

**GRAPHICS**

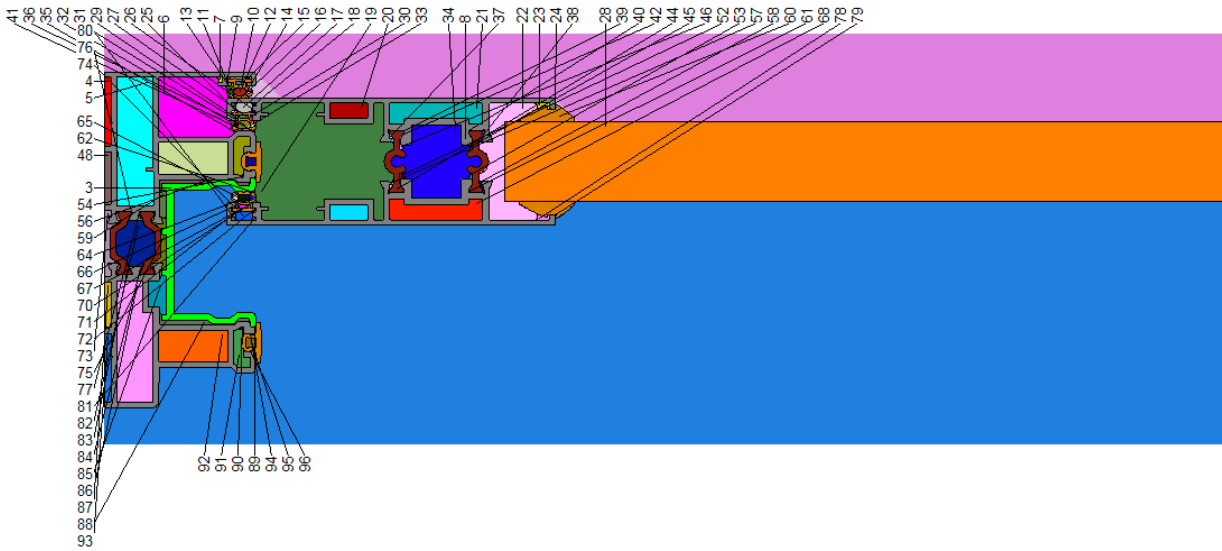


Figure 1. Frame section (with colour numbers)

