

GRAPHICS

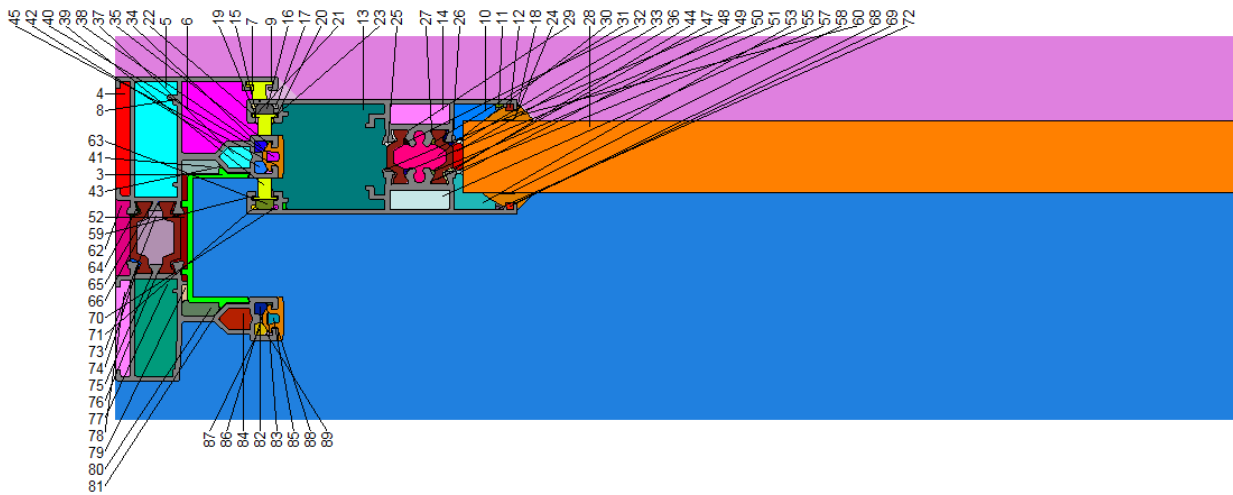


Figure 1. Frame section (with colour numbers)

