

FEAL



TEHNIČKE KARAKTERISTIKE SISTEMA:

Dubina okvira: 85 mm
Dubina krila: 93 mm
Dubina ispune: 46 mm
Poliamidne trake: 54 mm

$U_g = 0.52 \text{ W/m}^2/\text{K}$
 $U_f = 0.75 \text{ W/m}^2/\text{K}$
 $U_w = 0.67 \text{ W/m}^2/\text{K}$

SYSTEM'S TECHNICAL FEATURES:

Frame depth: 85 mm
Sash/wing depth: 93 mm
Infill depth: 46 mm
Polyamid strips: 54 mm

$U_g = 0.52 \text{ W/m}^2/\text{K}$
 $U_f = 0.75 \text{ W/m}^2/\text{K}$
 $U_w = 0.67 \text{ W/m}^2/\text{K}$



TERMO 85 PA

Sistem za pasivne kuće
System for passive houses

FEAL

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PASIVNE KUĆE GRADNJA BUDUĆNOSTI

PASSIVE HOUSES BUILDING THE FUTURE

Prema informacijama sadržanim u direktivi Europskog parlamenta 2010/31, zgrade su odgovorne za 40% ukupne potrošnje energije u Europskoj uniji. Stoga su smanjenje potrošnje energije i korištenje energije iz obnovljivih izvora u zgradarstvu važne mjere koje su potrebne da bi se smanjila energetska ovisnost Unije i emisije stakleničkih plinova. Smanjenje potrošnje energije i povećanje korištenja energije iz obnovljivih izvora također ima važnu ulogu u promicanju sigurnosti opskrbe energijom i tehnološkog razvoja te otvaranju radnih mjesta i mogućnosti regionalnog razvoja, posebno u ruralnim područjima. Izgradnjom pasivnih kuća, moguće je postići značajne uštede energije u usporedbi s dosadašnjim načinom gradnje. Pasivne kuće su stambeni objekti čiji je krajnji cilj da se primjenom najstrožih načela energetske učinkovitosti smanji potrošnja energije, a da se s druge strane dobije prostor ugodan za svakodnevni život. Ušteda energije kod pasivnih kuća iznosi i do 80% u odnosu na kuće izgrađene prema uobičajenim standardima gradnje. U Europi do sada postoji već 150 000 pasivnih stambenih i poslovnih zgrada, bolnica, dječjih vrtića i sportskih dvorana, dok je u Bosni i Hercegovini ova priča još u početnoj fazi. Iz tih razloga FEAL je odlučio da će jedan dio svojih kapaciteta ubuduće usmjeriti prema razvoju novih sistema koji će zadovoljiti stroge standarde za pasivne kuće, a prvi takav sistem nazvan je Termo 85 PA.

According to the informations contained in the Directive of the European Parliament 2010/31, buildings are responsible for 40% of the total energy consumption in the European Union. Therefore, the reduction in energy consumption and the use of energy from renewable sources in the building industry are important measures in reducing the EU's energy dependence and greenhouse gas emissions. Reducing energy consumption and increasing energy use from renewable sources also plays an important role in promoting security of energy supply, technological development, job creation and regional development opportunities, especially in rural areas. By building passive houses, it's possible to achieve significant energy savings compared to the current way of construction. Passive houses are residential buildings whose ultimate goal is to reduce the energy consumption by applying the strictest energy efficiency principles while providing a comfortable space for everyday life. Energy saving in passive houses is up to 80% lower compared to houses constructed according to standard construction standards. In Europe there are already 150,000 passive residential and business buildings, hospitals, kindergartens and sports halls, while in Bosnia and Herzegovina this story is still in its initial phase. That is why FEAL has decided to direct some of its capacity towards the development of new systems that will meet strict passive house standards, and the first such system is Termo 85 PA.

TERMO 85 PA

Sistem Termo 85 PA je namijenjen za izradu prozora i balkonskih vrata visoko izoliranih objekata, koji ispunjava i najstrože kriterije u pogledu energetske učinkovitosti, odnosno zadovoljava standarde pasivne kuće $U_w \leq 0.80 \text{ W/m}^2/\text{K}$. S koeficijentom prolaza topline kroz okvir $U_f = 0.75 \text{ W/m}^2/\text{K}$, u kombinaciji s troslojnim staklom $U_g = 0.70 \text{ W/m}^2/\text{K}$ i odgovarajućim distancerom stakla ukupan koeficijent prolaza topline kroz prozor (dimenzija pr. EN 10077-2 1230x1480 mm) iznosi $U_w = 0.78 \text{ W/m}^2/\text{K}$, što sam sistem svrstava u proizvode koji su kompatibilni za ugradnju u pasivne kuće, a rezultat svega je potvrda od strane Passive Houses Institute (PHI) - Darmstadt, Germany.

The Termo 85 PA system is designed for the production of windows and balcony doors of highly insulated objects, which meets the most stringent energy efficiency criteria, ie meets the standards of $U_w \leq 0.80 \text{ W/m}^2/\text{K}$.

