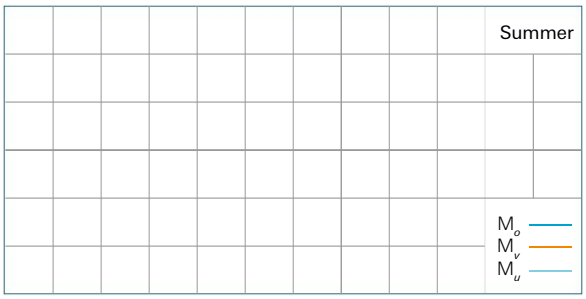
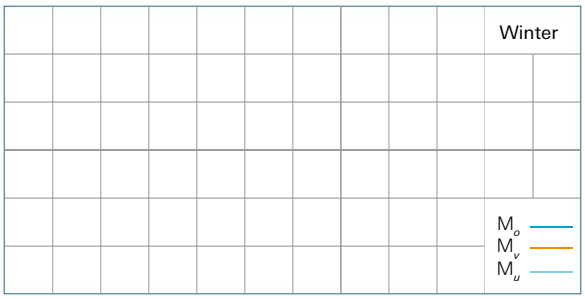
6. Result

6. Result for Structural Member			Article	
Length	*cm*	λ_{-20}	I_y	cm^4
Depth	*cm*	λ_{20}	I_l	cm^4
Weight	*N/m*	λ_{80}	I_s	cm^4
Tributary area	m^2	$\frac{C_{pe}}{C_{pe1}}$	I_v	cm^4
			v	

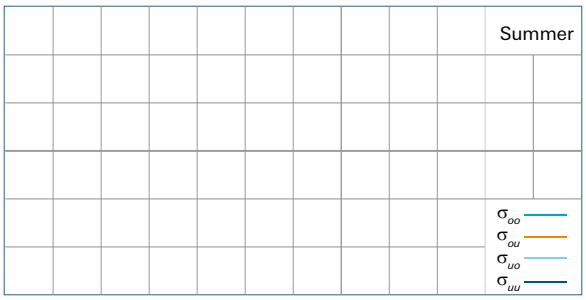
External load

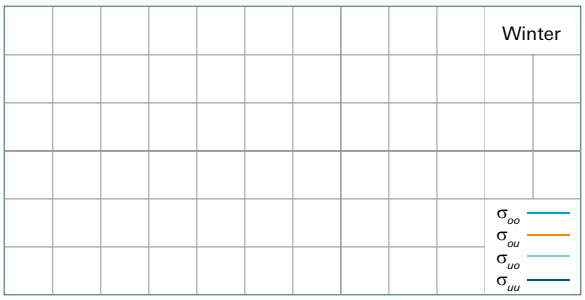
Bending Moment M_o/ M_u/ M_v (kN·cm) from Wind Load



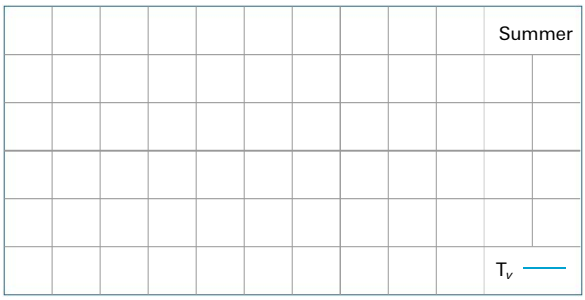


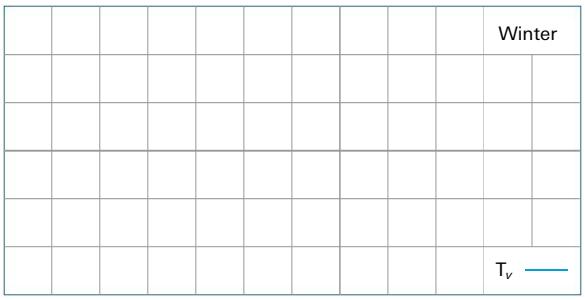
Metal Profile Normal Stresses σ_{oo}/ σ_{ou}/ σ_{uo}/ σ_{uu} (N/mm²) from Wind Load



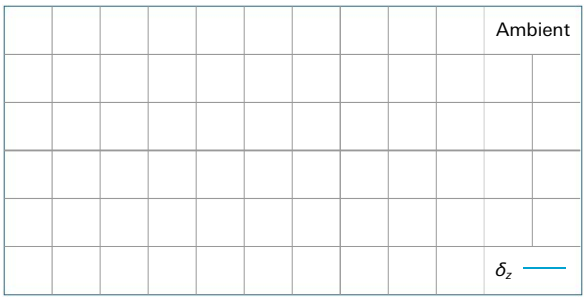


Thermal Isolator Shear Flow T_v (N/mm) from Wind Load

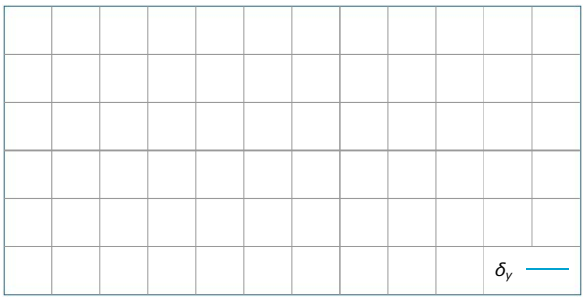




Out-of-Plane Deflection (mm) from Wind Load



In-Plane Deflection (mm)



*Note: the curves shown above are caused by wind load and horizontal live load.

Peak moments

	Summer ($kN \cdot cm$)				Winter ($kN \cdot cm$)			
	M_{omax}	M_{umax}	M_{vmax}	M_{temp}	M_{omax}	M_{umax}	M_{vmax}	M_{temp}
Wind				--				--
Live load				--				--
Thermal	--	--	--		--	--	--	

Peak stresses

	Summer					Winter				
	Aluminum (N/mm^2)				Isolator (N/mm)	Aluminum (N/mm^2)				Isolator (N/mm)
	σ_{oo}	σ_{ou}	σ_{uo}	σ_{uu}	T_v	σ_{oo}	σ_{ou}	σ_{uo}	σ_{uu}	T_v
Wind										
Live load										
Thermal										
LC1										
LC2										

$\sigma_{max} / \beta_{0.2} =$

$T_{max} / (R^S/A_2) = \begin{cases} Summer \\ Winter \end{cases}$

$20 / R^T = \begin{cases} Summer \\ Winter \end{cases}$

Maximum deflection

Out-of-plane (LC3)

$\delta_z =$

$\delta_{z\_perm} =$

$\delta_z / \delta_{z\_perm} =$

In-Plane (LC4)

$\delta_y =$

$\delta_{y\_perm} = min(L/\quad, 3mm) =$

$\delta_y / \delta_{y\_perm} =$

$1.1(T_{vw}+T_{vt}) / (R^s/A2) = \begin{cases} Summer \\ Winter \end{cases}$