

GRAPHICS

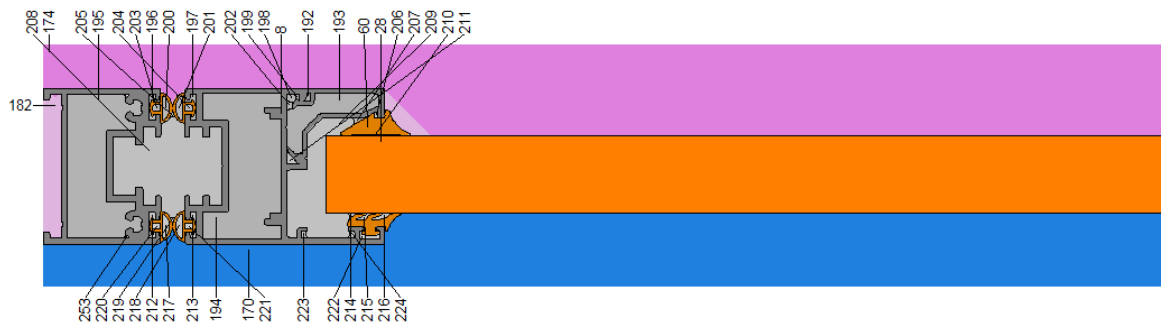


Figure 1. Frame section (with colour numbers)