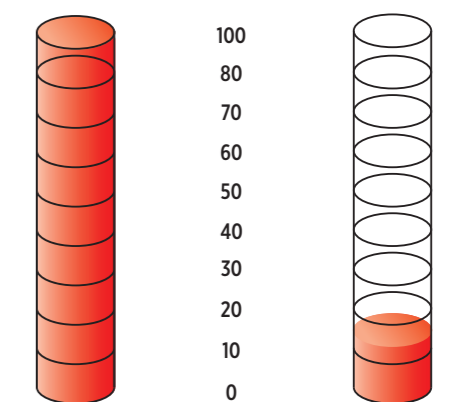
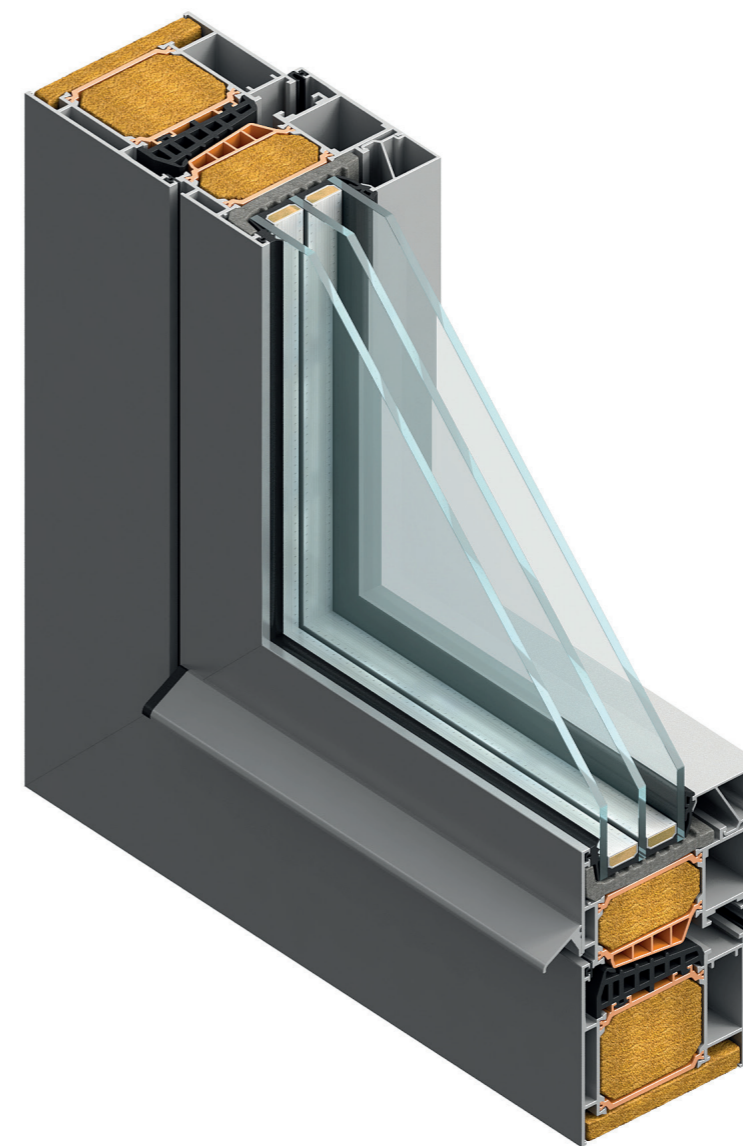
With the heat transfer coefficient through the frame of $U_f = 0.75 \text{ W/m}^2/\text{K}$, in combination with the triple pane glass $U_g = 0.70 \text{ W/m}^2/\text{K}$ and with the appropriate glass spacer the total heat flow coefficient through the window (dimension pr. EN 10077-2 1230x1480 mm) is $U_w = 0.78 \text{ W/m}^2/\text{K}$, which classifies the system as a product that is compatible for installation in a passive house, and the result is a confirmation by the Passive Houses Institute (PHI) - Darmstadt, Germany.

Kako bi se dobili ovakvi rezultati, odnosno radi poboljšanja toplinskih karakteristika (smanjenja toplinske provodljivosti), kod ovog sistema osim konstrukcije samih profila koristili su se i naj-suvremeniji materijali, s vrlo niskim koeficijentom prolaza topline $\lambda \text{ (W/mK)}$:

- poliamidne trake nove generacije,
- termoizolacijska ispunjena po opsegu stakla,
- termoizolacijska ispunjena u komorama profila,
- koekstrudirane brtve.

In order to achieve such results, ie to improve the thermal characteristics (thermal conductivity reduction), along with the construction of the profiles themselves the most modern materials with very low heat transfer coefficient $\lambda \text{ (W/mK)}$ were used in making of this system:

- new generation polyamide strips
- thermal insulation along the glass perimeter
- thermal insulation in profile chambers
- coextruded gaskets



TRENUTAČNI STANDARD U GRADITELJSTVU / CURRENT BUILDING CODES

kWh/m² GODIŠNJE / kWh/m² PER YEAR

PASIVNE KUĆE / PASSIVE HOUSES