BUDAPEST UNIVERSITY OF TECHNOLOGY AND ECONOMICS (BME)
FACULTY OF CIVIL ENGINEERING DEPARTMENT OF CONSTRUCTION MATERIALS AND TECHNOLOGIES
LABORATORY OF BUILDING PHYSICS
3. Műegyetem rkp. H-1111 Budapest, Hungary
Tel.: +36/1 463-1175 * WEB: http://em.bme.hu/em/epuletfizika * E-mail: nagy.balazs@epito.bme.hu

Test Report
Thermal Conductivity measurement

Client: **ICL Innovation Concrete Laboratory KFT** Reg. number: 2020-ICL-1eng
6000 Kecskemét, Mátyás király körút 52. 3. em. 9.
This test report contains 1 numbered page(s).

Sample name:	ICL lightweight concrete
Condition of specimen on arrival:	Intact, (300 x 300 x ~100) mm
Date, place and method of sampling:	Within the competence of the client
Preparation and conditioning of test specmen(s):	168 hours storage in laboratory conditions (23°C, 50% RH)
Compressive force during the test:	200 N
Date of specimens arrival:	01.10.2020
Date of the test:	09.10.2020-20.10.2020 *Device type:*
Standard:	**MSZ EN 12667:2001** Taurus TLP 300 DTX

Test Results

Number of specimen	Thickness, mm	Heat flow, W	Surface temperature of the cold side, °C	Surface temperature of the warm side, °C	Temperature difference, K	Specimen mean temperature, °C	Thermal conductivity, W/mK
1	100.25	0.559	5.5	14.2	8.7	9.8	0.6419
2	99.62	0.549	5.6	14.1	8.6	9.8	0.6389
4	98.29	0.585	5.7	14.3	8.6	10.0	0.6662

Average thermal conductivity (10 °C, $u_{23,50}$), W/mK:	0.6490
k2 coefficient (n = 3, p = 90%, 1-α = 0,9):	4.26
Standard deviation, s:	0.0122
Declared themal conductivity (10 °C, $u_{23,50}$), W/mK:	**0.70**

Comments: 1) The declared thermal conductivity of the sample in I.b) state according to MSZ EN ISO 10456: 2008 is λ = 0.7 W/mK.

2) The thermal resistance and thermal transmittance is calculated according to the MSZ EN ISO 6946: 2017 standard and given for wall thicknesses of 10-60 cm in the table below:

	Applied wall thickness, cm					
	10	20	30	40	50	60
Thermal resistance, $R_{c,op}$, m^2K/W:	0.14	0.29	0.43	0.57	0.71	0.86
Thremal transmittance*, U, W/m^2K:	3.20	2.19	1.67	1.35	1.13	0.97

*The surface resistances used for the calculations according to Table 7. in MSZ EN ISO 6946:2017 standard for horizontal heat flow are R_{si} = 0.13 m^2K/W and R_{se} = 0.04 m^2K/W.

Budapest, 26.10.2020

Dr. Balázs Nagy
supervisor

Dr. László Dunai
head of department