

GRAPHICS

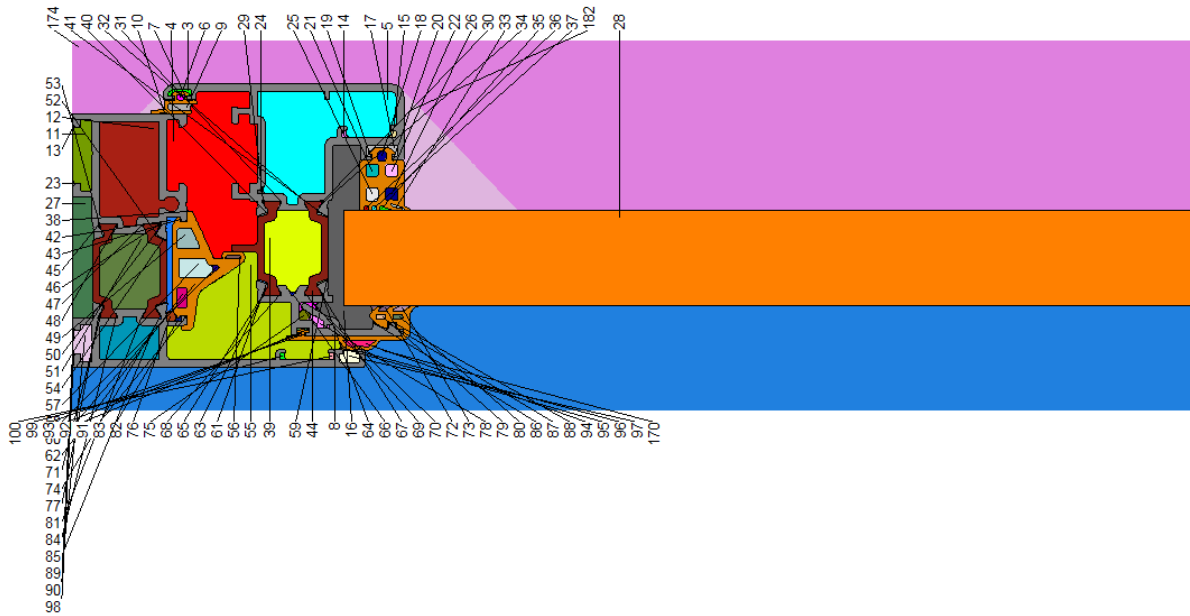


Figure 1. Frame section (with colour numbers)

