

GRAPHICS

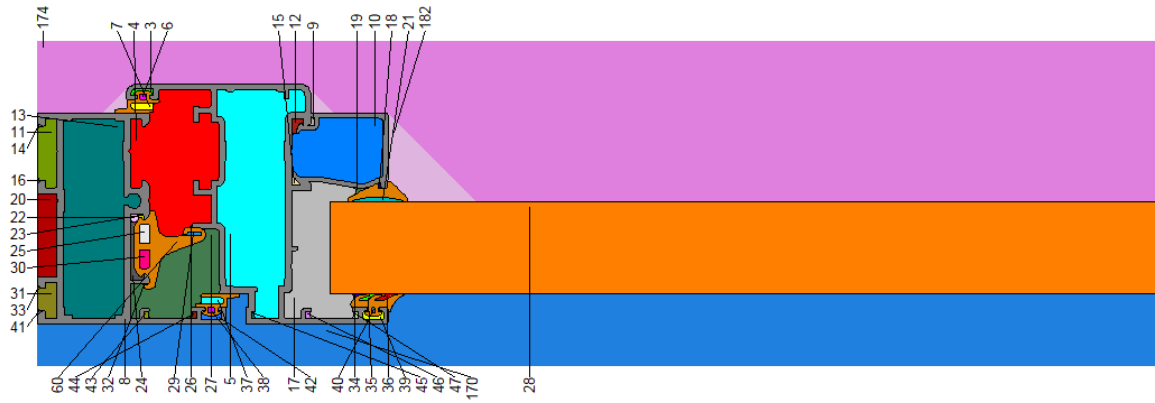


Figure 1. Frame section (with colour numbers)

