

Test Report

9016461000-20/P

Client	POLITEC S.A. Via Lische, 5, Z.I.3 CH-6855 Stabio
Test Item	Determination of the heat transfer coefficient U of multiwall polycarbonate sheets by means of a two-dimensional simulation of the steady state heat transfer
Date of Receipt (order)	2008-09-22
Product	Modulit 338 LP 40 mm
Sheet Structure	see table 1 on text page 2
Date of Receipt (drawings)	2008-10-02
Test Method	numeric simulation
Computerized Calculation	based on following standards EN 673 EN ISO 10077-2 EN ISO 6946
Boundary Conditions	see table 2 on text page 2
Documentation of Results	see table 3 on text page 2
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The test results relate only to the items tested.

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Table 1 Translation Unit of Multiwall Sheet Structure
in mm

1.1	overall sheet thickness	40
1.2	thickness of outside walls	0,70-1,10
2.1	distance of vertical ribs	40
2.2	thickness of vertical ribs	0,70-0,90
3.1	thickness of internal walls	0,10-0,15
3.2	thickness of diagonal walls	0,15-0,25

Table 2 Boundary Conditions

polycarbonate	thermal conductivity λ	W/m K	0,20
	emissivity	--	0,9
air in cavities, no convection	thermal conductivity λ	W/m K	0,025
temperature	mean temperature T_m	K	283
	difference ΔT between outer layers (15°C - 5°C)	K	10
ambient air, outside	heat transmission coefficient h_e	W/m ² K	23
ambient air, inside	heat transmission coefficient h_i	W/m ² K	8

Table 3 Results of Calculation

heat transfer coefficient U	W/m ² K	1,3
thermal resistance R	m ² K/W	0,576
thermal conductivity λ	W/m K	0,070

51140 Thermal Insulation Products

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