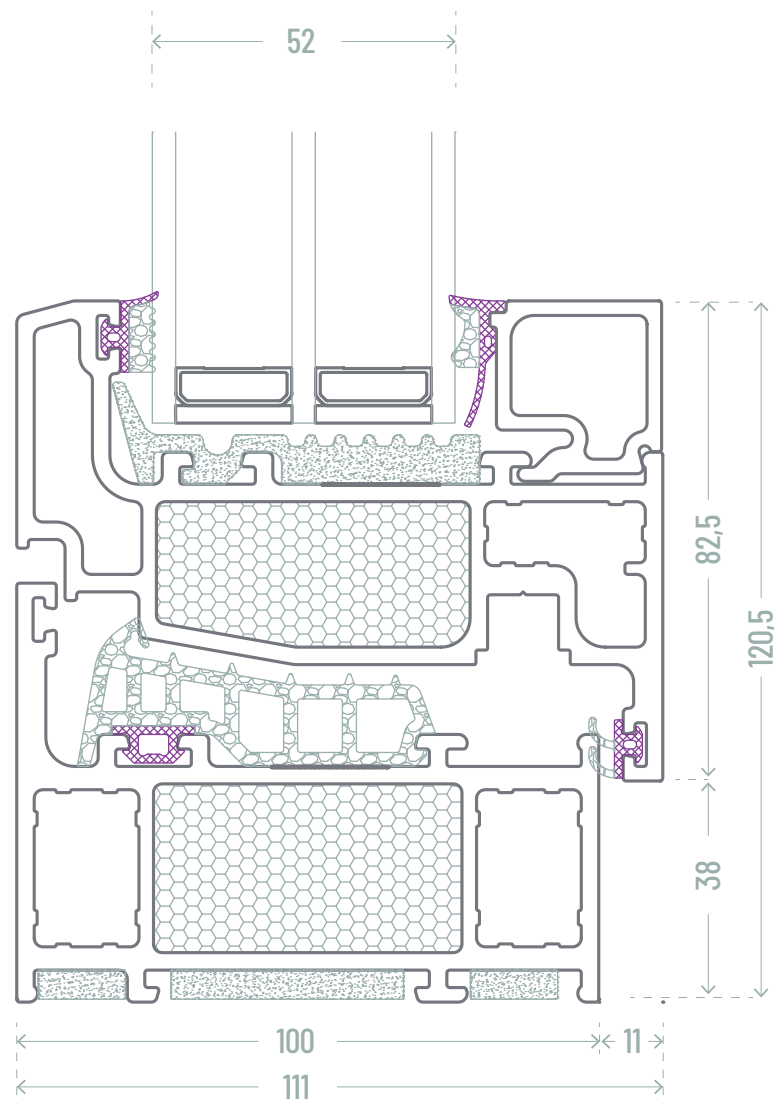
Thermal expansion coefficient (x10⁵/K)