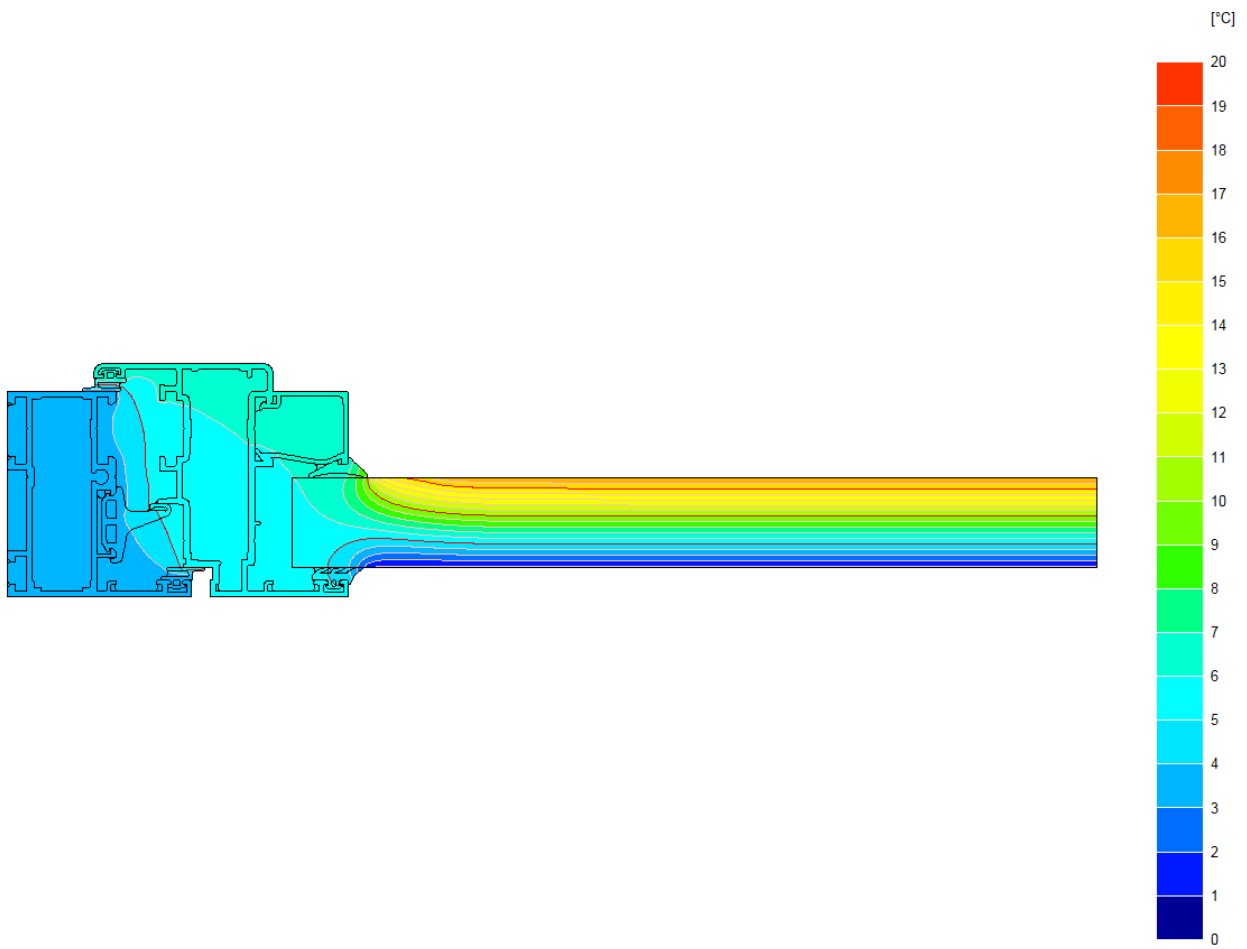


Figure 2. Isotherms (colour increment of 1°C, line increments of 1°C and 5°C)

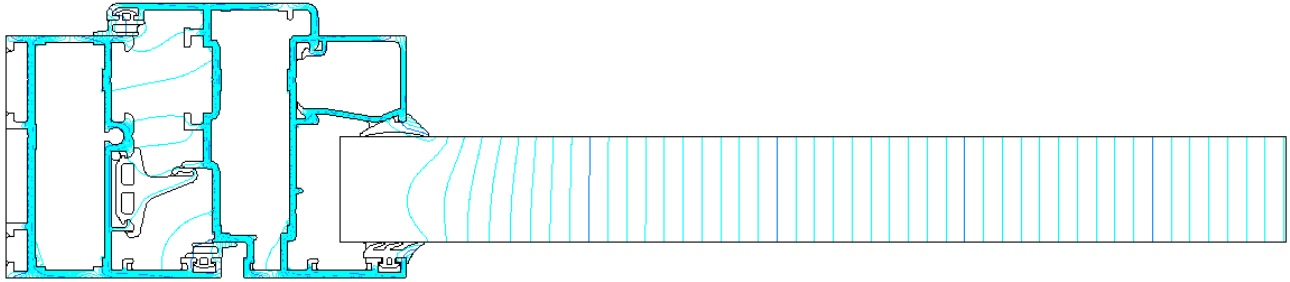


Figure 3. Heat flow lines (increment 0.1 W/m).

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 **47107**

Material thermal conductivity table

Col.	Name	lambda [W/mK]	eps [-]
8	aluminium	160.000	
28	insulation	0.035	
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	Col. lambda	lambda	Col. lambda	lambda
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	[W/mK]		[W/mK]		[W/mK]		[W/mK]
3	0.030	4	0.087	5	0.150	6	0.029
7	0.030	9	0.029	10	0.074	11	0.063
12	0.032	13	0.132	14	0.027	15	0.031
16	0.027	17	0.095	18	0.028	19	0.029
20	0.072	21	0.049	22	0.031	23	0.028
24	0.033	25	0.033	26	0.027	27	0.075
29	0.028	30	0.033	31	0.046	32	0.026
33	0.027	34	0.030	35	0.033	36	0.034
37	0.030	38	0.029	39	0.032	40	0.028
41	0.027	42	0.031	43	0.029	44	0.029
45	0.028	46	0.029	47	0.029		

BISCO MAIN RESULTS

U-value of frame	6.689 W/(m².K)
Width of frame	0.0910 m
U-value of panel 1	1.173 W/(m².K)
Width of panel 1	0.1999 m

Frame thermal transmittance calculation table

Thermal transmittance of frame (EN 10077-2)

$$U_f = (Q / (t_i - t_e) - U_{p1} * w_{p1} - U_{p2} * w_{p2}) / w_f = 6.689 \text{ W/(m}^2 \cdot \text{K)}$$

$$Q = 16.862 \text{ W/m}$$

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

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

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

$$w_{p1} = 0.1999 \text{ m} \quad (\text{distance no. 2})$$

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

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

$$w_f = 0.0910 \text{ m} \quad (\text{distance no. 1})$$