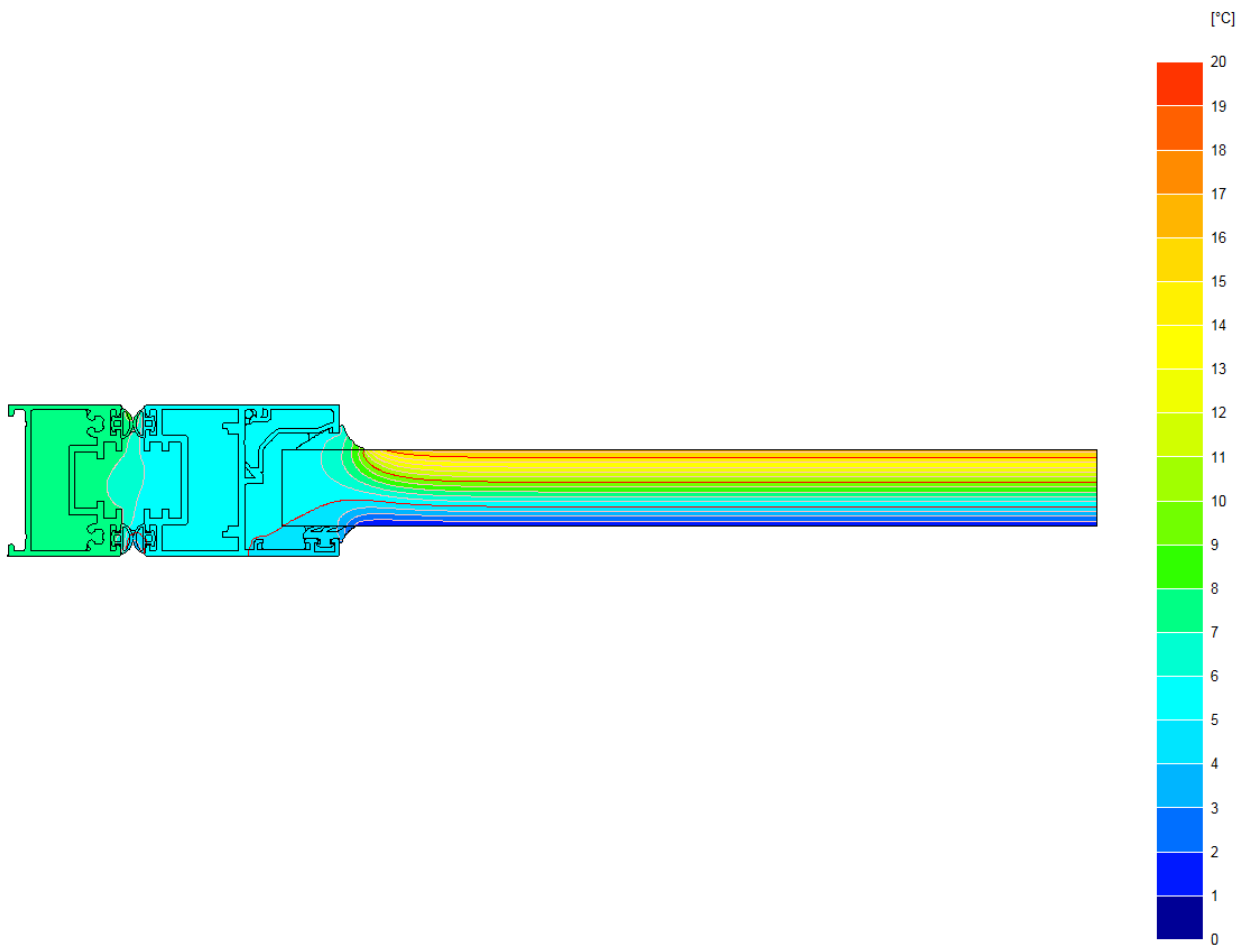


Figure 2. Isotherms (colour increment of 1°C, line increments of 1°C and 5°C)

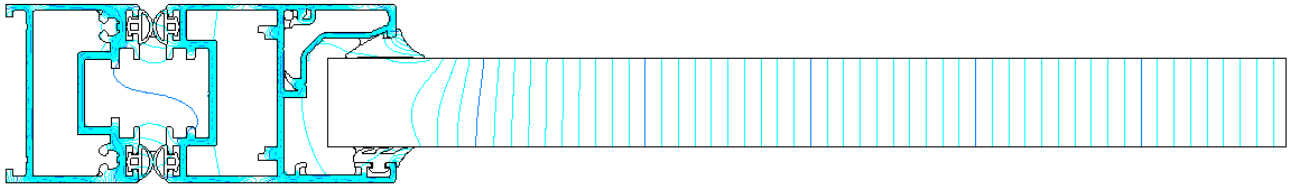


Figure 3. Heat flow lines (increment 0.1 W/m).

BISCO DATA SUMMARY

BISCO data file name **bisco_temp.tif.bsc**
 Bitmap file name **bisco_temp.tif.bmp**
 Pixel width **0.0001 m**
 Triangulation size **5 pixels**
 Number of nodes **34535**

Material thermal conductivity table

Col.	Name	lambda [W/mK]	eps [-]
8	aluminium	160.000	
28	insulation	0.035	
60	EPDM	0.250	
253	cavity <1x1 mm2	0.028	

Boundary condition table

Col.	Name	t [-C]	h [W/m ² K]	q [W/m ²]
170	exterior	0.0	25.00	0
174	interior (normal)	20.0	7.70	0
182	interior (reduced)	20.0	5.00	0

Cavity equivalent thermal conductivity table

Col. lambda lambda [W/mK]	Col. lambda [W/mK]	Col. lambda [W/mK]	Col.
192 0.029	193 0.055	194 0.107	195 0.104
196 0.031	197 0.031	198 0.031	199 0.029
200 0.038	201 0.030	202 0.029	203 0.030
204 0.030	205 0.028	206 0.028	207 0.029
208 0.092	209 0.082	210 0.044	211 0.032
212 0.031	213 0.031	214 0.030	215 0.033
216 0.034	217 0.030	218 0.030	219 0.028
220 0.030	221 0.030	222 0.034	223 0.029
224 0.029			

BISCO MAIN RESULTS

U-value of frame	7.954 W/(m².K)
Width of frame	0.0876 m
U-value of panel 1	1.349 W/(m².K)
Width of panel 1	0.1998 m

Frame thermal transmittance calculation table

Thermal transmittance of frame (EN 10077-2)

$$U_f = (Q / (t_i - t_e) - U_{p1} * w_{p1} - U_{p2} * w_{p2}) / w_f = 7.954 \text{ W/(m}^2 \cdot \text{K)}$$

$$Q = 19.325 \text{ W/m}$$

$$t_i = 20.00^\circ\text{C}$$

$$t_e = 0.00^\circ\text{C}$$

$$U_{p1} = 1.349 \text{ W/(m}^2 \cdot \text{K)} \quad (\text{right edge of bitmap})$$

$$w_{p1} = 0.1998 \text{ m} \quad (\text{distance no. 2})$$

$$U_{p2} = 0.000 \text{ W/(m}^2 \cdot \text{K)}$$

$$w_{p2} = 0.0000 \text{ m}$$

$$w_f = 0.0876 \text{ m} \quad (\text{distance no. 1})$$