

2025 Edition

# Tactile Indicators



# Korb

All measurements in this publication are in millimetres unless stated otherwise.

Details in this document have been derived from authoritative sources and were considered correct at the time of printing. Information provided in this publication is not exhaustive and it should only be used for guidance. Individual circumstances and/or site conditions must be considered when applying this guidance. For assistance with interpretation or bespoke applications for specific circumstances, please contact a member of Korb's consultancy team.

Korb's ranges and product specifications are subject to change. Product availability and suitability should be confirmed prior to committing to the use of any of these solutions.

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Location | **Pakenham Station**  
Architect | **Genton**  
Builder | **North Western Program Alliance**

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# 1.0 About Korb

Founded in 2009, Korb has obtained a reputation as the leader in innovation and product quality throughout Australia.

At Korb, our commitment to client satisfaction and product performance is the cornerstone of our mission to create more equitable and safer environments. We recognise the importance of effective commercial and public access and its role in enhancing the quality of life within our communities. We strive for a harmonious balance between design, manufacturing, distribution, and installation, focusing on ensuring regulatory compliance while accommodating individual client preferences.

Our product range includes Entrance Flooring, Tactile Ground Surface Indicators (TGSIs), and Stair Nosing. We support our clients throughout all project phases: from specification, with detailed Luminance Contrast Testing consultancy, to project delivery and compliance reporting.

Korb specialises in high volume work during critical operational periods, providing services across all sectors. We cater to private, state, and government funded projects of all tiers, including commercial, civil, infrastructure, transport, and maintenance. Our team, composed of skilled and experienced installers, is renowned for their quality workmanship and particular expertise in accessibility requirements and the rail industry.

Our team of draftspeople, estimators, and access consultants is equipped to address all your needs. Korb provides a consultative approach, offering technical advice, Building Information Modeling (BIM), custom product design, CPD programmes (formally recognised), and a suite of compliant products, providing a supportive role to all architects and designers.

Location | **Alba Thermal Springs and Spa**  
Architect | **Hayball**  
Builder | **Minicon Constructions**

## Working with you

At Korb, we collaborate with you to craft modern design solutions that are inclusive and meet everyone’s needs. We approach this with careful consideration, ensuring that our use of appropriate products allows us to create harmonious spaces without sacrificing aesthetic appeal. We recognise the uniqueness of every client’s needs and are committed to designing tailored solutions that maintain regulatory compliance.

Our comprehensive service encompasses design, manufacturing, and installation, guaranteeing that our solutions always align perfectly with the prescribed scope of work.

We are dedicated to helping our clients realise their future vision. As a testament to this commitment, we continue to invest in innovative products. Our aim is to be recognised as industry leaders in client

satisfaction and product performance, while contributing to a better and safer environment.



Location | Coburg Station  
Architect | Wood Marsh  
Builder | John Holland Group

# 2.0 TGSIs

↑ Blind and vision impaired population projected to rise **53%\***

## Tactile Ground Surface Indicators

In Australia, it is widely recognised that there is a self-evident requirement to create a built environment that offers equal access opportunities for all. There are currently an estimated 453,000 people in Australia who are blind or have low vision, and this number is projected to rise to 564,000 by 2030. Vision Australia estimate based on ABS population data and the ABS Survey of Disability, Ageing and Carers.

People with disabilities have the right to dignified, safe and independent access to the built environment. As such the Disability Discrimination Act 1992 (DDA) requires all commercial buildings and public spaces to provide equal access opportunities, including TGSIs.

Tactile Ground Surface Indicators (TGSIs) provide physical and luminance contrasting cues, which, when combined with other environmental information, assists people who are blind or vision impaired with their orientation. Warning TGSIs are employed to indicate an approaching hazard, but not the nature of the hazard. Directional TGSIs provide a message to pause and consider a change of direction, or direct a safe route of passage.

\*Vision Australia estimate is based on ABS population data and ABS Survey of Disability Ageing and Carers.

# 2.1 TGSIs

## Compliance

### Tactile Ground Surface Indicator Requirements

The appropriate provision of TGSIs can only occur through considered design, based on the application of the required regulations. These requirements include configuration, slip resistance, and luminance contrast specifications. Compliance documentation includes:

- ▶ National Construction Code (NCC) 2022 – Building Code of Australia (BCA) Vol 1 & 2
- ▶ SA HB 198:2014 Australian Standards Handbook: Guide to the Specification and Testing of Slip Resistance of Pedestrian Surfaces
- ▶ AS 1428.4.1:2021 Design for access and mobility, General requirements for access – New building work
- ▶ AS 1428.1:2009 Design for access and mobility – Means to assist the orientation of people with vision impairment
- ▶ AS 4586:2013 Slip Resistance Classification of New Pedestrian Surface Materials

Section 2.1 of AS/NZS 1428.4.1:2009 and NCC Vol 1, Part D4D9, detail the requirement to provide TGSIs in various situations including:

- ▶ Stairways and Ramps,
- ▶ Level and inclined moving walkways
- ▶ Overhead hazards (<2000mm above floor level, excluding doorways.)
- ▶ Carriageways that join pedestrian areas at grade (ie. on the same level)
- ▶ Accessways meeting a vehicular way adjacent to any pedestrian entrance to a building. (In the absence of a suitable barrier)
- ▶ Railway platforms and passenger wharfs, bus stops, accessible tram stops, and rail stations

In accordance with NCC Vol 1, D4D5 Exemptions, TGSIs are to be provided in all areas unless the area is exempt from being accessible.