*Glass has a value of 0.8

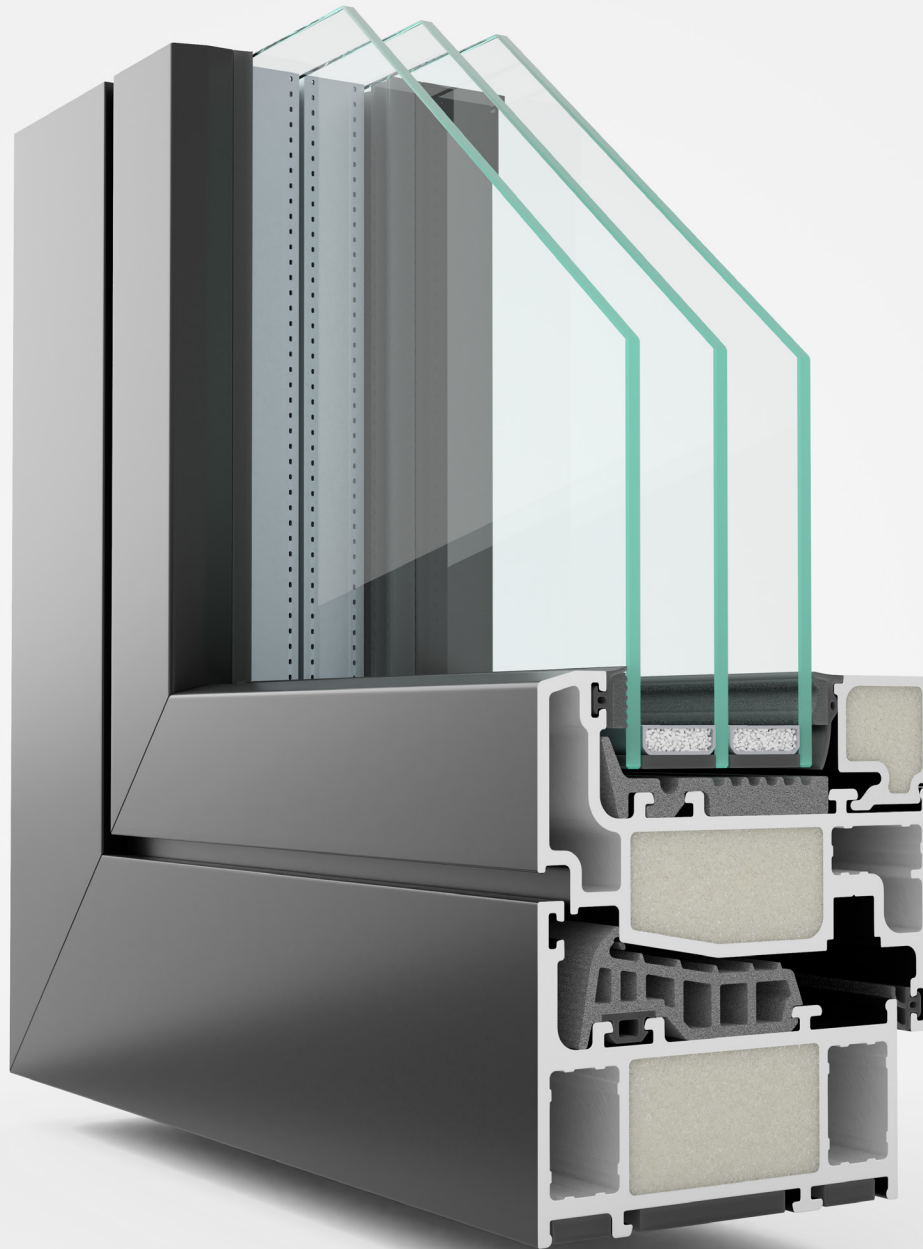


WINDOWS

NW 100 HI



Cross-section of a single-sashed window with a low profile



Heat penetration coefficient *
0,6 W/(m²K)



Air permeability **
class 4



Watertightness **
E750



Wind load resistance **
C4



Window soundproofing ***
35 dB



Security
RC2

Explanatory notes: All the values have been done with triple layer glass filling $U_g=0,5 \text{ W/(m}^2\text{K)}$.

