

GRAPHICS

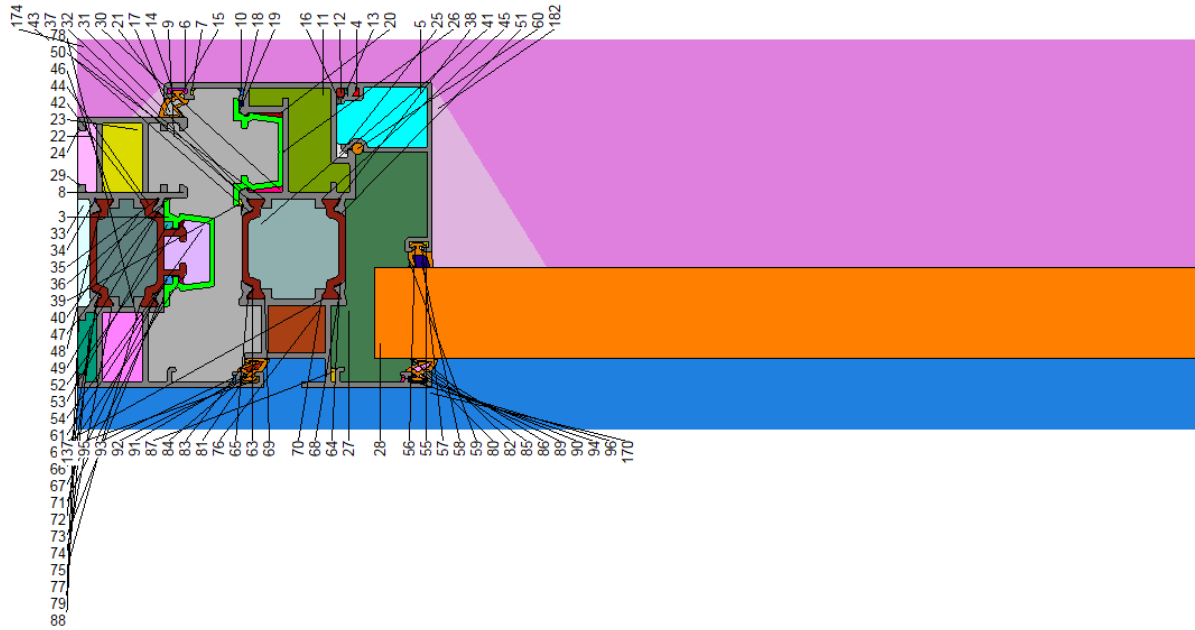


Figure 1. Frame section (with colour numbers)

