

Mkb'er in praktijk

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CPR Acquis

✓ TC 33

- ✓ Ramen en deuren
- ✓ Hang- en sluitwerk
- ✓ Zonwering
- ✓ Vliesgevels (fast track)

✓ TC 129

- ✓ Glas (fast track)



Samenwerkingen

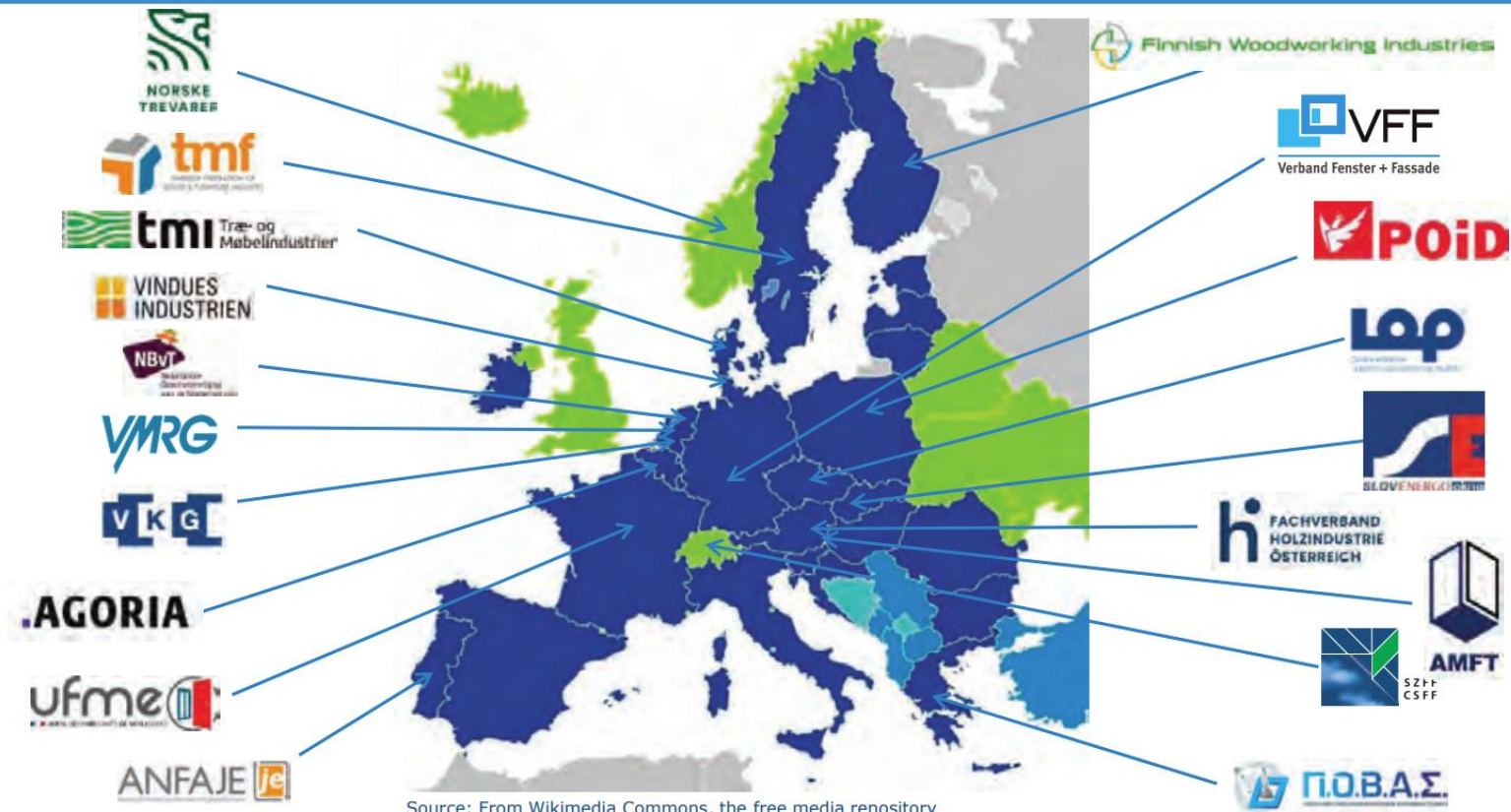


VHS

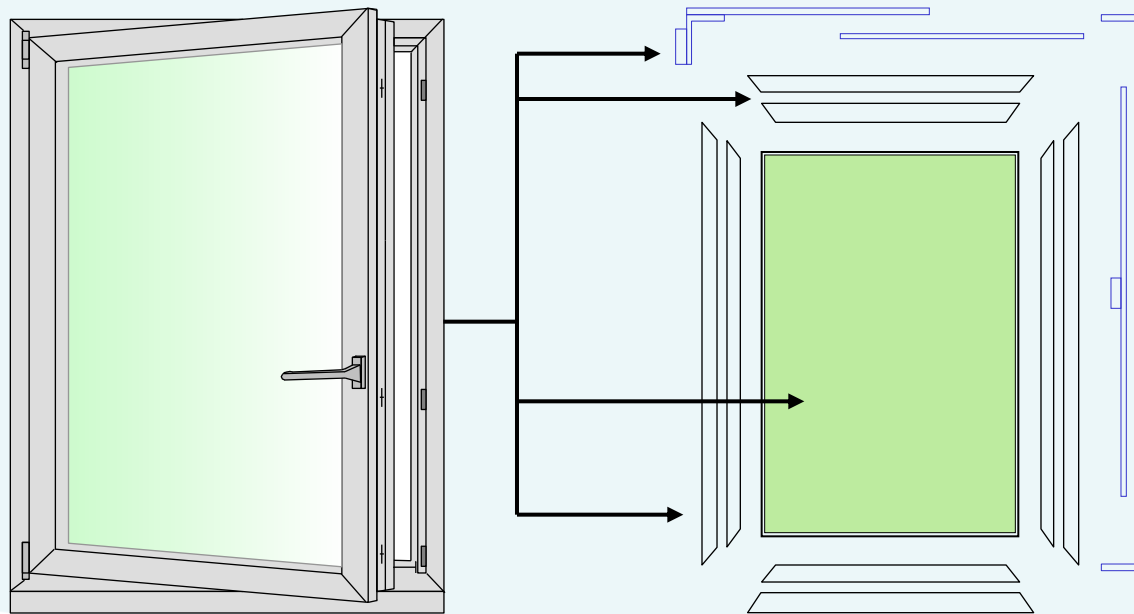
Branchevereniging
hang- & sluitwerk



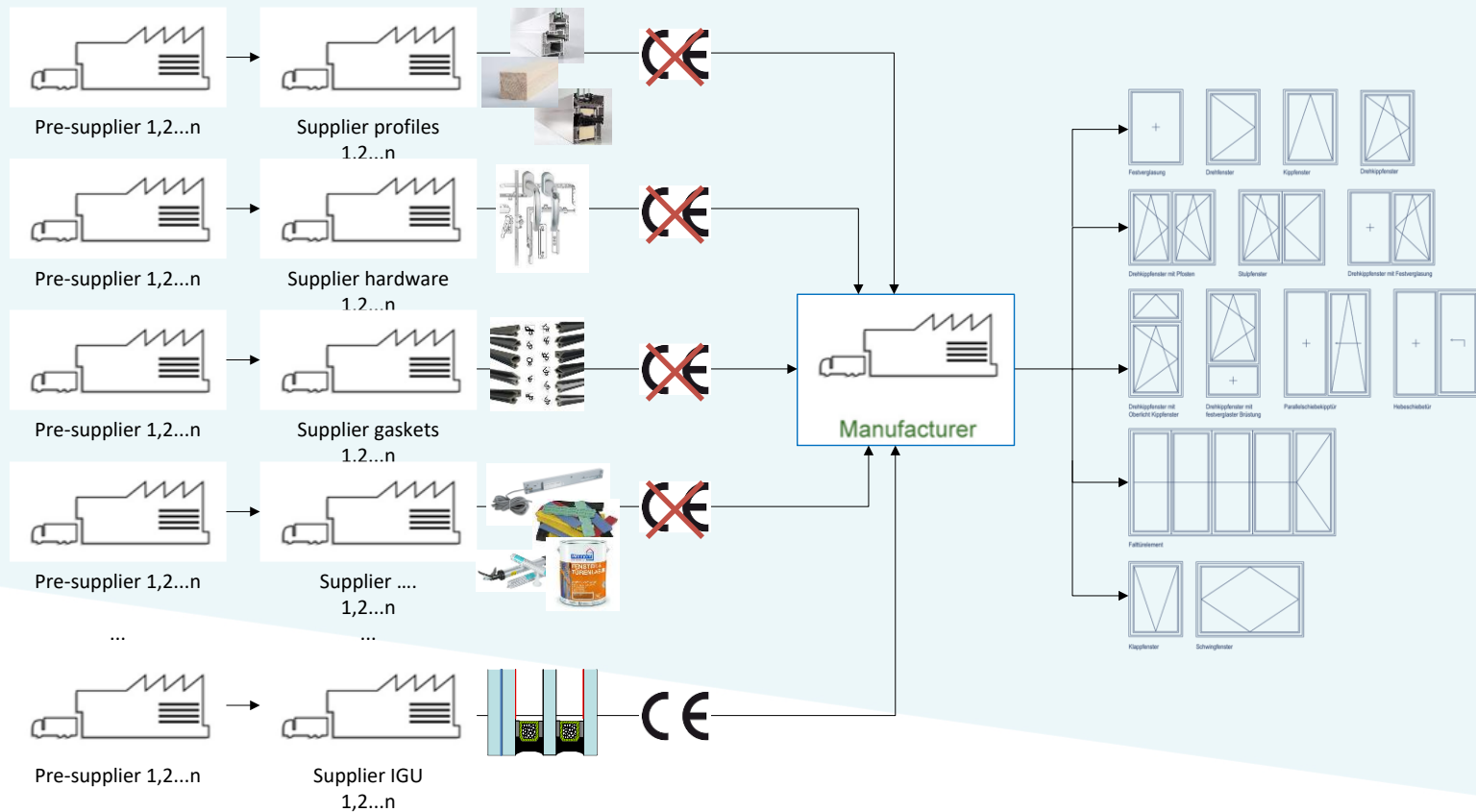
Members of EuroWindoor (19 associations from 15 countries)