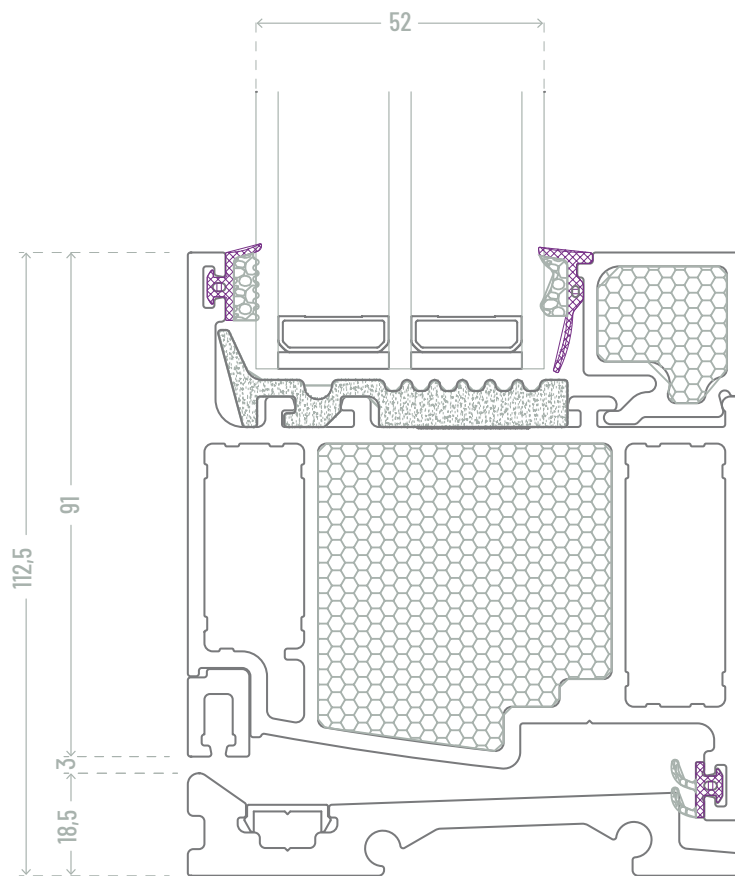
*Values for tilt & turn window with the measurement of 1230 mm x 1480 mm.

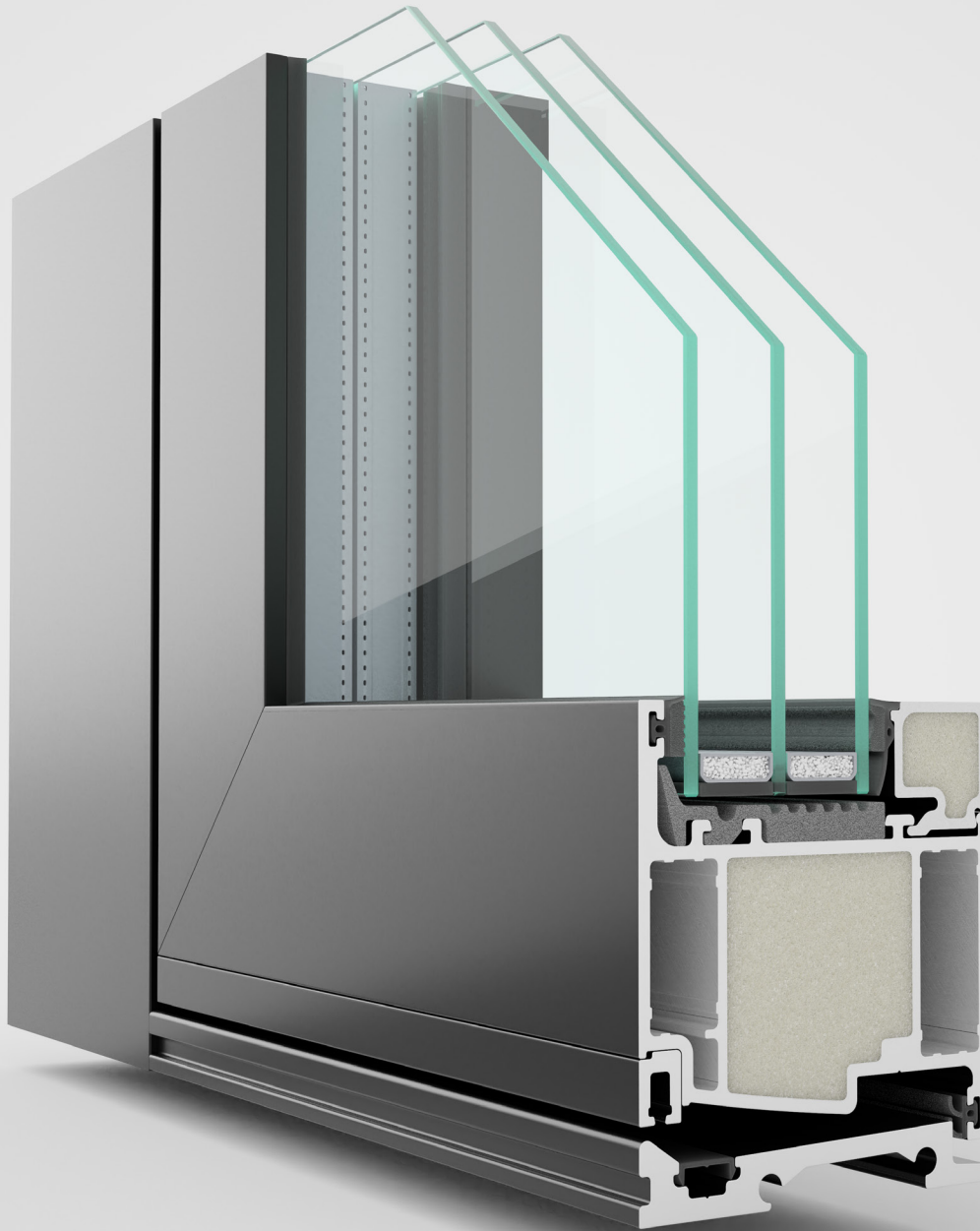
**Values for tilt & turn window with the measurement of 1500 mm x 1500 mm.

