

GRAPHICS

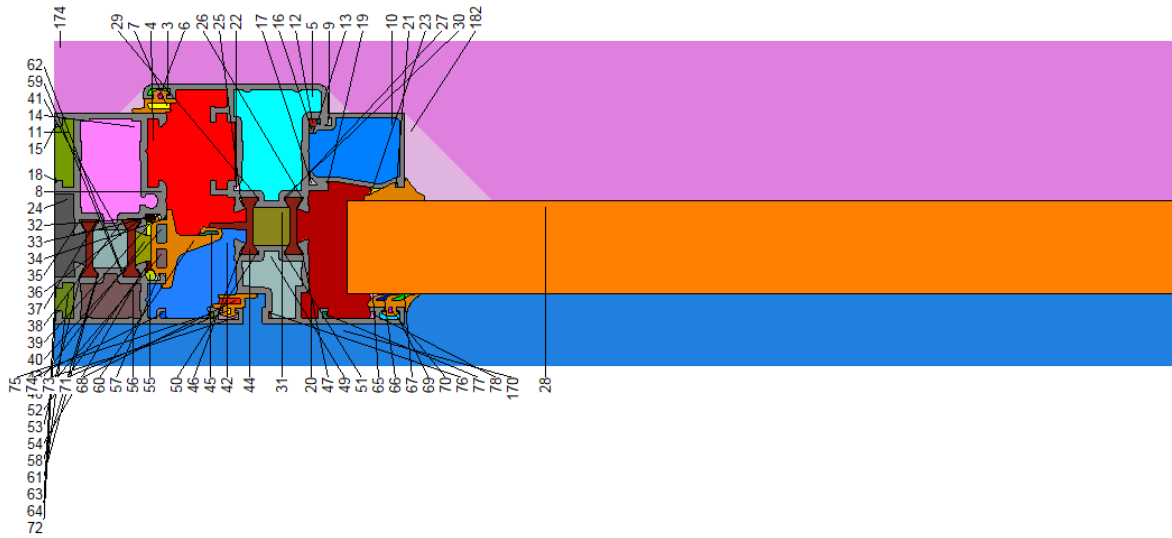


Figure 1. Frame section (with colour numbers)