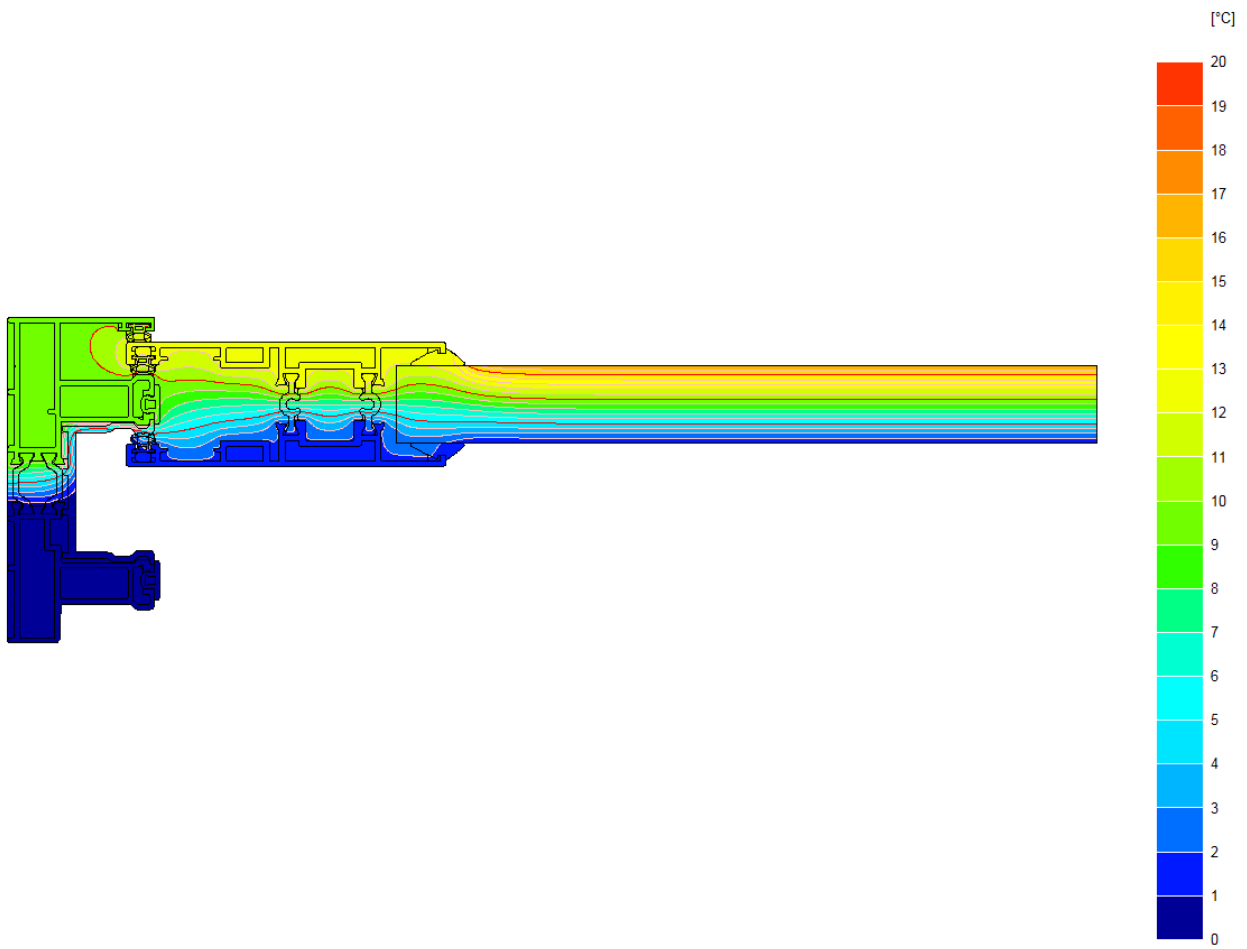


Figure 2. Isotherms (colour increment of 1°C, line increments of 1°C and 5°C)

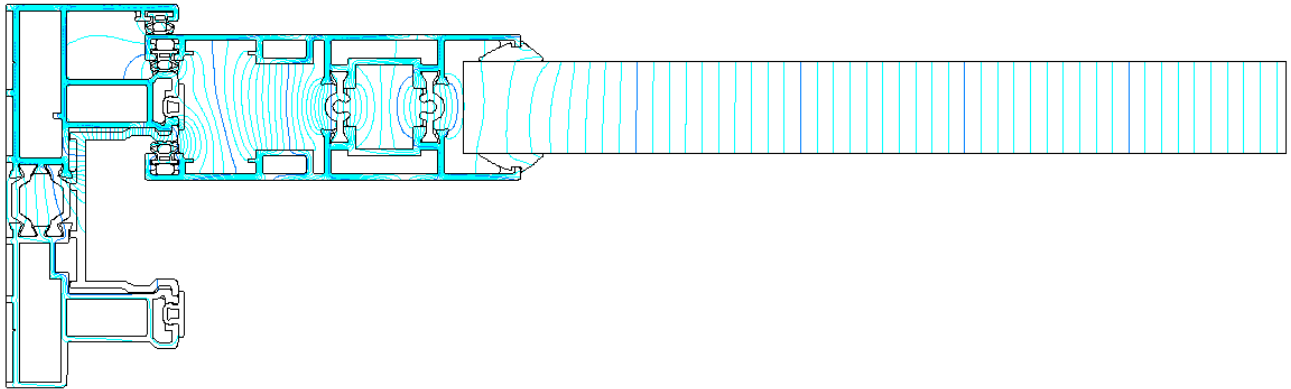


Figure 3. Heat flow lines (increment 0.1 W/m).

**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                **54070**

**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 <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	lambda	Col. lambda	lambda	Col. lambda	lambda
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[W/mK]	[W/mK]	[W/mK]	[W/mK]	[W/mK]	[W/mK]
3	0.074	4	0.067	5	0.116
7	0.029	9	0.028	10	0.028
12	0.032	13	0.029	14	0.029
16	0.029	17	0.034	18	0.029
20	0.042	21	0.047	22	0.095
24	0.026	25	0.028	26	0.029
29	0.029	30	0.029	31	0.032
33	0.029	34	0.082	35	0.028
37	0.031	38	0.029	39	0.026
41	0.025	42	0.026	43	0.049
45	0.030	46	0.030	47	0.058
49	0.026	50	0.033	51	0.026
53	0.030	54	0.028	55	0.026
57	0.031	58	0.028	59	0.033
62	0.027	63	0.026	64	0.032
66	0.029	67	0.029	68	0.045
70	0.028	71	0.027	72	0.028
74	0.036	75	0.050	76	0.027
78	0.030	79	0.026	80	0.028
82	0.058	83	0.027	84	0.027
86	0.059	87	0.053	88	0.031
90	0.027	91	0.037	92	0.055
94	0.026	95	0.033	96	0.026

## **BISCO MAIN RESULTS**

U-value of frame	<b>3.654 W/(m<sup>2</sup>.K)</b>
Width of frame	<b>0.1343 m</b>
U-value of panel 1	<b>1.169 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)

$$U_f = (Q / (t_i - t_e) - U_{p1} \cdot w_{p1} - U_{p2} \cdot w_{p2}) / w_f = 3.654 \text{ W/(m}^2 \cdot \text{K)}$$

$$Q = 14.483 \text{ W/m}$$

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

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

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

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

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

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

$$w_f = 0.1343 \text{ m} \quad (\text{distance no. 1})$$