

GRAPHICS

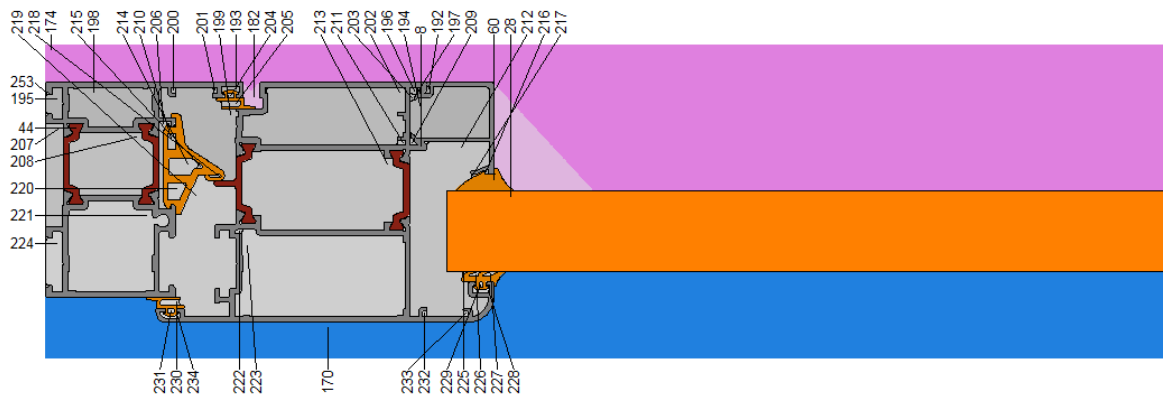


Figure 1. Frame section (with colour numbers)

