

Silca
SYSTEM

**PRODUCT
INFORMATION
SHEET**



**STRUCTURAL SUPPORT GRATING
FOR ELEVATED
DECKS AND PATIOS**



Silca System interlocking, structural deck grates are specifically designed for the support of heavy finished surface materials over elevated deck structure.

Manufactured in New Zealand from 100% recycled materials, our grates offer a robust, durable solution for installing tiles or pavers at any elevation.

Silca Grates connect together and are securely fastened directly to timber or aluminium deck joists. This provides a solid, flat, permeable surface to install various paving materials such as tiles, natural stone, heavy pavers, artificial turf or porcelain.

Silca System enables a free draining finished surface and air circulation beneath, preventing moisture buildup in the substructure and ensuring the longevity of the decking element. Suitable for standard elevated decks or those floating over membrane,

Compliance to B1/VM1 and B2 of AS/NZS1170.1. and E2/AS1 Permeable surface - level entry through threshold. Silca System is an environment-friendly patio solution for both residential and commercial applications.



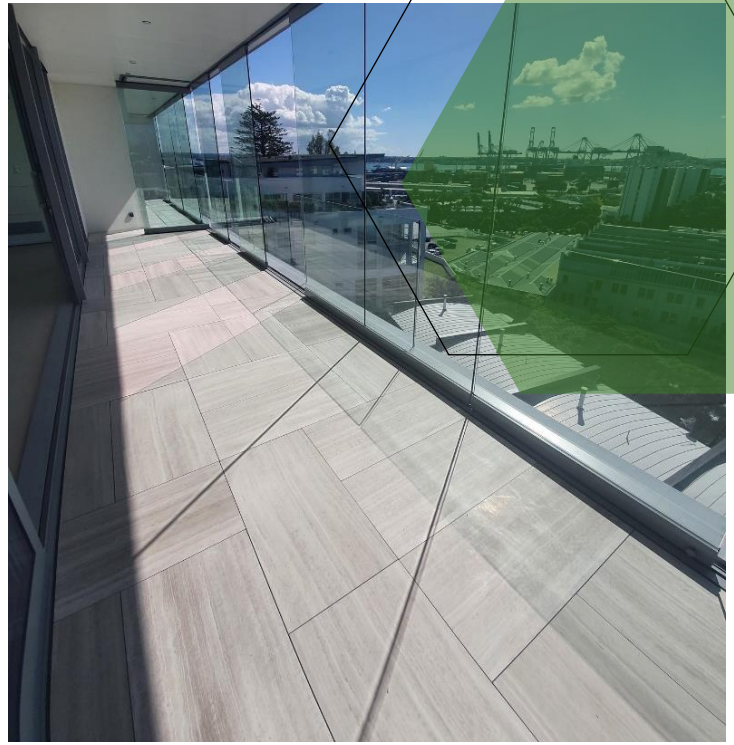
Elevated or Raised Decks

Transform sloping sections or second-story living areas into stunning, functional outdoor spaces with Silca System. Perfect for areas where a ground-level slab is impractical and wooden or composite decking is undesirable.



Over Membrane, Slab, or Flat Roof

Transform membraned roof space into a functional, entertaining area with Silca System. Install with a floating joist system such as Outdure or TREAD TECH Aluminium or DeckChairSystems timber joist & rubber mounts. A superior floating patio element.



Balconies

Design and maintain smaller second-story balconies or apartment terraces effortlessly with Silca System. Pair it with durable paver or tile finishes for a clean, stylish look with level entry



Pool Decks

Ideal for both in-ground and above-ground pools, Silca System allows the installation of a free-draining permeable finished surface. Create impressive, durable pool patios that withstand wet conditions and heavy use.