***With the triple layer glass filling 4-20-4-20-4.

DOORS

ND 100 HI





Heat penetration coefficient
?



Air permeability
?



Watertightness
?



Wind load resistance
?



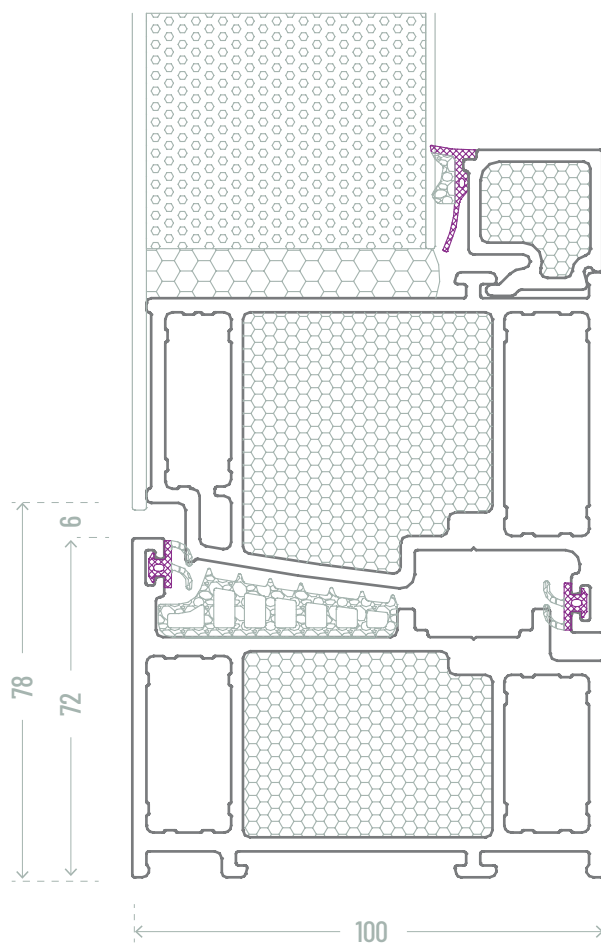
Window soundproofing
?



Security
?

DOORS

ND 100 HI





Heat penetration coefficient
?



Air permeability
?



Watertightness
?



Wind load resistance
?