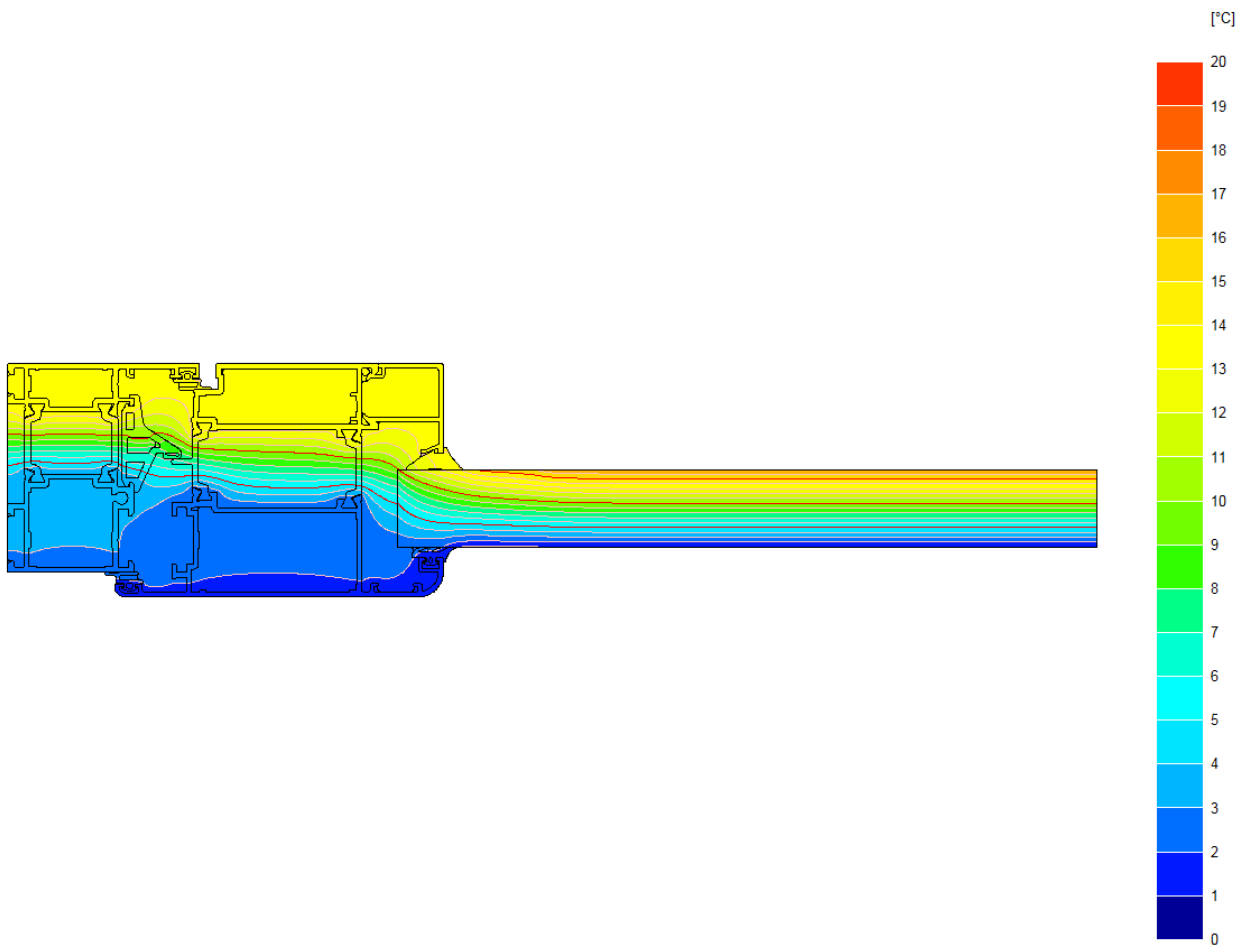


Figure 2. Isotherms (colour increment of 1°C, line increments of 1°C and 5°C)

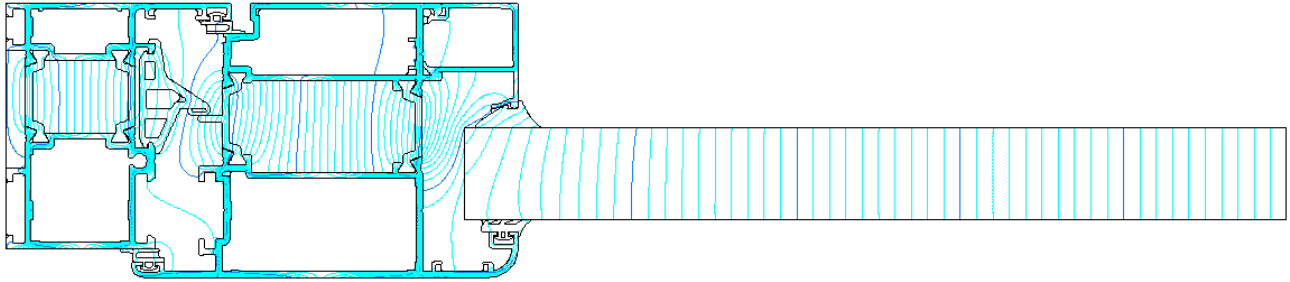


Figure 3. Heat flow lines (increment 0.1 W/m).

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 **65816**

Material thermal conductivity table

Col.	Name	lambda [W/mK]	eps [-]
8	aluminium	160.000	
28	insulation	0.035	
44	polyamid reinf.	0.300	
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 0.030	193 0.036	194 0.075	195 0.048
196 0.031	197 0.028	198 0.064	199 0.089
200 0.030	201 0.030	202 0.085	203 0.029
204 0.030	205 0.031	206 0.054	207 0.113
208 0.087	209 0.030	210 0.038	211 0.029
212 0.173	213 0.114	214 0.040	215 0.029
216 0.028	217 0.029	218 0.028	219 0.137
220 0.038	221 0.094	222 0.028	223 0.102
224 0.063	225 0.028	226 0.028	227 0.028
228 0.032	229 0.029	230 0.030	231 0.029
232 0.029	233 0.029	234 0.034	

BISCO MAIN RESULTS

U-value of frame	3.109 W/(m².K)
Width of frame	0.1337 m
U-value of panel 1	1.173 W/(m².K)
Width of panel 1	0.2006 m

Frame thermal transmittance calculation table

Thermal transmittance of frame (EN 10077-2)

$$U_f = (Q / (t_i - t_e) - U_{p1} * w_{p1} - U_{p2} * w_{p2}) / w_f = 3.109 \text{ W/(m}^2 \cdot \text{K)}$$

$$Q = 13.018 \text{ W/m}$$

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

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

$$U_{p1} = 1.173 \text{ W/(m}^2 \cdot \text{K)} \quad (\text{right edge of bitmap})$$

$$w_{p1} = 0.2006 \text{ m} \quad (\text{distance no. 2})$$

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

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

$$w_f = 0.1337 \text{ m} \quad (\text{distance no. 1})$$