The following areas are not required to be accessible:

- ▶ An area where access would be inappropriate because of the particular purpose for which the area is used.
- ▶ An area that would pose a health or safety risk for people with a disability.
- ▶ Any path of travel providing access only to an area exempted by (a) or (b).

NCC Vol 1, D4D9 provides further details of Tactile Indicators to be exempt as per the following;

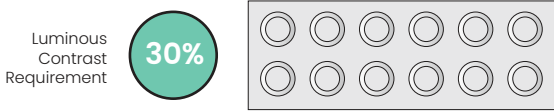
- ▶ Fire-isolated stairway; and
- ▶ Fire-isolated ramp, step ramp, kerb ramp or swimming pool ramp; and
- ▶ A hostel for the aged, nursing home for the aged, a residential aged care building, Class 3 accommodation for the aged, Class 9a health-care building or a Class 9c aged care building need not comply with (1)(a) and (d) if handrails incorporating a raised dome button are provided

Two types of TGSIs are prescribed within the AS1428.4.1:2021. They are:

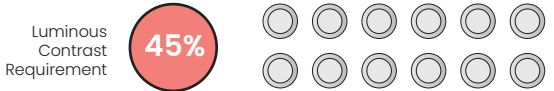
- ▶ Warning TSGI (sometimes referred to as Hazard)
- ▶ Directional TSGI

Both the Warning and Directional TGSIs are available in three main configurations:

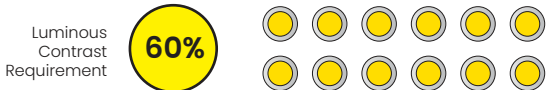
**Integrated** – TGSIs are provided in a defined pattern, and are made of the same material, with the same luminance reflectance, as the base surface.



**Discrete** – TGSIs are individually installed and provide the same luminance for the sloping sides and the upper surface of the truncated cone.



**Composite Discrete** – TGSIs are individually installed and provide a differing luminance for the sloping sides and upper truncated cone.



# 2.2 TGSIs

## Luminance Contrast

Most people who are blind or vision impaired have some vision. The provision of TGSIs with sufficient luminance contrast enhances accessibility for all people, especially for those with vision impairment. AS/NZS 1428.4.1-2021 defines luminance contrast as:

*“The light reflected from one surface or component, compared to the light reflected from another surface or component.”*

Luminance contrast compares the difference in the amount of light reflected (luminous reflectance) from the TGSi compared to that of its surrounding substrate.

The luminous contrast requirements for TGSIs is always compared to the base surface at the adjacent path of travel. The percentage of contrast required is :

**Integrated** – Not less than 30% across its entire area, when the TGSi is the same colour as the underlying surface.

**Discrete** – Not less than 45%.

**Composite Discrete** – Not less than 60%, measured at the raised surface.

To assist clients achieve the appropriate luminance requirements and select the most suitable product, Korb can provide on-site testing providing a detailed luminance contrast report. In addition, our brochure includes the light reflectance value (LRV) data for each product.

On-site testing can be used to determine the light reflectance value (LRV) of a TGSi compared to the surrounding path of travel material. This testing should be conducted before installation to avoid contrast issues and ensure compliance with regulations.

**Note** To avoid contrast issues, testing should be carried out prior to selection and installation of the TGSIs. Additionally, when TGSIs are installed in external locations, consideration must be given to compliance with slip-resistance requirements in wet conditions to ensure safety and adherence to AS/NZS standards.

Determination of Luminance Contrast

The luminance contrast (C) of two surfaces (such as a tactile indicator and its surround) shall be calculated using the following equation:

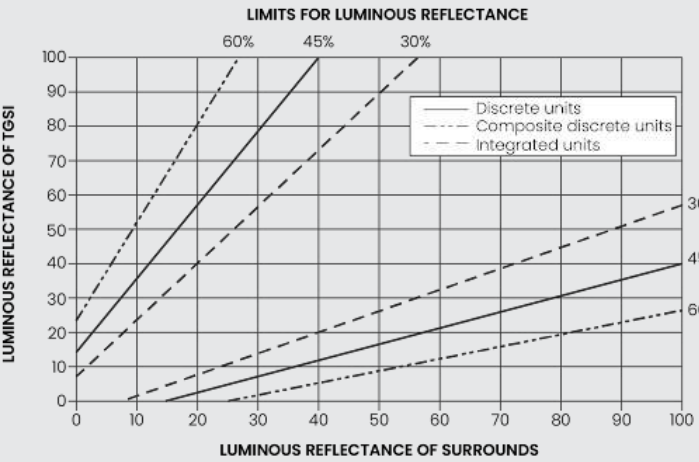
$$C = 125 (Y_2 - Y_1) / (Y_1 + Y_2 + 25)$$
 (Bowman-Sapolinski equation)

Where Y<sub>1</sub> and Y<sub>2</sub> are the luminous reflectance values of the two surfaces.