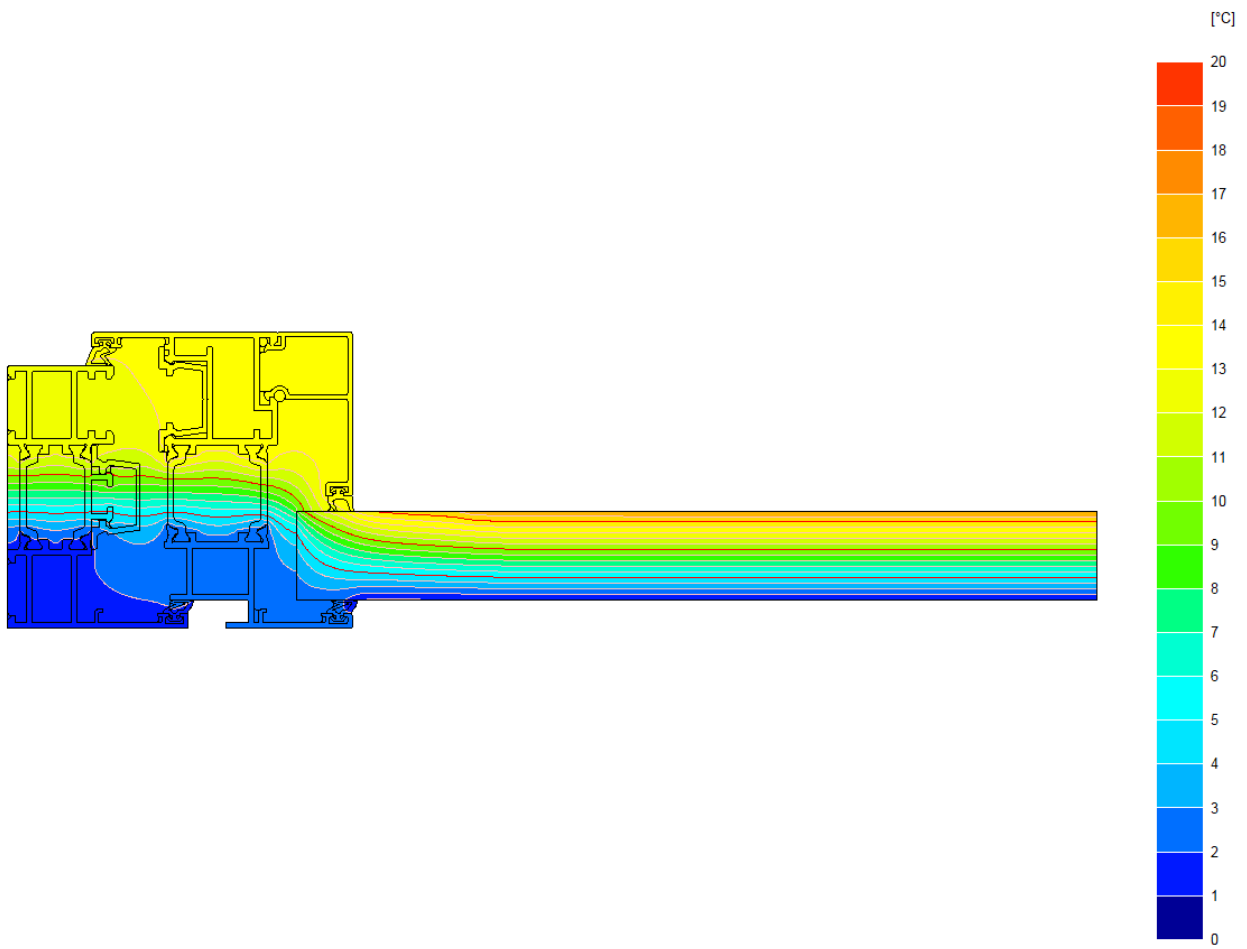


Figure 2. Isotherms (colour increment of 1°C, line increments of 1°C and 5°C)

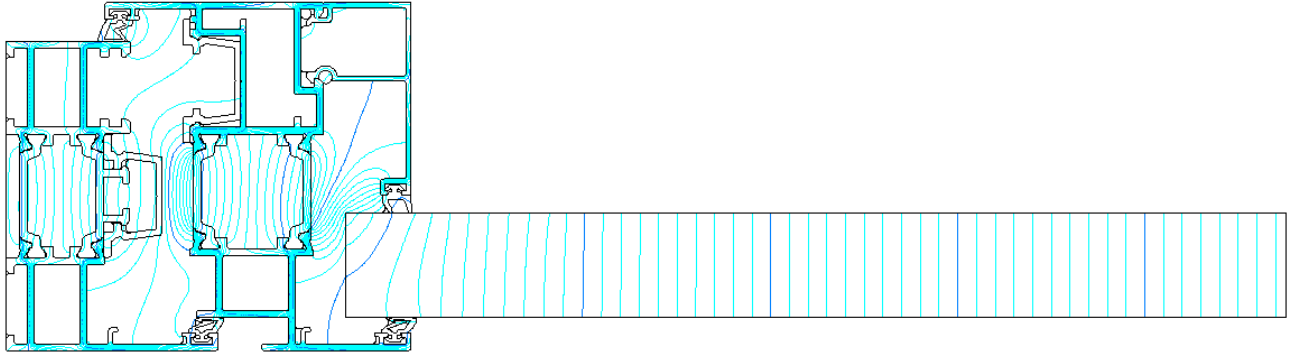


Figure 3. Heat flow lines (increment 0.1 W/m).

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 **55021**

Material thermal conductivity table

Col.	Name	lambda [W/mK]	eps [-]
3	PVC rigid	0.170	
8	aluminium	160.000	
28	insulation	0.035	
44	polyamid reinf.	0.300	
60	EPDM	0.250	
137		1.000	

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	Col. lambda	Col. lambda	Col.
lambda	lambda	lambda	lambda
[W/mK]	[W/mK]	[W/mK]	[W/mK]
4	0.030	5	0.089
9	0.244	10	0.029
13	0.029	14	0.027
17	0.035	18	0.029
21	0.026	22	0.067
25	0.033	26	0.026
30	0.030	31	0.026
34	0.027	35	0.027
38	0.027	39	0.028
42	0.026	43	0.026
47	0.026	48	0.027
51	0.027	52	0.029
55	0.029	56	0.027
59	0.028	61	0.031
64	0.026	65	0.028
68	0.028	69	0.026
72	0.027	73	0.028
76	0.061	77	0.063
80	0.026	81	0.025
84	0.030	85	0.028
88	0.028	89	0.027
92	0.027	93	0.028
96	0.033		

BISCO MAIN RESULTS

U-value of frame	3.413 W/(m².K)
Width of frame	0.0924 m
U-value of panel 1	1.173 W/(m².K)
Width of panel 1	0.1996 m

Frame thermal transmittance calculation table

Thermal transmittance of frame (EN 10077-2)

$$U_f = (Q / (t_i - t_e) - U_{p1} * w_{p1} - U_{p2} * w_{p2}) / w_f = 3.413 \text{ W/(m}^2 \cdot \text{K)}$$

$$Q = 10.989 \text{ W/m}$$

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

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

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

$$w_{p1} = 0.1996 \text{ m} \quad (\text{distance no. 2})$$

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

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

$$w_f = 0.0924 \text{ m} \quad (\text{distance no. 1})$$