Sustainable impact

Of doors during the life cycle of buildings

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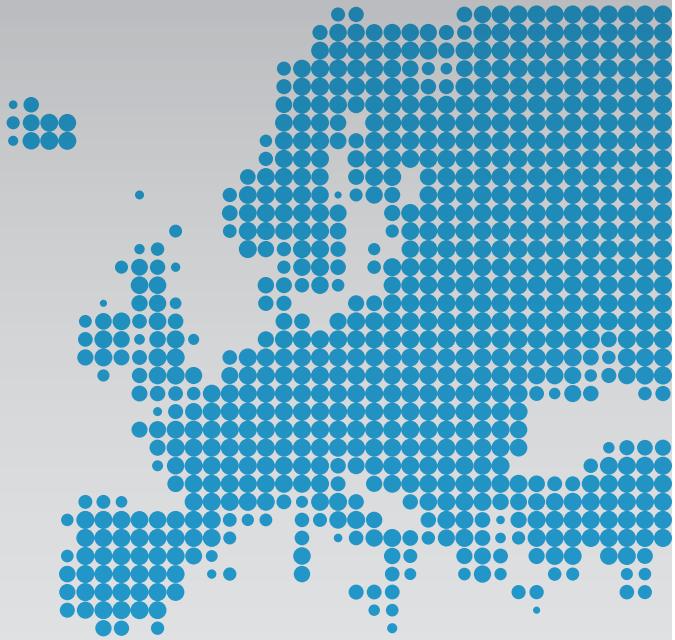

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The current situation in the market

"Sustainability" is one of the most important future challenges to the industry, as technologies need to be developed in order to make the best use of resources. Therefore requirements of European directives such as "Energy Performance of Building Directive" (EPBD – No. 2002/91/EG, recast from July 2010) were issued in order to achieve the energy and environmental objectives.
The door industry is forced to develop trends in the fields of energy efficiency, quality and durability. This applies in particular to the construction industry – in the door industry – whose products have to last 20 - 25 years and longer.

Financial institutions and property companies want to secure their investments with sustainability certificates like LEED or BREEAM or DGNB. These certification bodies adapt their rating systems in a relative short period of time. Additionally, the European standardization work in CEN / TC 350 - Sustainability of construction works will support this "sustainable process".

All these certificates and standardisation work are indicators of a fast-growing, sustainable building market.

The impact of doors – how to benefit

How can the door-industry benefit from this situation? The sustainability certificates for green buildings or building products include statements about cost in use, for example for energy, cleaning or maintenance throughout the product's life cycle. That means that energy-efficient, low-maintenance and durable products save the building owner money – an excellent prerequisite for high-performing quality doors. BUT this impact of energy saving potential for example is not well known to Green Building certification bodies, building owners, architects and construction engineers.

E.D.S.F. wishes to point out that the energy saving related to the U-value of a door is not the sole consideration: there are other parameters like air leakage and opening time whose interaction must be factored in.

These are relevant door indicators:

- The door parameters: U-value, Air-leakage and Opening Time, have a real impact on energy consumption. With an optimized combination of a well-insulated and sealed door and "intelligent door automation", a real energy-saving benefit will be secured throughout the life-cycle!
- The materials used for doors, e.g. steel, aluminium, plastic, glass or rubber, have very good properties for recycling!
- How material is used in doors. Optimized / reduced material consumption with ideal material performance!
- The way to construct/assemble a door. Easy to install and re-install!
- The performance in use of doors. Comfortable usage / handling with high safety standards!
- Regular maintenance and inspection offered by the door industry support also a sustainable life cycle of doors.

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Upgrading of doors has a big potential for the optimization of existing buildings. The door industry is well prepared and can make a big contribution to sustainable energy saving!

Conclusion & Solution

A door is a small financial investment (2–3 % of the main investment cost of a building) in comparison to all the materials used for a new building, but with a high financial impact on the whole life-time cycle – if the right door-solution is used!

A thermally well-insulated door with low U-Value has no impact on energy saving if it is open all day or the open cycles are very long and velocity is slow. With a good combination of a thermally optimized well-insulated door and "intelligent door automation" with short opening cycles, a real energy saving benefit could be realized during a whole life-cycle. The door has a much bigger impact on the energy consumption of a building than is at present recognized!

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An intelligent, automated door could save a lot of energy and money. Additionally the CO_2 pollution could be reduced and comfort, safety and accessibility will be improved!

The E.D.S.F.-Door-Energy-Calculator explains how a real energy-saving benefit could be realized during the whole life-cycle of a building: **www.edsf.com/calculator.**

For a digital version scan the code with your smartphone and visit the download section of the E.D.S.F. website.

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