Integrated Units:  $C = 125 (Y_2 - Y_1) / (Y_1 + Y_2 + 25) \geq 30$

Discrete Units:  $C = 125 (Y_2 - Y_1) / (Y_1 + Y_2 + 25) \geq 45$

Composite Discrete Units:  $C = 125 (Y_2 - Y_1) / (Y_1 + Y_2 + 25) \geq 60$



# 2.3 TGSIs

## Slip Resistance

To be compliant, any TGSi installation should achieve at least the minimal slip resistance requirement of the surface at its adjacent path of travel. The level of slip resistance to be achieved for the surface of a stair or ramp landing is detailed in NCC Table D3D15 as:

- ▶ P3/R10 Dry conditions
- ▶ P4/R11 Wet conditions

However, for other areas the NCC only states generally that a particular surface, where TGSIs are required, is to be slip resistant.

TGSIs installed in areas not covered by the NCC must meet the slip resistance requirements specified in SA HB 198:2014, as outlined in Table 3B below. In the adjacent extract, areas such as Aged Care Facilities and Loading Docks have been omitted as the requirement for TGSIs in these areas is specifically exempt in the BCA.

AS 4586:2013 outlines the testing requirements for the slip resistance of new pedestrian surface materials, including TGSIs. Under this standard, slip resistance can be assessed using two primary test methods:

- ▶ Wet Pendulum Test: Provides a classification from P0 to P5, with higher values indicating greater slip resistance. This test may be conducted either in situ or in a laboratory.
- ▶ Oil-Wet Inclining Platform Test: Provides a classification from R9 to R13, with higher values indicating greater slip resistance under oily or wet conditions.

For some surfaces there is a requirement to conduct testing on both a dry and a wet surface. Determination of the appropriate surface condition requirement (as expected at the time of construction), is based on the specification that a wet surface includes a surface that is exposed to weather, such as an external stairway; or on occasions, becomes wet such as in an entry lobby.

Likewise, a dry surface is one that is not normally wet, or likely to be made wet, other than by an accidental spill or general cleaning.

| Location                                                                                                                                                                                                                                               | Wet Pendulum Test    | Oil-Wet Inclining Platform Test |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|---------------------------------|
| <b>External Pavement and Ramps</b><br>External ramps including sloping driveways, footpaths, etc under 1:14<br>Undercover car parks                                                                                                                    | P4<br>P3             | R11<br>R10                      |
| <b>Hotels, Offices, Public Buildings, Schools and Kindergartens</b><br>Entries and access areas including common areas of public buildings;<br>-Wet areas<br>-Transitional areas<br>-Dry areas                                                         | P3<br>P2<br>P1       | R10<br>A<br>R9                  |
| <b>Supermarkets and Shopping Centres</b><br>Fast food outlets, food courts, shop entry areas with external entrances<br>Other separate shops inside shopping centres—dry                                                                               | P3<br>P1             | R10<br>R9                       |
| <b>Swimming Pools and Sporting Facilities</b><br>Swimming pool stairs leading to water (Ramps TGSi exempt - BCA D3.8)<br>Swimming pool surrounds and communal shower rooms<br>Communal changing rooms<br>Undercover concourse areas of sports stadiums | P5<br>P4<br>P3<br>P3 | C<br>B<br>A<br>R10              |

Extract Only SA HB 198 (Table 3B) – Summary of surfaces and slip resistance requirements applicable to areas where TGSi installations could occur.

# 2.4 TGSIs

## Design and Placement

Design and placement of TGSIs require careful attention to comply with regulatory requirements. Choosing the right type of TGSI for the substrate, placing them in the correct locations, and configuring them appropriately are essential for both functionality and compliance. It's important to note that the following information should only be used as a guide and should be applied in conjunction with all relevant regulatory requirements.

### Selection and Location

The regulatory requirements that must be applied to every TGSI installation include:

- ▶ TGSIs must be the correct size and shape.
- ▶ TGSIs must have luminous contrast appropriate to the site substrate (See Page 8)
- ▶ TGSIs must have slip resistance appropriate to the site substrate (See page 8)
- ▶ The number of TGSIs and their configuration must be site appropriate.
- ▶ TGSIs must be appropriately located with respect to site components.

Examples of TGSI configurations for common hazards include:

- ▶ Roadways that are not separated from pedestrian access ways by a change of grade (e.g. exits from car parks). See Figure 1.
  - ▶ Overhead hazards that protrude into the continuous accessible path of travel. e.g. the underside of a staircase that is unprotected. See Figure 2.
- Note** Wherever possible an architectural treatment should be used (e.g. the installation of a railing or seating)
- ▶ Stairways and Ramps. See Figure 3
  - ▶ Changes of direction on the accessible path. See Figure 4.

Figure 1 - Pathway and Roadway at Grade.