Source: From Wikimedia Commons, the free media repository



- Profielen
- Vakvulling (glas, panelen)
- Hang- en sluitwerk
- Rubbers
- Onderdelen/accessoires

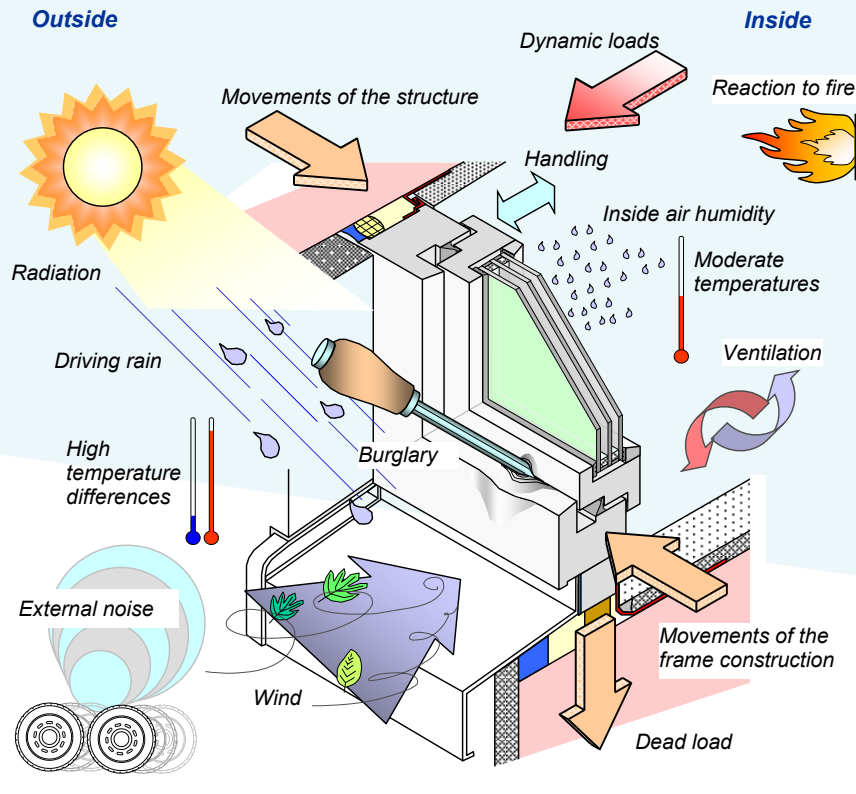


Fabrikanten in Europa

- ✓ 50.000 fabrikanten van ramen en deuren in Europa
- ✓ 76 miljoen ramen per jaar (>80% maatwerk projectspecifiek)