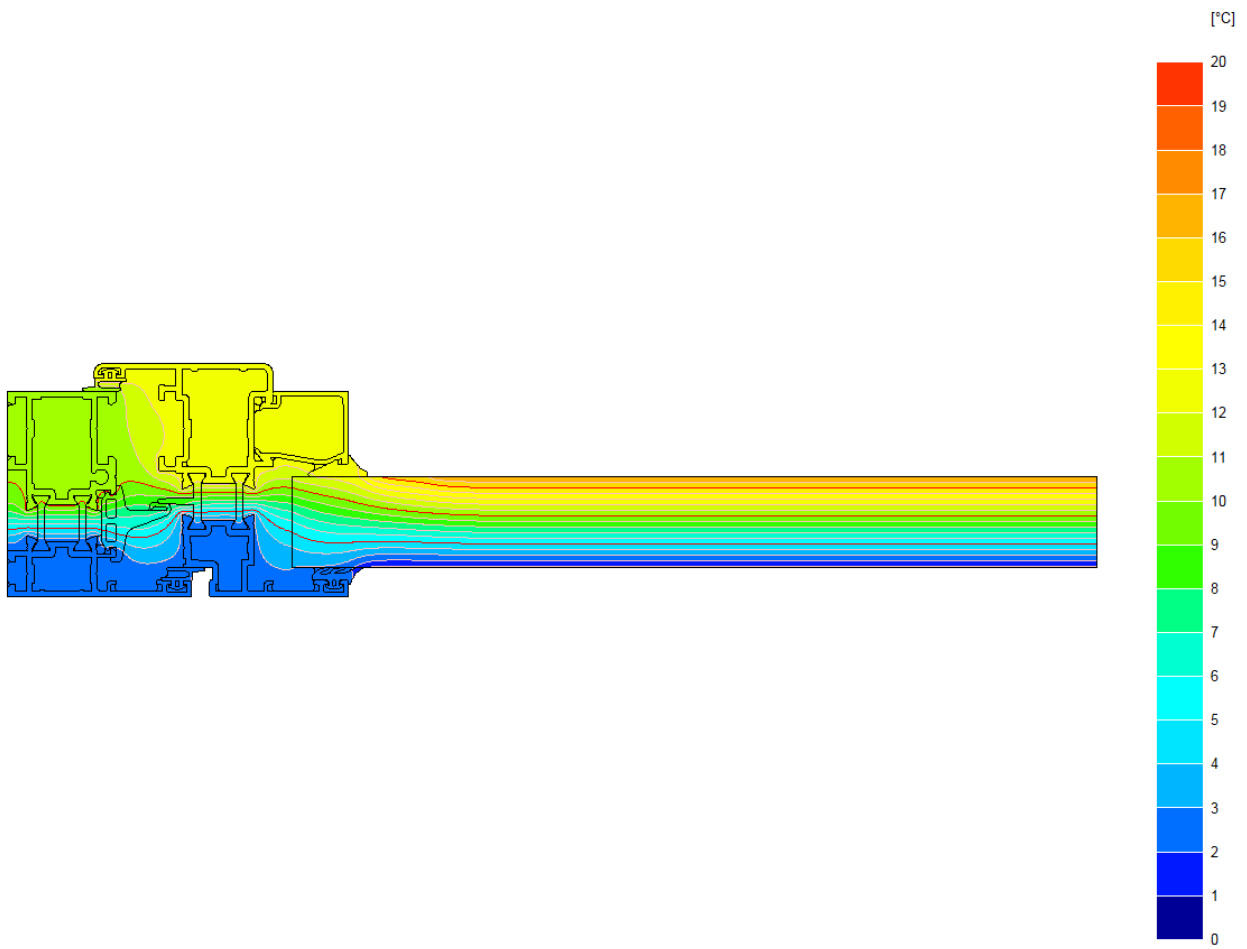


Figure 2. Isotherms (colour increment of 1°C, line increments of 1°C and 5°C)

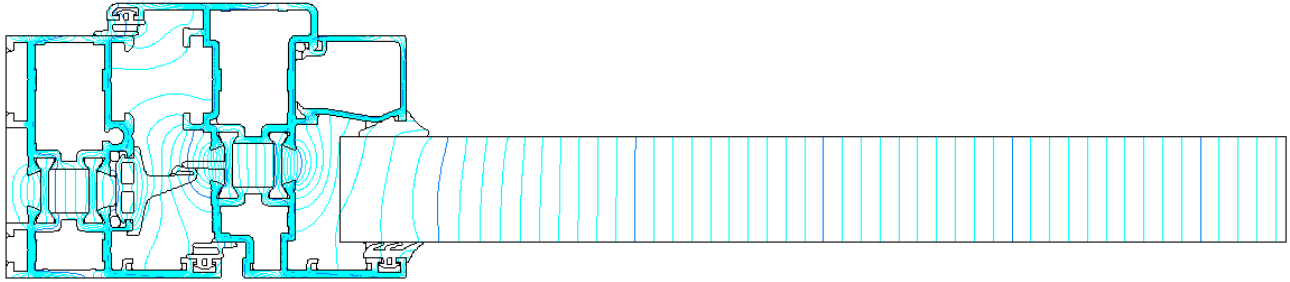


Figure 3. Heat flow lines (increment 0.1 W/m).

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 **47466**

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.
3 0.030	4 0.125	5 0.095	6 0.029
7 0.031	9 0.029	10 0.077	11 0.065
12 0.031	13 0.028	14 0.090	15 0.027
16 0.029	17 0.032	18 0.028	19 0.026
20 0.117	21 0.028	22 0.029	23 0.029
24 0.073	25 0.027	26 0.027	27 0.025
29 0.025	30 0.026	31 0.054	32 0.031
33 0.029	34 0.027	35 0.027	36 0.027
37 0.026	38 0.026	39 0.030	40 0.038
41 0.053	42 0.075	43 0.046	45 0.028
46 0.027	47 0.027	48 0.037	49 0.061
50 0.025	51 0.026	52 0.029	53 0.027
54 0.027	55 0.031	56 0.055	57 0.028
58 0.026	59 0.026	61 0.025	62 0.025
63 0.046	64 0.027	65 0.028	66 0.029
67 0.029	68 0.030	69 0.034	70 0.028
71 0.029	72 0.027	73 0.030	74 0.029
75 0.029	76 0.028	77 0.029	78 0.029

BISCO MAIN RESULTS

U-value of frame	3.718 W/(m².K)
Width of frame	0.0909 m
U-value of panel 1	1.169 W/(m².K)
Width of panel 1	0.2000 m

Frame thermal transmittance calculation table

Thermal transmittance of frame (EN 10077-2)

$$U_f = (Q / (t_i - t_e) - U_{p1} * w_{p1} - U_{p2} * w_{p2}) / w_f = 3.718 \text{ W/(m}^2 \cdot \text{K)}$$

$$Q = 11.435 \text{ W/m}$$

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

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

$$U_{p1} = 1.169 \text{ W/(m}^2 \cdot \text{K)} \quad (\text{right edge of bitmap})$$

$$w_{p1} = 0.2000 \text{ m} \quad (\text{distance no. 2})$$

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

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

$$w_f = 0.0909 \text{ m} \quad (\text{distance no. 1})$$