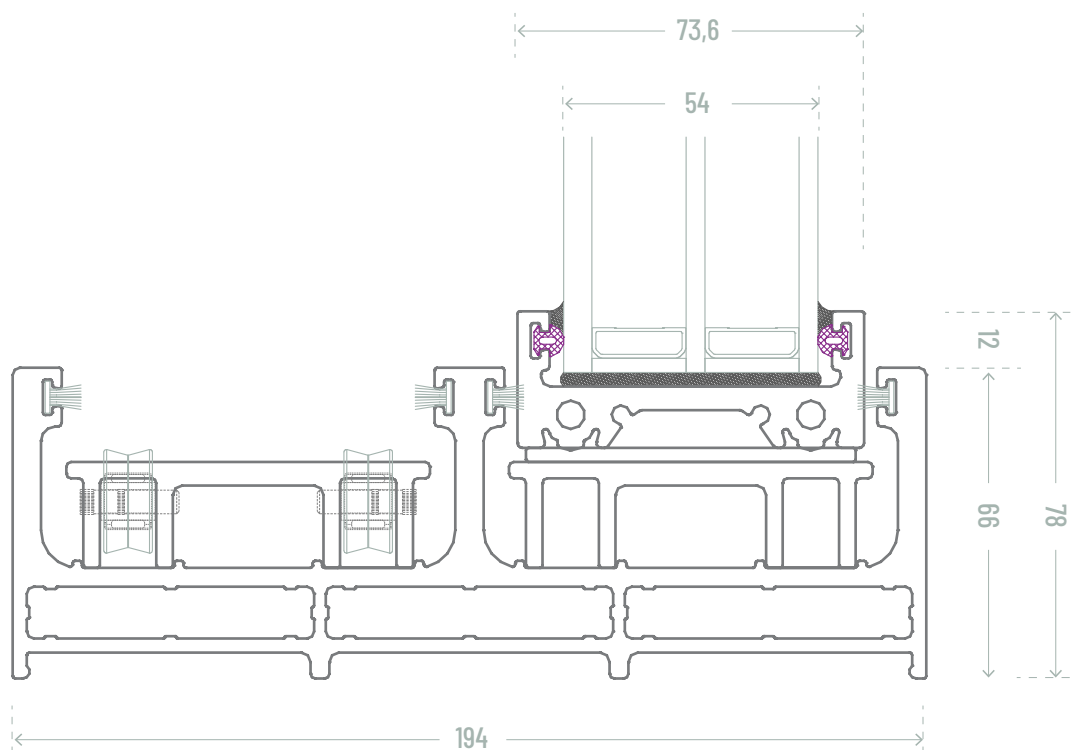
Window soundproofing
?