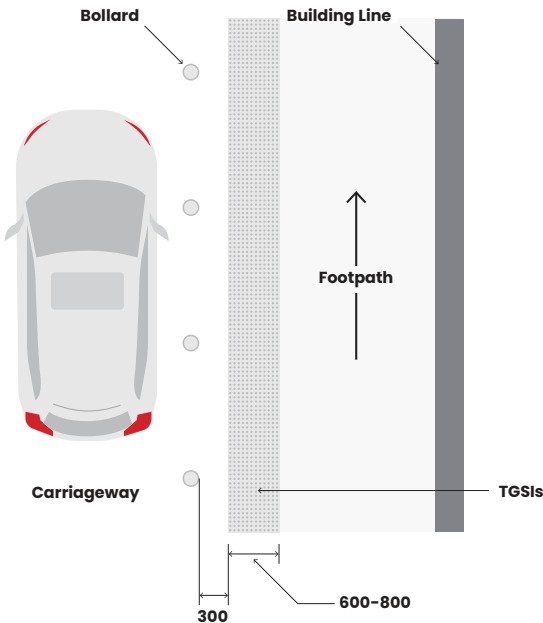


Figure 2 - Hazard Zones.

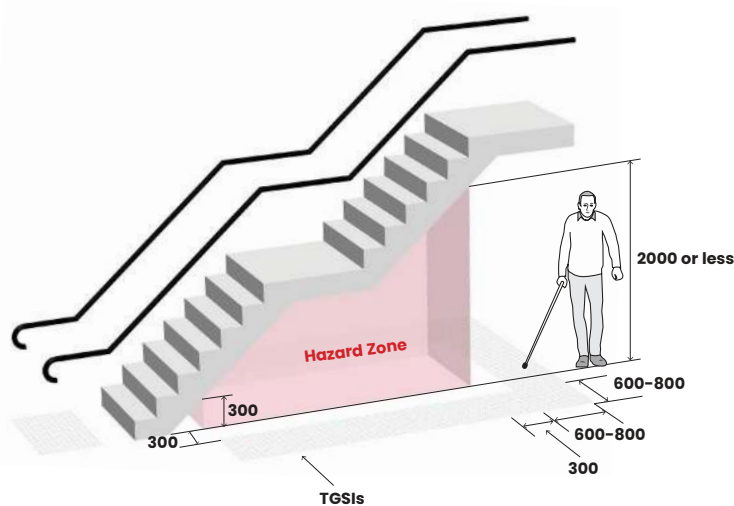


Figure 3 - Common Configuration of TGSIs on a Stair (or Ramp).

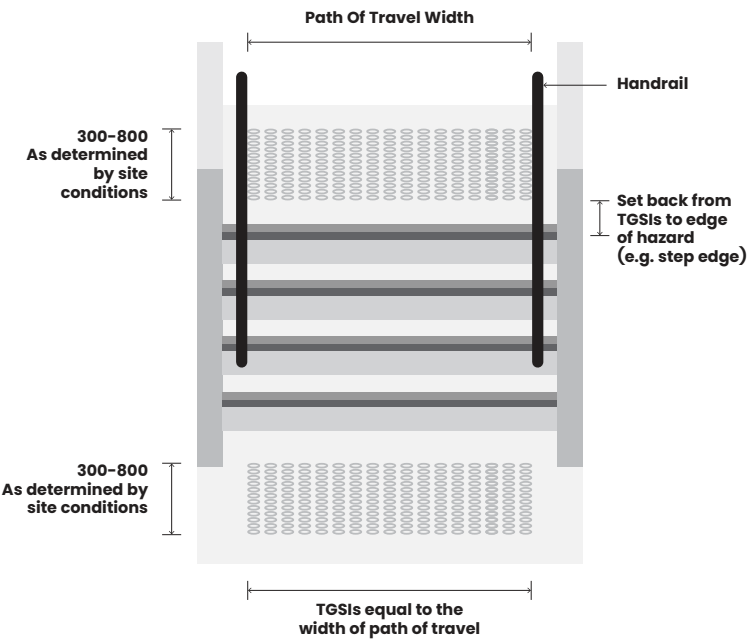
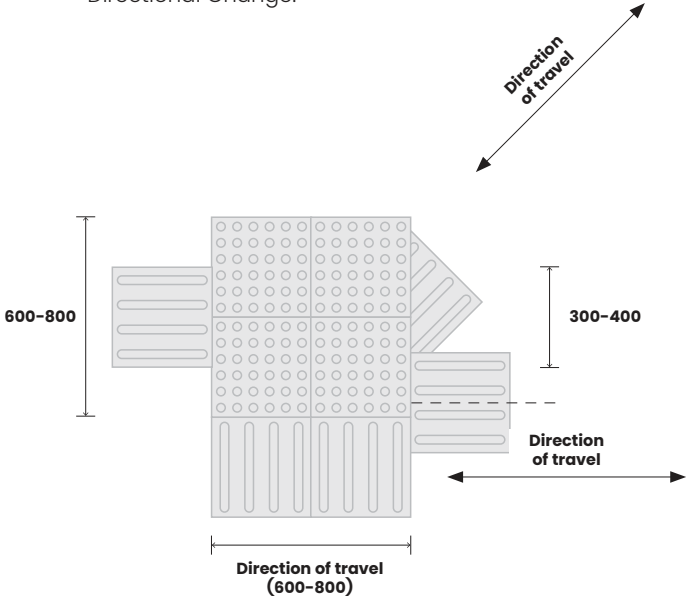


Figure 4 - Common Configuration for different types of Directional Change.