| Product | Description and features | Product Code |
|--|--|-------------------------------------|
|   | <p>Silca Grates The key element to the Patented Silca System is the Grate. This is the 400x450x38mm structural component that screws direct to the timber or aluminium deck frame and provides the solid flat surface on which to lay almost any kind of paving. (5.5 per sqm)</p> <p>Features:</p> <ul style="list-style-type: none"> a) strengthening ribs and hex cells to spread and transfer load across the decking element and down onto the joist. b) pre-formed countersunk holes designed to guide the screws into the joist at the correct position. c) a second row of fixing so grates can be uniformly trimmed to slot in between joists should more height clearance be required. d) free draining design for minimum moisture retention and maximum airflow. e) micro flex to absorb any movement within the decking element and reduce risk of any tile or grout disturbance f) UV stable g) manufactured from 100% recycled materials. Green Building Product | 6255BL0162A |
|   | <p>Silca Connectors Lock Connectors specifically designed for use with the Grates. (3.3 per grate)</p> <p>These interlock each Silca Grate to the next on all four sides. X2 Connectors per side and greatly increase rigidity and consistency across the system, resulting in an incredibly strong, continuous decking element.</p> <p>They also provide some added spot adhesion points for during tile install.</p> <p>We specify using Lock Connectors when Grates are installed over any floating frame, typically over membrane. For over solid timber deck frame they are not 100% required, however still greatly increase strength, stability and rigidity to the decking element.</p> | 6461BL0000 |
|  | <p>Screw Fixings Timber Stainless Steel screws for fixing the grates to the timber joists of the deck substructure. (x6 Screws per Grate)</p> <p>These are designed to seat perfectly into the predesignated, countersunk holes at the edges of the Silca Grates.</p> <p>Coarse wood tread and long shank for optimum efficiency and hold.</p> | DCS30410G75-1000 DCS30410G75-500 |
|  | <p>Screw Fixings Aluminium Stainless Steel self-drilling WingTek screws for fixing the grates to the aluminium joists. (x6 Screws per Grate)</p> <p>Designed to seat perfectly into the predesignated, countersunk holes at the edges of the Silca Grates. No pre-drilling required.</p> | SSDCKG10060QW |
|  | <p>Tile Adhesive For spot glue adhesion of tile and pavers direct to the Silca Grates. (x1 600ml sausage per 2 sqm)</p> <p>wedi 610 is a versatile single-component adhesive and sealant that suits perfectly for tile and polymer adhesion, is water-resistant and vulcanises into an elastic adhesive in the presence of humidity. It offers excellent weather and chemical resistance, is free of solvents, silicon and PCP and has low shrinkage.</p> | ACD067 |



ADVANTAGES WHEN SPECIFYING SILCA SYSTEM

Versatile Applications: Ideal for decks, patios, stairs, ramps, paths, bridges, docks, pool areas, and various residential and commercial projects.

Innovative Construction Product: A revolutionary and unique system supporting any type of paving on timber or aluminum deck joists.

Environmentally Friendly: Made from 100% recycled materials, offering a sustainable alternative to hardwood decking.

New Zealand Made: A trusted product originally established in the USA and Canada, now manufactured locally in New Zealand.

Maintenance-Free: Provides a durable, raised patio without the ongoing maintenance required by wooden decking.

All-Weather Durability: Maintains strength in extreme climates, from the Southern Alps' snow and ice to North Queensland's tropical heat and moisture.

Reduced Fire Risk: With non-combustible pavers, it prevents hot ash or embers from igniting the deck. A fire-retardant Silca Grate rated V-0 is available upon request.

Cost-Effective: More economical than Kwila, Accoya, and other hardwood decking options, and significantly cheaper than elevated concrete slabs. Substantial savings on installation labour.

Easy Installation: Quick to install, making it accessible for builders, contractors, and DIY homeowners.

Creative Design Flexibility: Supports various tile layout and pattern designs with unique fascia options, allowing for unique outdoor spaces that enhance property value.

Superior Load-Bearing Capacity: The engineered design of Silca Grate cells supports heavy loads, preventing paver cracking or failure under heavy foot traffic or furniture.

Effective Load Distribution: Distributes load evenly across the joists and structure, providing robust support.

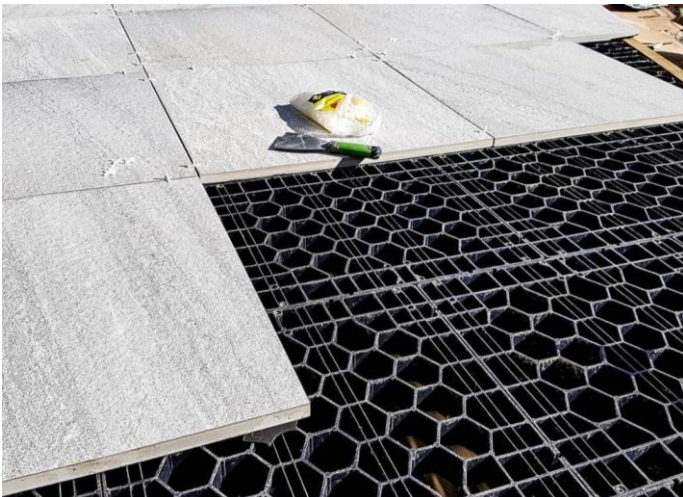
Adaptable Cutting: Easily cut around obstacles without compromising structural integrity, ensuring continuous support for cut pavers.