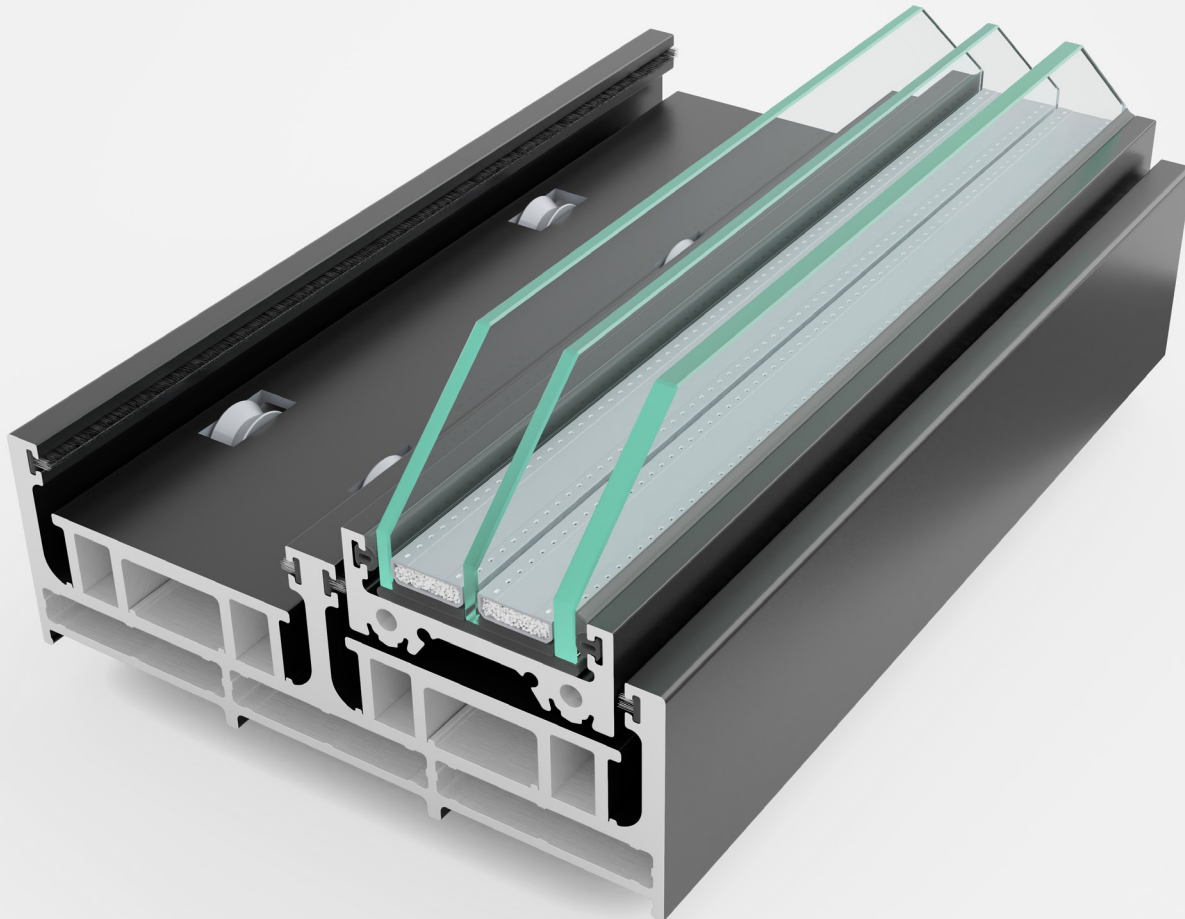


Security
?

Sliding systems

NS 194 HI





Heat penetration coefficient
?



Air permeability
?



Watertightness
?



Wind load resistance
?



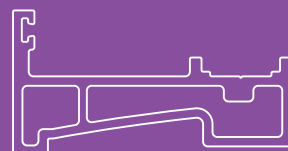
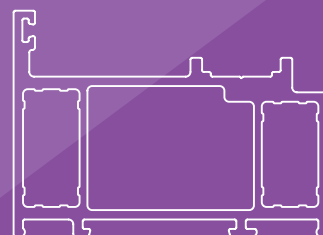
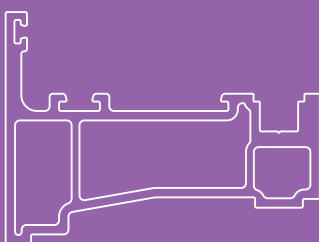
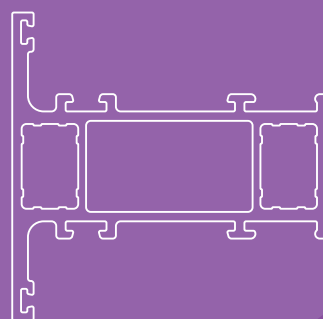
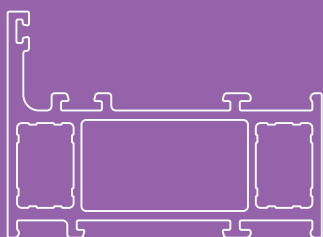
Window soundproofing
?