Warning TGSIs should typically be installed:

- ▶ Full width of the path of travel (minimum).
- ▶ Perpendicular to the direction of travel when approaching the hazard.
- ▶ Set back 300± 10mm from the edge of the hazard.
- ▶ Configured 300-800mm wide, depending on the site conditions.

Directional TGSIs should be used:

- ▶ At mid-block crossings to indicate the position of crossings, bus or tram stops.
- ▶ At intersections that incorporate slip lane crossings to indicate the position of the crossing and the direction of travel across the island where the path of travel has been cut through the island.
- ▶ At intersections where the point of entry to the road is more than 3000mm from the property line.
- ▶ Across an open space from point A to point B, where there are no other tactile cues.
- ▶ Directional TGSIs shall be installed parallel with and along the centre-line of the required direction of travel.
- ▶ Where Directional TGSIs indicate the continuous accessible path of travel, they shall be arranged with a depth of 300-400mm.
- ▶ Where Directional TGSIs need to be detected by a person approaching at an angle to the continuous accessible path of travel the directional TGSIs shall be arranged over a minimum depth of 600-800mm from the direction of approach.

# 2.5 TGSIs

## Coverage and Configurations

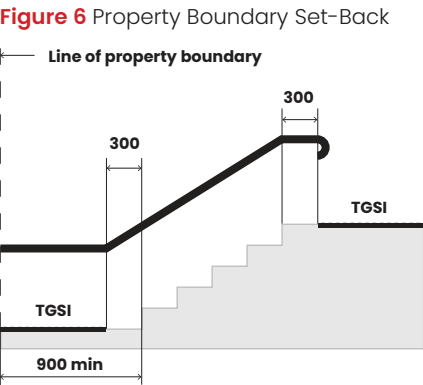
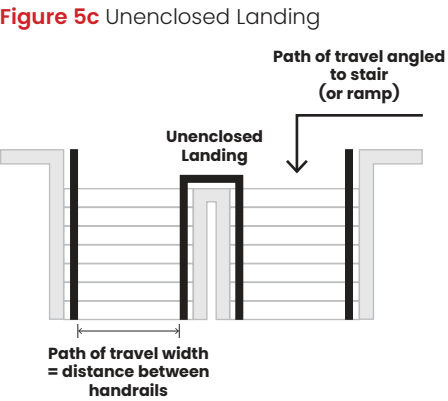
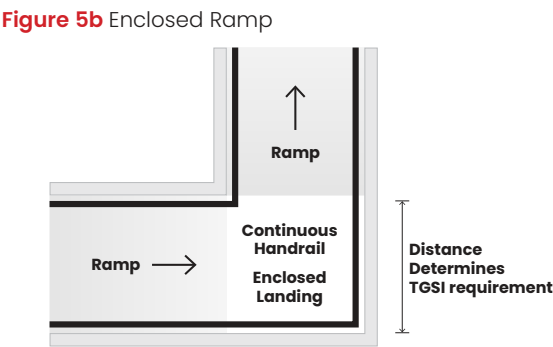
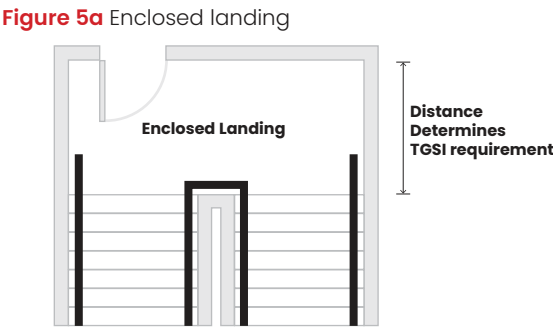
### Landings to Stairs & Ramps

For TGSIs installed on landings, the appropriate configuration depends on whether the landing is enclosed or unenclosed, if it has a continuous handrail, and its length from riser to adjacent wall if applicable. AS1428.4.1:2009 provides diagrams showing the suitable configurations based on these factors, including Figure 5a and 5b for enclosed landings and Figure 5c for unenclosed landings.

TGSIs are required on landings for stairways and ramps. This configuration and requirement for TGSIs differs based on the configuration of each landing.

- ▶ On an enclosed landing, where the depth of the landing is  $\geq 3000\text{mm}$  to the nosing edge or gradient change, warning indicators are required at 600–800mm depth (irrespective of handrails).
- ▶ On an enclosed landing, where there is no continuous handrail and the landing is  $< 3000\text{mm}$  to the nosing edge or gradient change, warning indicators are required at 300–400mm depth.
- ▶ On an enclosed landing, where handrails are continuous on both sides, and the landing is  $< 3000\text{mm}$  to the nosing edge or gradient change then indicators are not required.
- ▶ On an unenclosed landing  $< 3000\text{mm}$  to the nosing edge or gradient change warning indicators are required at 300–400mm depth.
- ▶ On an unenclosed landing  $\geq 3000\text{mm}$  to the nosing edge or gradient change warning indicators are required at 600–800mm depth.
- ▶ Landings (stair & ramp) must be set back within site boundary.  
– See Figure 4 following.

| Landing Configuration                | Landing is <3000mm to hazard (eg: Stair edge) | Landing is ≥3000mm to hazard (eg: Stair edge) |
|--------------------------------------|-----------------------------------------------|-----------------------------------------------|
| Enclosed with Discontinuous Handrail | 300mm – 400mm wide TGSIs                      | 600mm – 800mm wide TGSIs                      |
| Enclosed with Continuous Handrail    | No TGSIs                                      | 600mm – 800mm wide TGSIs                      |
| Unenclosed                           | 300mm – 400mm wide TGSIs                      | 600mm – 800mm wide TGSIs                      |



### Walkways & Ramps

To determine the appropriate TGSi requirement for ramps, it's necessary to identify the correct ramp type. Ramps are classified based on their length and slope, and are summarised in the table below.