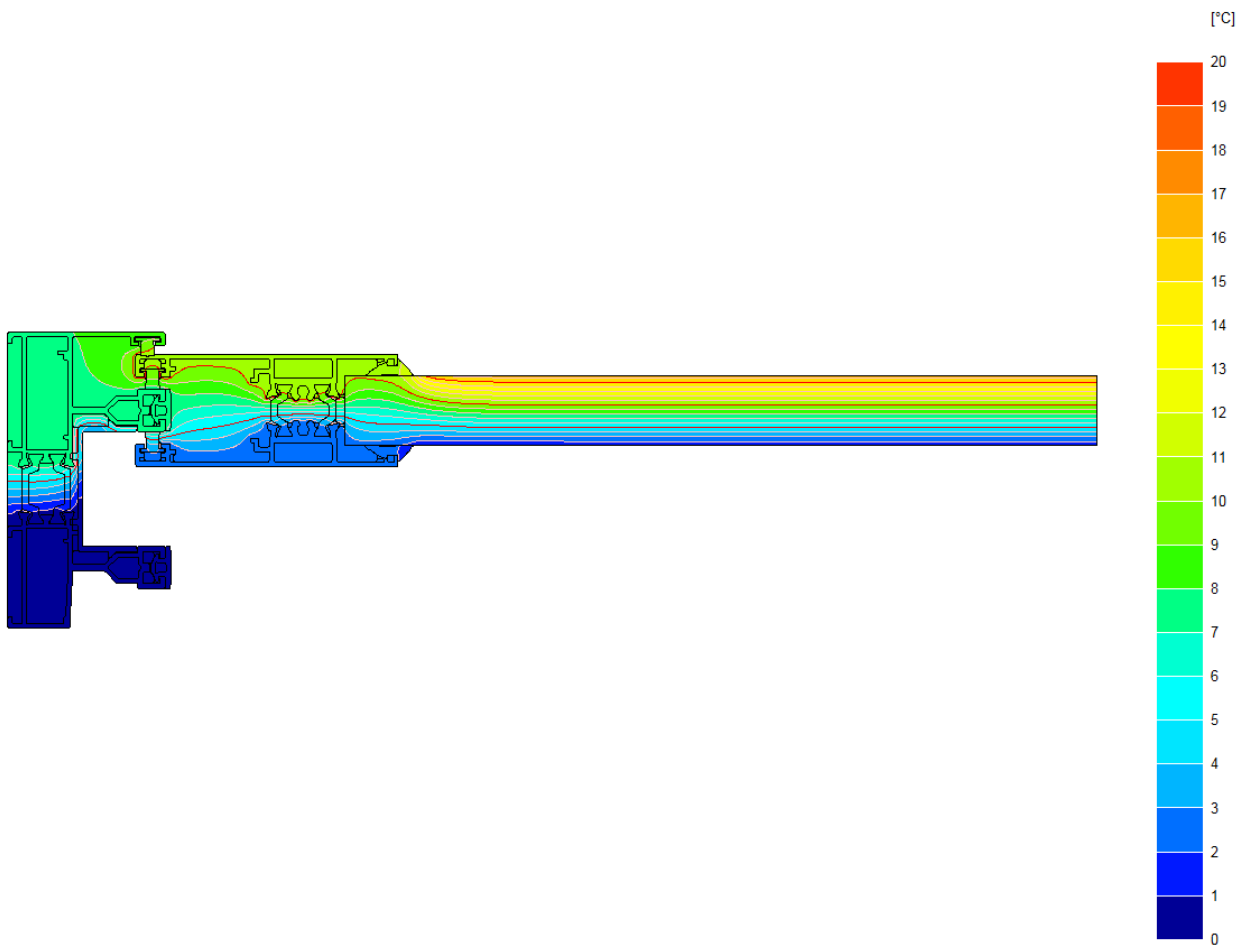


Figure 2. Isotherms (colour increment of 1°C, line increments of 1°C and 5°C)

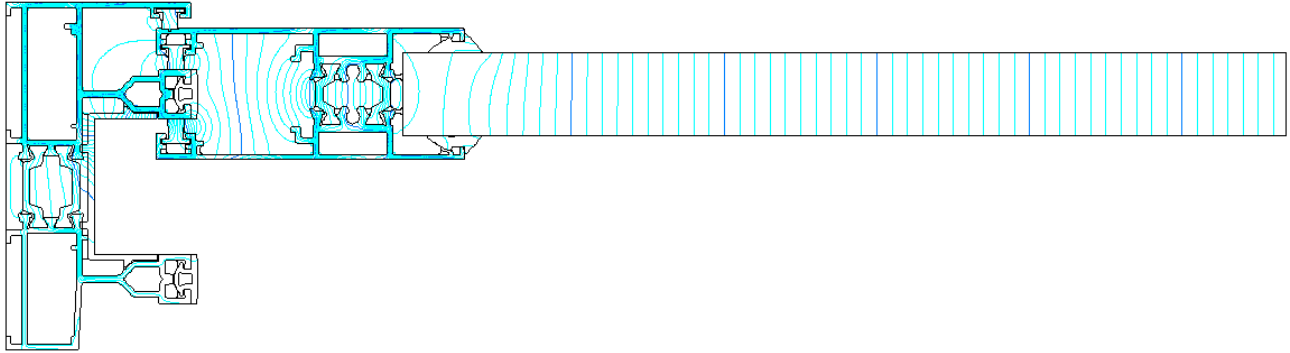


Figure 3. Heat flow lines (increment 0.1 W/m).

### **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                **41847**

#### Material thermal conductivity table

Col.	Name	lambda [W/mK]	eps [-]
3	PVC rigid	0.170	
8	aluminium	160.000	
28	insulation	0.035	
39	polypropyl.sol.	0.220	
44	polyamid reinf.	0.300	
60	EPDM	0.250	

#### Boundary condition table

Col.	Name	t [-C]	h [W/m <sup>2</sup> K]	q [W/m <sup>2</sup> ]
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	lambda
[W/mK]	[W/mK]	[W/mK]	[W/mK]
4	0.093	5	0.102
9	0.026	10	0.048
13	0.121	14	0.045
17	0.029	18	0.026
21	0.027	22	0.028
25	0.031	26	0.031
30	0.054	31	0.029
34	0.034	35	0.029
38	0.033	40	0.027
43	0.028	45	0.025
48	0.031	49	0.029
52	0.036	53	0.046
56	0.028	57	0.043
61	0.027	62	0.070
65	0.026	66	0.026
69	0.026	70	0.028
73	0.060	74	0.031
77	0.062	78	0.078
81	0.027	82	0.033
85	0.033	86	0.026
89	0.028		

## BISCO MAIN RESULTS

U-value of frame	<b>4.593 W/(m<sup>2</sup>.K)</b>
Width of frame	<b>0.1114 m</b>
U-value of panel 1	<b>1.349 W/(m<sup>2</sup>.K)</b>
Width of panel 1	<b>0.1997 m</b>

### Frame thermal transmittance calculation table

Thermal transmittance of frame (EN 10077-2)

$$U_f = (Q / (t_i - t_e) - U_{p1} * w_{p1} - U_{p2} * w_{p2}) / w_f = 4.593 \text{ W/(m}^2 \cdot \text{K)}$$

$$Q = 15.621 \text{ W/m}$$

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

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

$$U_{p1} = 1.349 \text{ W/(m}^2 \cdot \text{K)} \quad (\text{right edge of bitmap})$$

$$w_{p1} = 0.1997 \text{ m} \quad (\text{distance no. 2})$$

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

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

$$w_f = 0.1114 \text{ m} \quad (\text{distance no. 1})$$