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1. Window Information

Profile System:

Framing Profile:

Transom Profile:

Mullion Profile:

Glass:

Glass ID Make up

2. Applied Load

Wind pressure (W): kN/m² (when member tributary area <= 1m²)

Horizontal live load (L): --

Dead load (D):

Density of glass	2500 kg/m ³
Density of aluminum	2700 kg/m ³
Density of thermal break	1270 kg/m ³
(the weight of all other accessories is assumed to be 20% of the weight of thermal break)	

Climatic conditions:

Indoor-outdoor temperature difference in summer	K°
Indoor-outdoor temperature difference in winter	K°

Part security factors:

For external loads	$\Phi_w =$
For temperature difference	$\Phi_T =$

3. Codes and Specifications

- [1] **DIN EN 1991-1-1**, Actions on structures – Part 1-1: General actions – Densities, self-weight, imposed loads for buildings, 2010-12.
- [2] **DIN EN 1991-1-1**, National Annex – Nationally determined parameters, Actions on structures – Part 1-1: General actions – Densities, self-weight, imposed loads for buildings, 2010-12.
- [3] **DIN EN 1991-1-4**, Actions on structures – Part 1-4: General actions – Wind actions, 2010-12.
- [4] **DIN EN 1991-1-4**, National Annex – Actions on structures – Part 1-4: General actions – Wind actions, 2010-12.
- [5] **DIN EN 1999-1-1**, Design of aluminum structures – Part 1-1 General structural rules, 2014-03
- [6] **DIN EN 13830**, Curtain wall product standard, 2015-07

4. Allowable Deflection

In out-of-plane direction (z-direction), allowable deflection d

In in-plane direction (y-direction), allowable deflection is the lower value of $L/300$ and 3mm.

5. Materials

5.1 Aluminum -

Young's modulus	$E = 70\text{GPa}$
Poisson's ratio	$\nu = 0.3$
0.2% apparent limit of elasticity	$\beta_{0.2} = \quad \text{MPa}$
Coefficient of thermal expansion	$\alpha = 23\text{e-}06 \text{ 1/K}$

5.2 Thermal break -

Shear strength at -20°C	$R_{USV_{20}} =$	N/m	Elastic constant at -20°C	$C_{-20} =$	N/mm^2
Shear strength at $+80^{\circ}\text{C}$	$R_{USV_{80}} =$	N/m	Elastic constant at $+20^{\circ}\text{C}$	$C_{20} =$	N/mm^2
Tensile strength at -20°C	$R_{UST_{20}} =$	N/m	Elastic constant at $+80^{\circ}\text{C}$	$C_{80} =$	N/mm^2
Tensile strength at $+80^{\circ}\text{C}$	$R_{UST_{80}} =$	N/m			
Reduction factor (A_2) for aging and behavior under long period of loading			$A_2 = 1.2$		