Essentielle eigenschappen



Essentiële eigenschappen

Essential characteristics

reaction to fire
 resistance to fire E
 resistance to fire EI
 resistance to fire EW
 resistance to fire EI-M
 resistance to fire RE
 resistance to fire REI
 smoke control
 self-closing
 external fire performance
 ventilation capacity of air transfer devices - airflow coefficient
 ventilation capacity of air transfer devices - pressure exponent
 water tightness - pedestrian doorsets, windows and rooflights
 included in Part D.1 and Part D.0
 resistance to snow and permanent load
 manual operating forces - window operating forces - non-vertical sliding windows
 manual operating forces - force for hand operated hardware - non-vertical sliding windows
 manual operating forces - force for finger operated hardware - non-vertical sliding windows
 manual operating forces - force to start motion/force to operate - vertical sliding windows
 manual operating forces - force for hand operated hardware - vertical sliding windows
 manual operating forces - force for finger operated hardware - vertical sliding windows
 impact resistance - soft body
 resistance to wind load - pressure limits - testing
 resistance to wind load - relative frontal deflection - testing
 resistance to wind load - pressure limits - calculation
 resistance to wind load - relative frontal deflection - calculation

resistance against bullet attack - handguns and rifles
 resistance against bullet attack - shotguns
 resistance against bullet attack - assault rifle
 explosion resistance - shock tube
 explosion resistance - range test
 load bearing capacity of safety devices
 direct airborne sound insulation - testing
 direct airborne sound insulation - calculation
 direct airborne sound insulation - tabulated values
 thermal transmittance reference size - testing
 thermal transmittance reference size - calculation
 thermal transmittance reference size - tabulated values
 thermal transmittance - glazing
 thermal transmittance - frame
 thermal transmittance - opaque panel
 linear thermal transmittance at glazing, spacer and frame transition
 linear thermal transmittance between opaque panel and frame
 linear thermal transmittance of the glazing bars
 thermal transmittance with closed shutter and/or shading equipment
 air permeability related to overall area - windows and external doorsets
 air permeability related to opening joint length - windows and external doorsets
 total solar energy transmittance - glazing
 total solar energy transmittance - glazing with closed shutter and/or shading equipment
 light transmittance - glazing
 light transmittance - glazing with closed shutter and/or shading equipment

Product information

[ventilation area at open position](#)
[clear opening height](#)
[clear opening width](#)
[area of the glazing](#)
[areas of the frame](#)
[area of the opaque panel](#)
[perimeter of the glazing](#)
[perimeter of the opaque panel](#)
[length of the glazing bars](#)
[opaque area fraction](#)
[torque for hand operated hardware](#)
[torque for finger operated hardware](#)



U-waarden (thermisch)

✓ Huidige productnorm: EN 14351-1:2006+A2:2016

EN 4.12	Thermal transmittance	Declared value	EN ISO 10077-1:2006, Table F.1 or Table F.3, Annex J	Tabulated values	—	Not specified	All sizes
			EN ISO 10077-1	Calculation	—	1,23 ($\pm 25\%$) m ² × 1,48 (-25%) m	Overall area $\leq 2,3 \text{ m}^2$ ^{c d}
			EN ISO 10077-1 and EN ISO 10077-2		—	or 1,48 ($+25\%$) m × 2,18 ($\pm 25\%$) m	Overall area $> 2,3 \text{ m}^2$ ^c
			EN ISO 12567-1 EN ISO 12567-2	Non-destructive	1	1,23 ($\pm 25\%$) m ² × 1,48 (-25%) m	Overall area $\leq 2,3 \text{ m}^2$ ^{c d}
					1	or 1,48 ($+25\%$) m × 2,18 ($\pm 25\%$) m	Overall area $> 2,3 \text{ m}^2$ ^c ⁽⁴⁾

^c Where detailed calculation of the heat loss from a specific building is required, the manufacturer shall provide accurate and relevant, calculated or tested thermal transmittance values (design values) for the size(s) in question.

