

Calculation of weighted view out

To quantify and qualify the view out through different solar shadings the weighted view out can be calculated with the formula:

$$\text{Weighted view out} = T_{\text{activated}} * F_{\text{view}}$$

Where,

$T_{\text{activated}}$ is the percentage of occupant hours, where the shading is activated [%]
 F_{view} is the weighting factor for view out found in accordance with EN14501 and the Danish national guideline on indoor climate simulations: "Branchevejledning for indeklimasimuleringer".

Detailed description of weighted view out

The weighted view out is based the European standard EN14501:2021, that classifies the view out class of shading devices.

The view out class depends on the normal-normal transmission (t_{n-n}) and normal-diffuse transmission (t_{n-dif}) according to table 1 below.

$\tau_{v,n-n}$	$\tau_{v,n-dif}$		
	$0 < \tau_{v,n-dif} \leq 0,04$	$0,04 < \tau_{v,n-dif} \leq 0,15$	$\tau_{v,n-dif} > 0,15$
$\tau_{v,n-n} > 0,10$	4	3	2
$0,05 < \tau_{v,n-n} \leq 0,10$	3	2	1
$0,00 < \tau_{v,n-n} \leq 0,05$	2	1	0
$\tau_{v,n-n} = 0,00$	0	0	0

Table 1: View out classes according to EN14501:2021.

Usually, the view out class is given by the manufacturer. If this is not the case, it can be calculated using the shading calculator SimShade (www.simshade.com).

When the view out class is know the Danish national guideline on indoor climate simulations: "Branchevejledning for indeklimasimuleringer" should be used to find the weighting factor for blocked view. In table 2 below the weighting factors for blocked view is shown.

	View out class (EN14501:2021)	Weighting factor for blocked view, F_{blocked}
Shading with blocked view	0	1
	1	0,95
	2	0,80
	3	0,60
Shading with best view	4	0,15

Table 2: Weighting factor for blocked view according to
"Branchevejledning for indeklimasimuleringer"

The weighting factor for view out is calculated as $F_{\text{view}} = 1 - F_{\text{blocked}}$