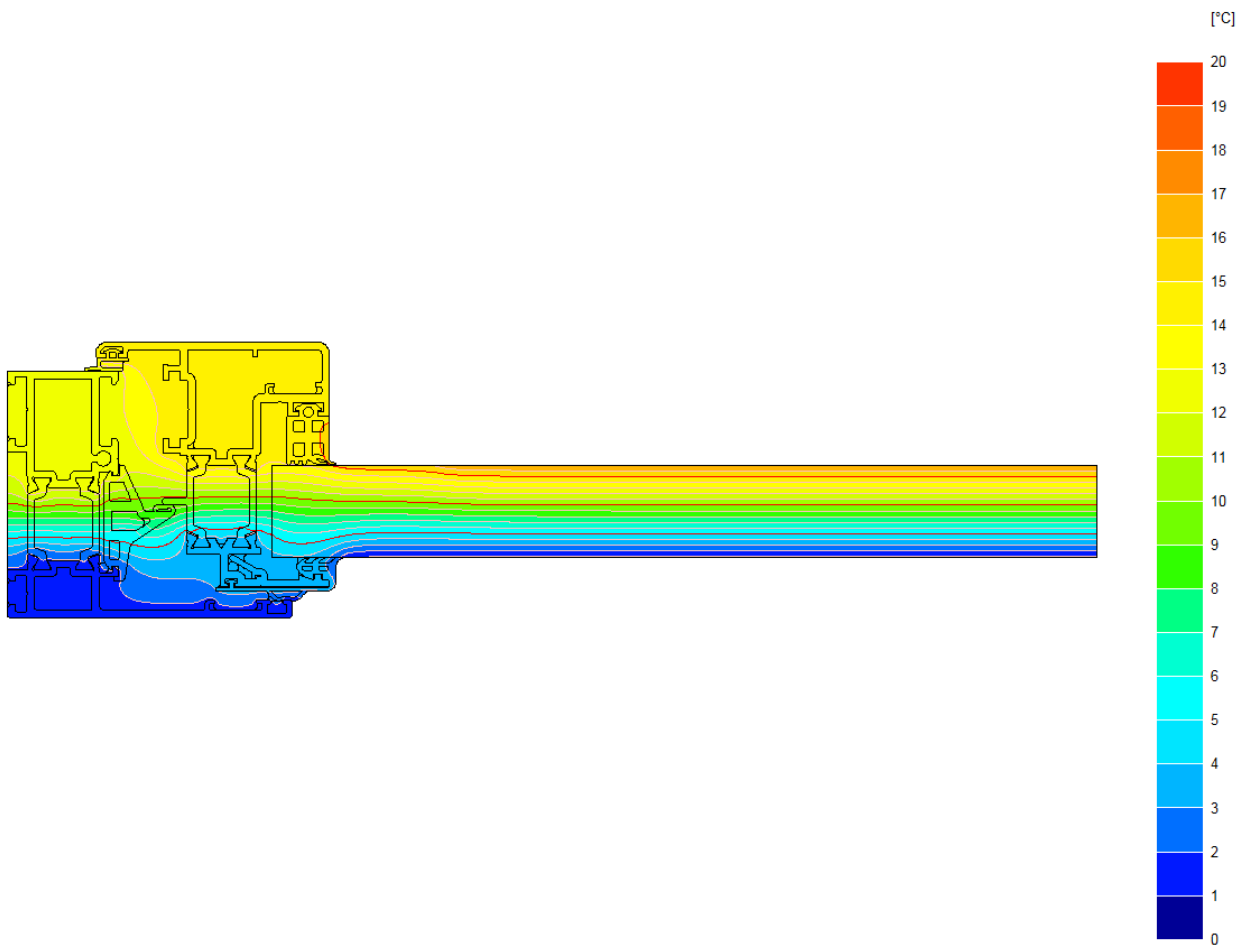


Figure 2. Isotherms (colour increment of 1°C, line increments of 1°C and 5°C)

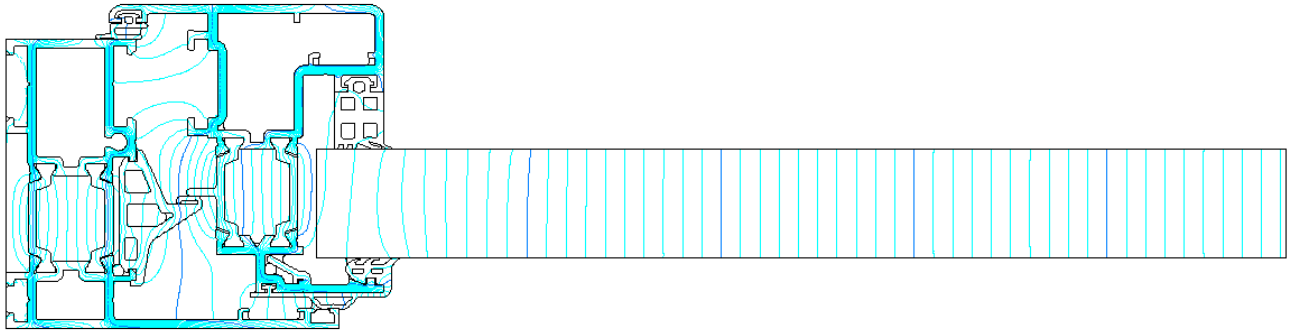


Figure 3. Heat flow lines (increment 0.1 W/m).

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 **49631**

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	

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 lambda [W/mK]	Col. lambda lambda [W/mK]	Col. lambda lambda [W/mK]
3	0.030	4	0.143
7	0.026	9	0.031
12	0.090	13	0.028
16	0.120	17	0.038
20	0.026	21	0.034
24	0.029	25	0.035
29	0.027	30	0.027
33	0.028	34	0.026
37	0.028	38	0.026
41	0.028	42	0.053
46	0.027	47	0.026
50	0.026	51	0.078
54	0.025	55	0.086
58	0.029	59	0.028
63	0.025	64	0.026
67	0.027	68	0.026
71	0.026	72	0.029
75	0.032	76	0.031
79	0.031	80	0.031
83	0.027	84	0.025
87	0.027	88	0.026
91	0.028	92	0.027
95	0.029	96	0.026
99	0.029	100	0.029
		5	0.097
		10	0.026
		14	0.030
		18	0.032
		22	0.034
		26	0.034
		31	0.026
		35	0.028
		39	0.082
		43	0.026
		48	0.025
		52	0.026
		56	0.028
		61	0.028
		65	0.027
		69	0.025
		73	0.034
		77	0.027
		81	0.026
		85	0.054
		89	0.045
		93	0.026
		97	0.034
		6	0.030
		11	0.066
		15	0.030
		19	0.026
		23	0.028
		27	0.113
		32	0.025
		36	0.028
		40	0.028
		45	0.028
		49	0.039
		53	0.026
		57	0.040
		62	0.037
		66	0.027
		70	0.030
		74	0.027
		78	0.032
		82	0.028
		86	0.027
		90	0.027
		94	0.030
		98	0.027

BISCO MAIN RESULTS

U-value of frame	2.840 W/(m².K)
Width of frame	0.0837 m
U-value of panel 1	1.173 W/(m².K)
Width of panel 1	0.1994 m

Frame thermal transmittance calculation table

Thermal transmittance of frame (EN 10077-2)

$$U_f = (Q / (t_i - t_e) - U_{p1} * w_{p1} - U_{p2} * w_{p2}) / w_f = 2.840 \text{ W/(m}^2 \cdot \text{K)}$$

$$Q = 9.431 \text{ W/m}$$

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

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

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

$$w_{p1} = 0.1994 \text{ m} \quad (\text{distance no. 2})$$

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

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

$$w_f = 0.0837 \text{ m} \quad (\text{distance no. 1})$$