

GRAPHICS

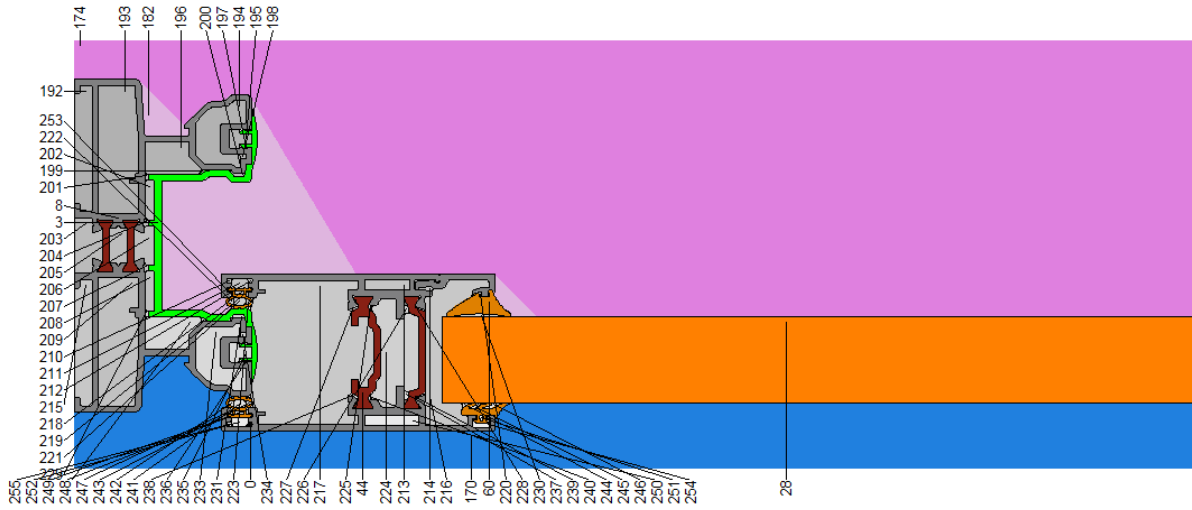


Figure 1. Frame section (with colour numbers)

