

DOCUMENTED DATA | SEPTEMBER 21, 2026

Lightweight insulating concrete. Pavement application.

Summary of measured properties for the reference formulation. Original reports and project-specific requirements must be reviewed before using these data in design.

Property	Measured result	Reported method
Density	584 kg/m ³ fresh 559 kg/m ³ dry	CSA A23.2-6C / 11C
Compressive strength	2.0 MPa at 24 h 3.9 MPa at 28 d 4.6 MPa at 56 d	CSA A23.2-9C
Flexural strength	1.0 MPa at 28 days	CSA A23.2-8C
Elastic modulus	2.53 GPa at 28 days	ASTM C469
Thermal conductivity	0.1691 W/(m·K), dry Mean temperature: 24.02 °C	ASTM C518-10
Freeze-thaw	300 cycles Relative dynamic modulus: 86.5%	ASTM C666, Procedure B
De-icing salt scaling	0.22 kg/m ² after 56 cycles	NQ 2621-905

2014-2015 results apply to the tested samples and formulation. Service properties, including moisture effects, must be assessed for the project. These data are not universal design values.

Scope of the evaluated use

The BLC dossier references MTQ “produit éprouvé” (proven product) status for pavement insulation, for the formula and use evaluated. This scope does not extend to lightweight fill.

DESIGN AND CONSTRUCTION

Integrate the material into the complete project.

The BLC insulating layer must be assessed within the complete pavement structure. Its thickness alone does not determine total excavation depth.

Site parameters

Soil, traffic, climate, frost depth, drainage, service moisture, interfaces, transitions and protection from de-icing salts.

Suitability and quality

The designer and producer define the selected formulation, suitability checks, density and strength testing, traceability and acceptance criteria.

Construction sequence

The material is proposed as pumpable and self-levelling. The method must be confirmed for the mixture and site. A measured strength of 2.0 MPa at 24 h does not, on its own, authorise equipment traffic or asphalt placement.

Economic comparison

Compare designs offering the same service level: excavation, materials, transport, placement, drainage, traffic management, maintenance and rehabilitation. Historical study results are not current quotations.

Summary references

1. MTQ, Nadia Pouliot, February 3, 2015. Laboratory test results - insulating concrete, files BC-14-128 and DB-13-47.
2. Exova, September 30, 2014. Report 14-06-M0326, ASTM C518-10.
3. MTQ, GUQ-01788: March 19, 2015 letter and September 15, 2026 correspondence, referenced in the BLC dossier.
4. Baaj, Tavassoti, Dias and Lorena, InnovAct Consulting, September 2020. Study of pavements incorporating lightweight insulating concrete.
5. Source for this fact sheet: BLC, Engineering and Infrastructure Owners Meeting Dossier, September 21, 2026. Consult the original reports for their complete scope.