U-waarden (thermisch)

Standardisation Request:

CPR 2024/3110, Article 4, 3:

“Following the working plan established under paragraph 2, **Member States** shall communicate to the Commission and the CPR Acquis Expert Group the essential characteristics they require for a product family or product category, **and the assessment methods**, threshold levels or classes of performance, as well as the product requirements, that they deem necessary.”

thermal transmittance reference size - testing
thermal transmittance reference size - calculation
thermal transmittance reference size - tabulated values

Risico:

- ✓ 3 verschillende waarden afhankelijk van de testmethode.
- ✓ Verschillende lidstaten vereisen andere assessment methods.
- ✓ Hoe gaan we aantonen dat een bepaalde waarde conservatief is?





thermal transmittance reference size - calculation

Ramen

1,23 ($\pm 25\%$) m
 $\times 1,48 (-25\%)$ m

or

1,48 (+25 %) m x
2,18 (± 25 %) m

Overall area

$$\leq 2,3 \text{ m}^2 \text{ c d}$$

Overall area

$$> 2,3 \text{ m}^2 \text{ c}$$

Deuren

1,23 ($\pm 25\%$) m x
2,18 ($\pm 25\%$) m

or

2,00 ($\pm 25\%$) m x
2,18 ($\pm 25\%$) m

Overall area^d $\leq 3,6 \text{ m}^2$ Overall area^d
$$> 3,6 \text{ m}^2$$

Oneindig veel combinaties:

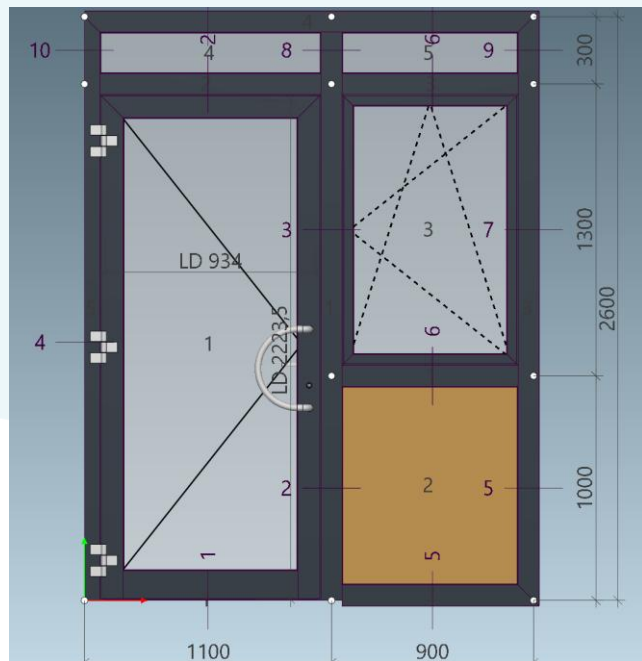
- ✓ Verschillende vakvullingen
- ✓ Verschillende afstandhouders in het glas
- ✓ Verschillende profielen
- ✓ ...

U-waarden (thermisch)

U_g
U_f
U_p
Ψ_g
Ψ_p
Ψ_{gb}
A_g
A_f
A_p
l_g
l_p
l_{gb}

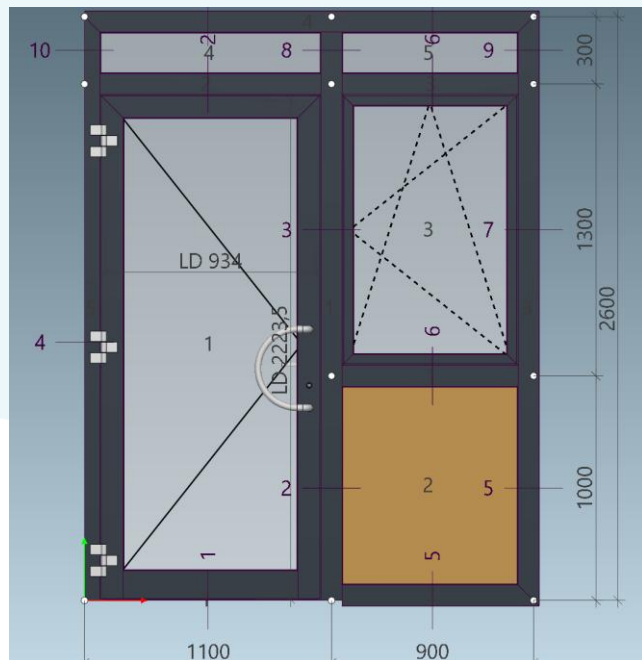
12 nieuwe essentiële eigenschappen
voor het berekenen van U_w

U-waarden (thermisch)