### Kerb Ramps

It is not mandatory to install TGSIs on a kerb ramp, also known as a pram crossing, if the following conditions are all satisfied:

- ▶ Distance between the building line/boundary and the top of the kerb ramp is less than 3000mm;
- ▶ The change in gradient between that of the pedestrian surface at the top of the kerb ramp and the gradient of the kerb ramp surface lies between 1 in 8 to 1 in 8.5; and
- ▶ The kerb ramp is aligned with the building line and in the direction of travel across the carriageway.

Where required, warning tactile indicators should be installed:

- ▶ full width of the path of travel.
- ▶ Where a kerb ramp is not in the direct continuous accessible path of travel or oriented in terms of the normally available cues, such as a building frontage, directional indicators should lead to the warning indicators located at the crossing entry point at right angles to the direction of travel across the roadway, a minimum of 600mm deep and 300mm back from the front of kerb.
- ▶ Pedestrian push button assemblies should be positioned within the zone of common reach.

Figure 7 – Kerb Ramp TGSi requirements

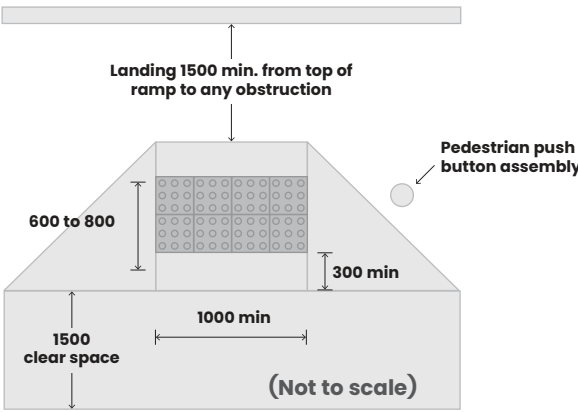
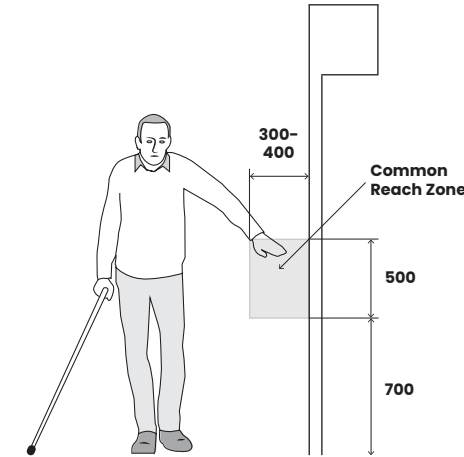


Figure 8 – Zone of Common Reach



|                | Min Gradient | Max Gradient | Max Rise | Max Length Between Landings | TGSi Requirement                              |
|----------------|--------------|--------------|----------|-----------------------------|-----------------------------------------------|
| Walkway        | N/A          | 1:21 to 1:33 |          | 15m interpolated up to 25m  | Nil                                           |
| Ramp           | 1:20         | 1:14         |          | 9m interpolated up to 15m   | Depends on size and configuration of landing. |
| Step Ramp      | N/A          | 1:10         | 190mm    | 1900mm                      | Nil                                           |
| Threshold Ramp | N/A          | 1:8          | 35mm     | 280mm                       | Nil                                           |
| Kerb Ramp      | N/A          | 1:8          | 190mm    | 1520mm                      | Depends on size and configuration of landing. |

# 2.6 TGSIs

## Retrofit TGSIs

When TGSIs are installed onto an existing or new surface, they are considered to be retrofit. Retrofit TGSIs are a practical, adaptable and efficient way of providing compliance with AS1428.1.4, and a range of options are available to suit different substrates and budgets.

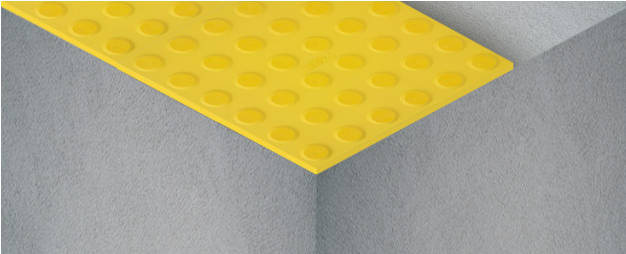
Using retrofit TGSIs offers several advantages. These products eliminate the need for the flooring contractor to have a thorough understanding of DDA and AS1428.4.1:2009 regulations as a TGSi specialist can install them on top of an existing substrate while ensuring compliance. Unlike other TGSi installation methods, retrofit TGSIs do not require recesses in thoroughfares, reducing the risk of tripping hazards during construction. Depending on the chosen product, retrofit TGSIs can also provide faster installations, with immediate use upon completion of works. This allows for continuous, unimpeded workflow and reduces the need to coordinate with other trades working on the site.