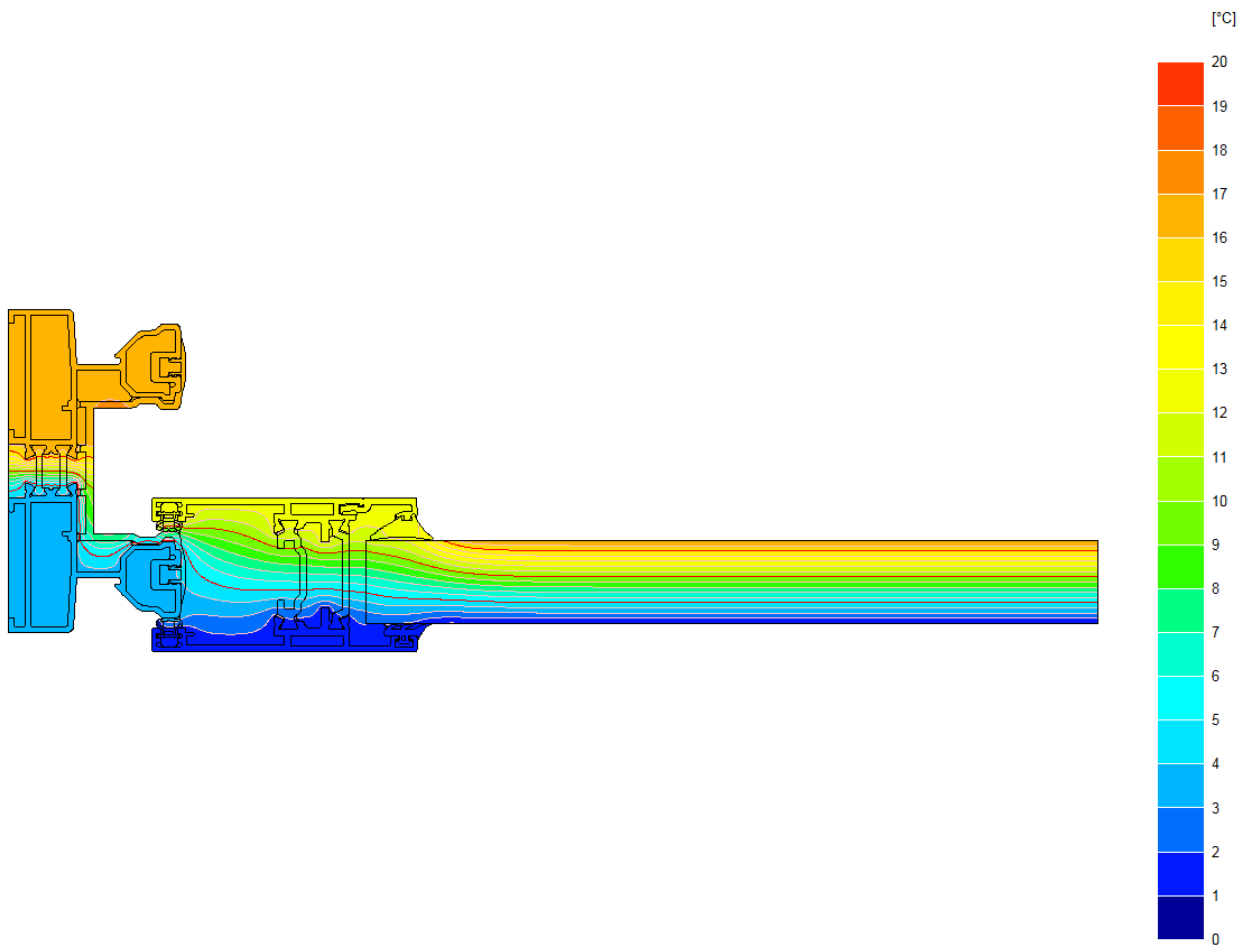


Figure 2. Isotherms (colour increment of 1°C, line increments of 1°C and 5°C)

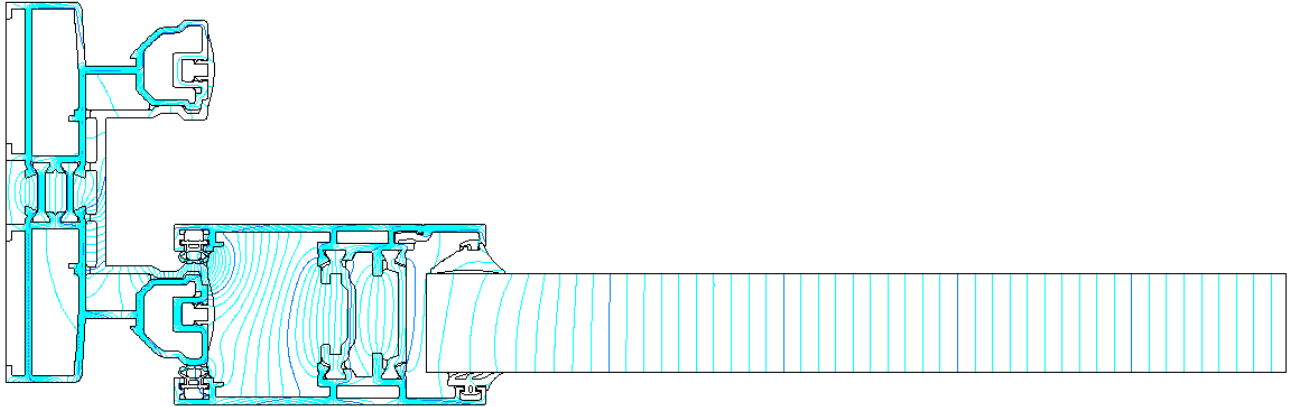


Figure 3. Heat flow lines (increment 0.1 W/m).

### **BISCO DATA SUMMARY**

BISCO data file name           **1bisco\_temp.tif.bsc**  
 Bitmap file name               **1bisco\_temp.tif.bmp**  
 Pixel width                     **0.0001 m**  
 Triangulation size             **5 pixels**  
 Number of nodes               **53608**

#### 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	
253	cavity <1x1 mm2	0.028	

#### 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				
[W/mK]	[W/mK]	[W/mK]	[W/mK]				
0	0.028	192	0.110	193	0.070	194	0.063
195	0.042	196	0.055	197	0.027	198	0.029
199	0.028	200	0.029	201	0.029	202	0.036
203	0.062	204	0.029	205	0.053	206	0.052
207	0.029	208	0.035	209	0.107	210	0.029
211	0.034	212	0.028	213	0.037	214	0.032
215	0.099	216	0.107	217	0.167	218	0.028
219	0.028	220	0.028	221	0.032	222	0.029
223	0.029	224	0.106	225	0.029	226	0.029
227	0.029	228	0.028	229	0.028	230	0.028
231	0.029	232	0.052	233	0.064	234	0.029
235	0.040	236	0.027	237	0.029	238	0.029
239	0.028	240	0.028	241	0.032	242	0.029
243	0.029	244	0.028	245	0.028	246	0.029
247	0.028	248	0.028	249	0.028	250	0.036
251	0.029	252	0.033	254	0.031	255	0.029

### **BISCO MAIN RESULTS**

U-value of frame	<b>4.184 W/(m<sup>2</sup>.K)</b>
Width of frame	<b>0.1200 m</b>
U-value of panel 1	<b>1.150 W/(m<sup>2</sup>.K)</b>
Width of panel 1	<b>0.1999 m</b>

### Frame thermal transmittance calculation table

Thermal transmittance of frame (EN 10077-2)

$$U_f = (Q / (t_i - t_e) - U_{p1} * w_{p1} - U_{p2} * w_{p2}) / w_f = 4.184 \text{ W/(m}^2 \cdot \text{K)}$$

$$Q = 14.638 \text{ W/m}$$

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

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

$$U_{p1} = 1.150 \text{ W/(m}^2 \cdot \text{K)} \quad (\text{right edge of bitmap})$$

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

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

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

$$w_f = 0.1200 \text{ m} \quad (\text{distance no. 1})$$