



STONEDEKS SYSTEM

A BETTER WAY

TO BUILD A DECK



SILCA GRATE

1.0 EVALUATION SCOPE

Compliance with the following codes:

*2015 and 2012 International Building Code (IBC)

*2015 and 2012 International Residential Code (IRC)

Properties evaluated:

*Structural

*Durability

*Surface-burning characteristics

2.0 USES

The Silca Grate is used to span between floor framing members to support flooring materials for exterior decks, balconies, porches and stair treads of Type V-B (IBC) construction and structures constructed in accordance with the IRC.

3.0 DESCRIPTION

3.1 General:

Silca Grate is an injection molded plastic panel with a honeycomb structure, nominal dimensions of 16 x 18 inches, equaling 2 square feet for the deck panel. Stair treads are cut in the field from the panel and have nominal dimensions of 16 inches by 11 inches (406 mm x 279 mm). The panels have holes for screws that are used to attach the panels to deck joists and stair stringers.

3.2 Durability:

The evaluation of Silca Grate durability when subjected to temperature effects, ultraviolet (UV) resistance and freeze-thaw resistance is addressed in this report.

3.3 Surface-burning characteristics:

When tested in accordance with ASTM E84, Silca Grate has a flame-spread index of no greater than 200.

4.0 DESIGN AND INSTALLATION:

4.1 General:

Installation of the Silca Grate panel and stair tread must comply with this report, the manufacturer's published installation instructions and the applicable code. The manufacturer's published installation instructions must be available on the jobsite at all times during installation.

4.2 Design:

The Silca Grate panels, when used to span between floor framing, have a maximum span capacity of 16 inches.

The Silca Grate when used as stair treads, are satisfactory to resist the code-prescribed concentrated load of 300 lbf (1.34 kN) when installed at a maximum center-to-center spacing of the supporting construction.

4.3 Installation:

The Silca Grate panels, when used to span between floor framing or stair treads, are installed on 2 x wood members spaced according to Tables 1 or 2 using #9, corrosion resistant wood screws, 3 inches long (76 mm), located in each of the screw holes of the panel.

Floor coverings are not supplied by Silca System. Floor coverings may consist of natural stone or manufactured pavers and are installed over the Silca Grate panels.

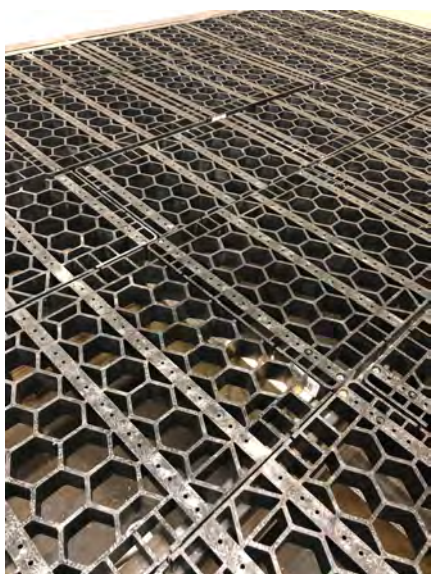
5.0 CONDITIONS OF USE

The Silca Grate described in this report complies with, or is a suitable alternative to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

5.1 Installation must comply with this report, the manufacturer's published instructions and the applicable code. When there is a conflict between this report and the manufacturer's published installation instructions, this report governs.

5.2 This product is for exterior deck, balconies, porches and stair treads of Type V-B (IBC) construction and structures constructed in accordance with the IRC.

5.3 Only those fasteners described in this report have been evaluated for the installation of the Silca Grate panels. The compatibility of the fasteners with the supporting construction, including chemically treated wood, is outside the scope of this report.



5.4 Silca Grate panels must be directly fastened to the supporting construction. Where required, engineering calculations and construction documents consistent with this report must be submitted to the code official for approval. The calculations must verify that the supporting construction complies with the applicable building code requirements and is adequate to resist the loads imparted upon it from the products and systems described in this report. The documents must contain details of the attachment of the panels to the supporting structure consistent with the requirements of this report. The documents must be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed.

5.5 Anchoring of the flooring materials over the Silca Grate is outside the scope of this report. The determination of wind uplift and other loads applicable in the flooring materials must be determined by a design professional.

5.6 A solid floor covering must be installed over the Silca Grate.

6.0 EVIDENCE SUBMITTED

6.1 Testing in accordance with following ASTM D7032 provisions: Section 4.4 for flexure resistance, Section 4.5 for temperature effects, Section 4.7 for freeze thaw resistance, Section 5.4 for creep-recovery, and Section 5.5 for mechanical fastener resistance.

6.2 Testing in accordance with AC308 Section 4.1.2 for Ultraviolet light weathering.

6.3 Testing in accordance with ASTM D7031 Section 5.10.2 for duration of load (or creep-rupture resistance).

6.4 Testing in accordance with ASTM E84 for surface burning characteristics (flame spread index).

7.0 IDENTIFICATION

The Silca Grate panels described in the report must be identified on each panel with the name of the manufacturer (Silca System), product name Silca Grate, the allowable span and allowable load for the panel, the allowable span for the stair tread, and the evaluation report number (ESR-3748).

CONCLUSIONS: CBC COMPLIANCE

The Silca Grate, described in Sections 2.0 through 7.0 of the master evaluation report ESR-3748, complies with CBC Chapters 7 and 14 provided the design and installation are in accordance with the 2012 International Building Code (IBC) provisions noted in the master report, and additional requirements in the CBC, as applicable.

TECHNICAL CHARACTERISTICS:

Manufactured from PC/ABS (polycarbonate/acrylonitrile butadiene styrene). Engineered polymer using recycled materials.



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SYSTEM