Retrofit TGSIs provide a flexible solution as they can be installed over existing substrates without the need for special surface preparation. They can also be used to conceal unsightly substrates left behind by previously failed and removed TGSIs. However, it is important to note that some products may be better suited for certain substrates, and retrofitting may present challenges and limitations, particularly on flexible pavements such as asphalt. Additionally, integrated TGSi pads or plates may offer useful solutions over maintenance pits.

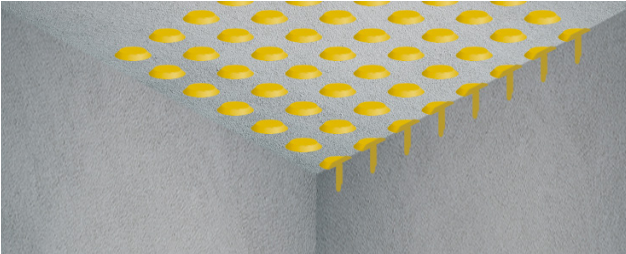
## Inlaid TGSIs

The aesthetics of an inlaid product, flush with its surrounds, can provide elegance to an area. The main benefits of utilising inlaid TGSIs, such as granite pavers and porcelain tiles, are their inherent strength and durability characteristics. However, regard for the increased coordination and work site issues relating to the preparation and installation requirements for inlaid TGSIs must be considered. In addition, inlaid products are traditionally installed by the requisite paving or tiling contractor. This helps to promote a seamless and continuous workflow but, compliant installation is predicated on the assurance that the installer is fully conversant with regulatory requirements, and applying them accordingly.

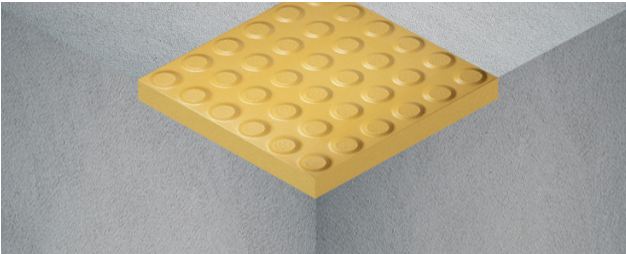
### Retrofit - Adhesive Fix Integrated



### Retrofit - Mechanical Fix Discrete



## Inlaid



# 2.7 TGSIs

## Korb TGSIs

In Australia, it is widely recognised that the built environment should promote creativity, individuality and safety whilst providing equal access to all individuals. Korb's TGSIs products were created with these values in mind, prioritising both functionality and aesthetics.

A recent innovation for ensuring the blind or vision impaired have access to the built environment is the TGSi. This requirement for greater access availability is not incompatible with the provision of spaces with creative design or individuality. At Korb, the ethos of building inclusive environments was a pivotal element considered during the creation of our highly functional and aesthetically driven Tactile Ground Surface Indicator (TGSi) products.

Korb's Tactile Ground Surface Indicators (TGSIs) have been designed for association with any architectural style whilst providing long lasting appeal for commercial, industrial or public access environments. To achieve this, our TGSIs are made from the highest quality materials:

- ▶ Marine Grade stainless steel 316 with Physical Vapour Deposition (PVD) coatings that increase wear, scratch and corrosion resistances.
- ▶ Dezincification resistant (DZR) Brass to extend lifespan.
- ▶ Carborundum inserts are made from premium silicon carbide, one of the hardest materials on earth after diamond, and are resistant to chemicals and corrosion.
- ▶ UV stabilised Polymers with superior shrink resistance, abrasive wear, shear and tensile strengths.
- ▶ Granite, bluestone and porcelains with UV stabilisation.

The combination of these components ensures that Korb TGSIs remain in pristine and functional condition for a longer period.

The TGSIs and their inserts are available in a variety of colours that have been matched to complement our stair nosing range.

The combination of materials, finishes, colours, fixing methods, and configurations provides all the options required to accommodate any situation. If you are driven by design, elegance or durability, Korb TGSIs can provide the requisite compliance whilst entertaining any aesthetic vision.



The Korb TGSi range includes:

- ▶ Nouvel®
- ▶ Renzo®
- ▶ Kahn®

# Nouvel®

## 3.0 Nouvel®

CLASSIC | CARBTOP | PLATE | DOME

Our premium *Nouvel®* TGSIs are made from the highest quality 316 stainless steel, Physical Vapour Deposition (PVD) black steel and Dezincification Resistant (DZR) brass in a Classic style. This range has the highest slip resistance classification of P5 or R13. CarbTop inserts provide surface structure options, and also add a variety of colours, making the *Nouvel®* TGSi extremely versatile.

*Nouvel®* Warning TGSIs are offered in two configurations. The Infix configuration provides the premium option, and is especially applicable for heavy pedestrian or wheeled traffic areas. These long lasting products can easily be retrofitted both externally and internally onto all common substrates. *Nouvel®* TGSIs are the most sophisticated products on the market delivering an elegant finish perfectly suited to endure and enliven any bustling environment.