Profielen / combinaties	Uf (W/m² K)	Raamvlak (m²)	Warmteverlies (W/K)
1 244693 / 381120 / 385540	2.2 #	0.125	0.27
6 284828 / 288138 / 288149 / 382290 / 466890	1.6 #	0.230	0.37
3 284828 / 288149 / 381930 / 382290 / 395730 / 466890	2.3 #	0.298	0.69
7 284828 / 288149 / 382290 / 466890	1.5 #	0.141	0.21
8 288138 / 288138 / 382290	1.5 #	0.023	0.03
2 288138 / 381930 / 382290 / 395730	2.3 #	0.374	0.86
10 288138 / 382150	1.3 #	0.017	0.02
5 288138 / 382290	1.3 #	0.123	0.16
9 288138 / 382290	1.4 #	0.147	0.21
4 381930 / 382150 / 395730	2.3 #	0.371	0.85
Beglazing	Ug (W/m²K)	Glasvlak (m²)	Warmteverlies (W/K)
Veld 1 - Nieuw glas	1.1	1.569	1.73
Veld 3 - Nieuw glas	1.1	0.764	0.84
Veld 4 - Nieuw glas	1.1	0.181	0.20
Veld 5 - Nieuw glas	1.1	0.144	0.16
Paneel	Up (W/m²K)	Paneelvlak (m²)	Warmteverlies (W/K)
Veld 2 - Nieuw paneel	0.40	0.693	0.28
Glasrandverbinding	Psi-waarde (W/mK)	Lengte (m)	Warmteverlies (W/K)
Veld 1 - Nieuw glas	0.11	5.614	0.62
Veld 3 - Nieuw glas	0.11	3.596	0.40
Veld 4 - Nieuw glas	0.11	2.360	0.26
Veld 5 - Nieuw glas	0.11	1.960	0.22
Paneelrandverbinding	Psi-waarde (W/mK)	Lengte (m)	Warmteverlies (W/K)
Veld 2 - Nieuw paneel	0.050 *	3.360	0.17
Totaal vlak m²			5.200 m²
Kozijnandeel			35.55 %

U-waarden (thermisch)



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DoPC

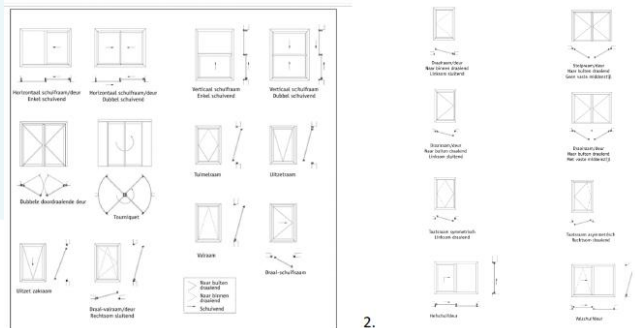
Product
information



U-waarden (thermisch)

Laatste voorstel namens Nederland:

- ✓ Alle 'projectspecifieke' eigenschappen naar de Product Information (buiten AVS system)
- ✓ U-waarden op reference size bepalen per vak in samengestelde elementen



3. Figure left: frames with windows – Figure right: frames with doors.

- ✓ Voor eigenschappen welke worden gekopieerd van een aan andere DoPC direct hiernaar verwijzen

Product type

- ✓ ‘product type’ means the abstract model of individual products, determined by the intended use and a set of characteristics which exclude any variation with regard to performance or to the fulfilment of product requirements set out in or in accordance with this Regulation, whilst identical products of different manufacturers belong to different product types
- ✓ AVS System 3: “Notified body focusing on the determination of the product type”
- ✓ Article 76: Digital product passport: “2 (d) correspond to the product type and its unique identification code referred to in Article 22(5)”



Uitdagingen

- ✓ Oneindig veel combinaties van profielen en vakvullingen (maatwerk projectspecifiek)
- ✓ Het gevelelement wordt samengesteld aan de hand van de eisen in de regelgeving (blanco DoPC vooraf)
- ✓ DoPC pas beschikbaar na productie
- ✓ Door de definitie van product type i.r.t. AVS en DPP veel onduidelijkheden
- ✓ Veel producten worden geleverd als een kit
- ✓ Vaak kleine fabrikanten, waar specifieke kennis mist
- ✓ Kostenverhogend
- ✓ Veel berekeningen zijn wel mogelijk onder AVS level 4 m.b.v. geverifieerde software



Bedankt voor uw aandacht

✓ Vragen?