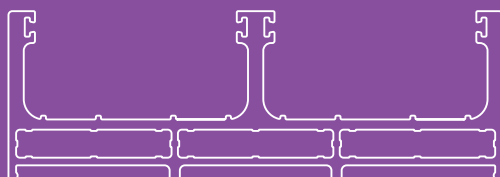
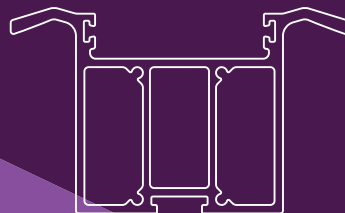
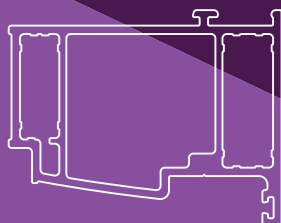
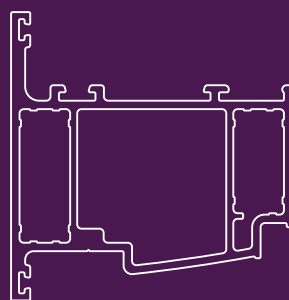
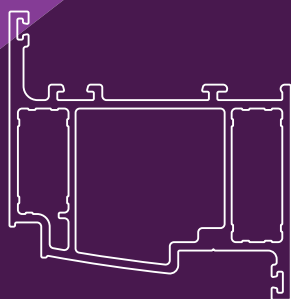
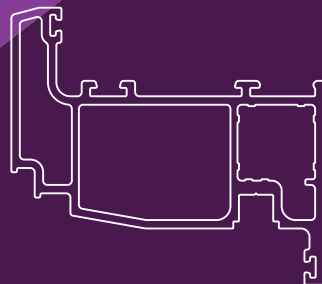
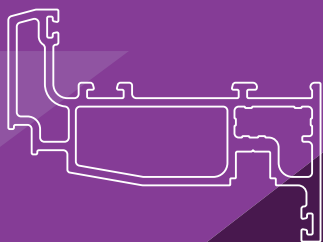
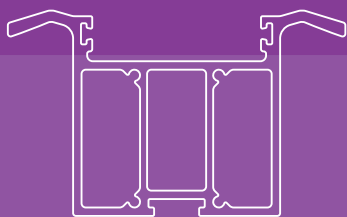


Security
?

System profiles

LIVINN



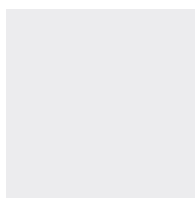


Surface treatment

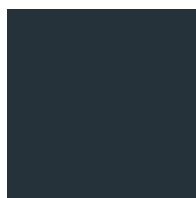
DYEING

We realize surface finishing of profiles by varnishing with liquid paints from respected companies. Paints contain a UV stabilizer.

Standardly, we supply profiles in following colours, however we also secure profiles **in all RAL colours** available on our market.



White RAL 9016



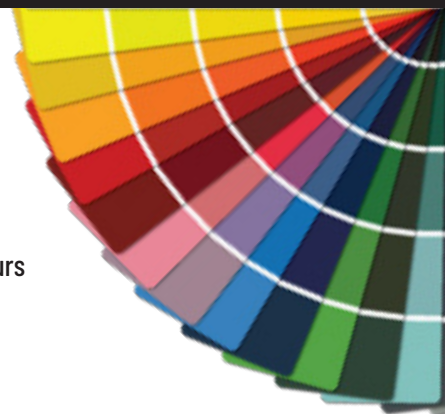
Anthracite RAL 7016



Brown RAL 8003



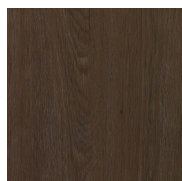
Grey RAL 7040



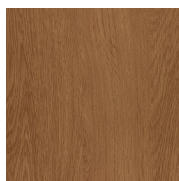
LAMINATING

For consumers seeking the appearance of traditional materials with a demand for a modern and / or maintenance-free product, we secure surface laminating of our profiles.

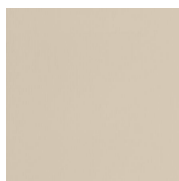
By laminating it's possible for our customer to match existing construction aperture panes in case of their completion or replacement in their home. We secure imitations available on Slovak market.



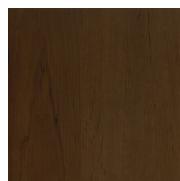
Amaranth Oak



Cinnamon Oak



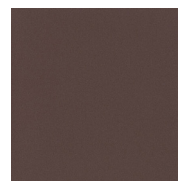
Claystone



Dark Alder



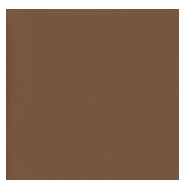
Iron Glimmer



Chocolate Brown



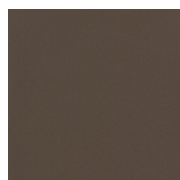
Noir



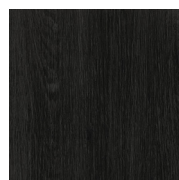
Fawn Brown



Sage



Sepia Brown Ulti-Matt



Truffle Oak



Woodland Oak



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