



Bureau de normalisation
du Québec

CAN/BNQ 2501-135/2014 (R 2022)

**Soils — Determination of the Coefficient
of Permeability by the Lefranc Method**

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STANDARD

CAN/BNQ 2501-135/2014
(R 2022)

Soils — Determination of the Coefficient of Permeability
by the Lefranc Method

Sols — Détermination du coefficient de perméabilité par la méthode Lefranc

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This is a reaffirmation (reapproval) of the edition dated August 6, 2014.

The edition number of this English version was corrected to match that of the French version. Therefore, it has been incremented from the third edition to the fifth edition.

The decision resulting from the systematic review that will enable to determine whether the current document shall be modified, revised, reaffirmed or withdrawn will be implemented no later than at the end of April 2027.

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FOREWORD

This document was developed in compliance with the Standards Council of Canada (SCC)'s Requirements and Guidance for standards development organizations and approved as a reaffirmed National Standard of Canada by the SCC. Its reaffirmation was approved by a Standards Development Committee, whose members were:

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The 2014 edition of this document was approved as a National Standard of Canada by the Standards Council of Canada (SCC). It was approved by a Standards Development Committee, whose voting members were:

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* At the time of publication of this standard, the aforementioned person no longer worked for this organization.

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SOILS — DETERMINATION OF THE COEFFICIENT OF PERMEABILITY BY THE LEFRANC METHOD

1 PURPOSE AND SCOPE

This standard specifies the test method used to determine the coefficient of permeability of the soil in place around a cavity, named lantern, opened under the end of a drill casing driven by ramming.

NOTES —

- 1 This test method is particularly adapted for soils with a coefficient of permeability greater than 10^{-7} m/s.
- 2 The coefficient of permeability or hydraulic conductivity, in metres per second (m/s), is expressed by the symbol k in geotechnical engineering and by the symbol K in hydrogeology.

2 DEFINITIONS

For the purpose of this document, the following definitions shall apply:

coefficient of permeability (k), n. Proportionality constant, expressed as metres per second (m/s), linking the waterflow velocity to the hydraulic gradient according to Darcy's law. French: *coefficient de perméabilité (k)*.

difference in total head (H), n. Difference between the hydraulic head in a drill casing and the hydraulic head naturally occurring in a soil, which corresponds to the height of the water column in the drill casing above or below the piezometric level. French: *différence de charge hydraulique (H)*.

drill casing, n. Set of steel tubes screwed together, which are used to maintain the stability of the side wall in a borehole. French: *tubage de forage*.

hydraulic fracturing, n. Soil fracturing occurring when an excessive hydraulic head is applied and which results in an abnormal sudden drop of the height of the water column in a drill casing. French: *claquage hydraulique*.

lantern, n. (syn.: filter pack, n.) Cavity of a given shape, opened under the end of a drill casing, filled with granular material more permeable than the soil in place, which supports the walls of the cavity. French: *lanterne*.