Enhanced Ventilation: Minimal surface contact between Silca Grate and joists maximizes airflow, aiding in ventilation and drying of the subdeck structure.

Structural: Acts as a structural component, reducing the need for noggings and supporting heavy surface laminates.

Flexible Paving Options: Allows for various paving patterns and joint designs, including full grout joints, drainage gaps, and French Laid patterns.

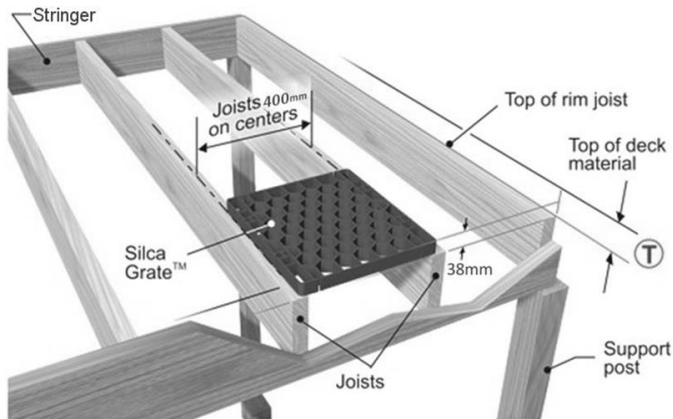
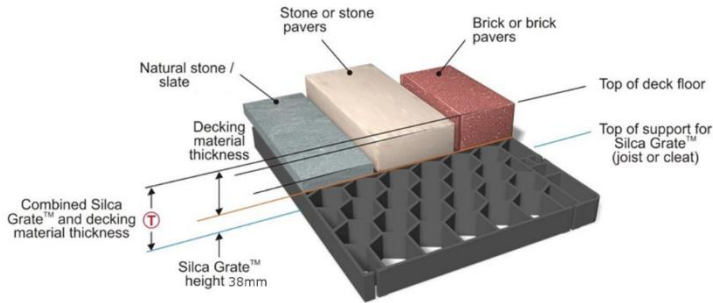
Solid, Flat Surface: Provides a stable base for nearly any type of paving, ensuring a smooth and reliable surface with a firm feel underfoot.



merx
pacific®



| SILCA GRATES - SPECIFICATIONS | |
|---|--|
| Dimension | 398.5 x 450 x 38mm |
| Material | PCABS - Recycled Polycarbonate ABS with UV Stabiliser |
| Coverage | 0.180m ² (5.5 Units per m ²) |
| Weight per grate | 1.814 kg |
| Floor loading with timber joist (refer to Design Statement and span tables) | (2kPa, 1.8kN) to (4kPa, 4.5kN) |
| Compliance | Clause B1/VM1 and B2 of NZS AS 1720.1:2022, and E2/AS1 |
| Load deflection test (per grate) | 5 ton + per unit (spanned) |
| Load compression test (per grate) | 68 ton (with a 400mm ² paver) |



ONLINE RESOURCES AVAILABLE FOR DOWNLOAD

<https://silcasystem.co.nz/downloads/>

- Technical Specifications
- Design Statement - Compliance to B1/VM1 and B2 - Joist Span / Paver Thickness - kPa / kn Loading Tables
- PTS Product Technical Statement
- Install Guide - Typical Timber Deck Frame
- Install Guide - Outdure Qwickbuild Frame
- Basic Architectural Details
- E2/AS1 Extract - Permeability and Level Entry
- Promotional Brochure
- Terms and Conditions of Sale
- Further product information
- Gallery and project inspiration
- FAQs and Contact info



| PACKING | |
|---------------------------------------|-----------------------------|
| Grates per pallet | (SP1) = 162 |
| Pallet dimension | 1 x 1.2 x 1.18H m |
| Coverage per pallet load | (SP1) = 29.45m ² |
| Weight per pallet load (incl. Pallet) | (SP1) = 311.868 kg |
| Grates per fcl (sp1) (standard 20') | 3,564 |
| Pallets per fcl (sp1) | 22 |
| Coverage per container | 648 m ² |





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