Additionally, Korb *Nouvel®* TGSIs are supplied with precision-engineered pressure-fit plugs. This ensures adhesive-free installation that is immediately trafficable, delivers a professional finish without mess, and can be removed to meet Light Reflectance Value (LRV) compliance if required.

The *Flatback* configuration is the economical, quick installation option that it's best suited to lower pedestrian traffic areas, limited to specific substrates.

More info  
on our *Nouvel®*  
Range



# 3.1 Nouvel® Classic

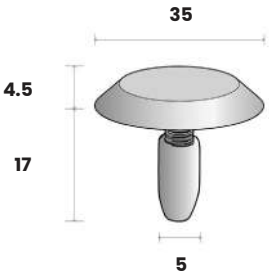
The attractive *Nouvel®* Classic TGSIs are offered in a 316 stainless steel, black PVD stainless steel and brass. The classic design, and combination of durability and elegance, makes the *Nouvel®* Classic TGSIs a common choice for use in high traffic areas, especially when a high end finish is favoured.

Location | Melbourne Jet Base  
Architect | Cox Architecture  
Builder | Hutchinson Builders

## Nouvel® Classic Discrete Warning



Black PVD      Brass      Stainless Steel



Luminous  
Contrast  
Requirement

45%

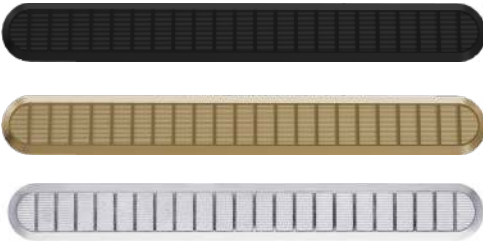
Infix



**SUBSTRATES**  
STONE | CERAMIC | CONCRETE | MASONRY | TIMBER | VINYL | ASPHALT | EXPOSED AGGREGATE | CARPET TILE

| Infix Product Code             | 111111    | 111112 | 111113          |
|--------------------------------|-----------|--------|-----------------|
| Tactile Colour                 | Black PVD | Brass  | Stainless Steel |
| Mean Dry Luminance (LRV)       | 5.38      | 56.60  | 53.97           |
| Mean Wet Luminance (LRV)       | 4.77      | 51.06  | 50.11           |
| Slip Resistance Classification | P5        |        |                 |
| Product Warranty               | 10 Years  |        |                 |

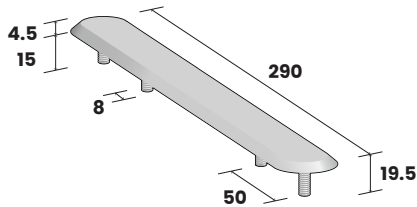
## Nouvel® Classic Discrete Directional



Black PVD

Brass

Stainless Steel



Luminous  
Contrast  
Requirement

45%

Infix



**SUBSTRATES**  
STONE | CERAMIC | CONCRETE | MASONRY | TIMBER | VINYL | ASPHALT | EXPOSED AGGREGATE | CARPET TILE

| Infix Product Code             | 111121    | 111122 | 111123          |
|--------------------------------|-----------|--------|-----------------|
| Tactile Colour                 | Black PVD | Brass  | Stainless Steel |
| Mean Dry Luminance (LRV)       | 5.38      | 56.60  | 53.97           |
| Mean Wet Luminance (LRV)       | 4.77      | 51.06  | 50.11           |
| Slip Resistance Classification | P5        |        |                 |
| Product Warranty               | 10 Years  |        |                 |

# 3.2 Nouvel® CarbTop

The *Nouvel®* CarbTop offers a hard wearing Carborundum combined with the inherent strength characteristics of 316 stainless steel. These TGSIs achieve excellent grip making them the preferred choice in oily, wet, dry or dirty conditions. The silicon carbide based Carborundum is UV stabilised, high impact and chemical and corrosion resistant, and is suitable for both internal and external use.

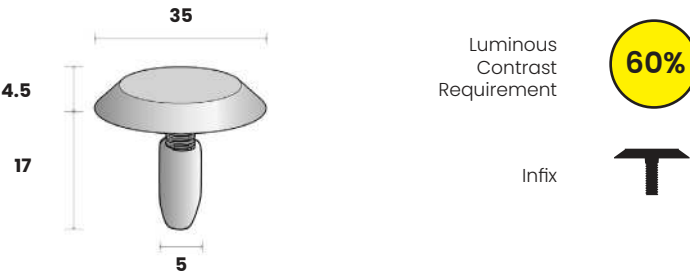
The *Nouvel®* CarbTop TGSIs are available in black or yellow offering flexibility for complying with the regulatory luminous contrast requirements.

Location | **Olderfleet**  
Architect | **Grimshaw Architects & Carr Interiors**  
Builder | **Mirvac**

## Nouvel® CarbTop Composite Discrete Warning



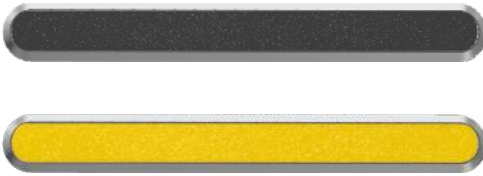
Black CarbTop Infill   Yellow CarbTop Infill   Brass CarbTop Infill



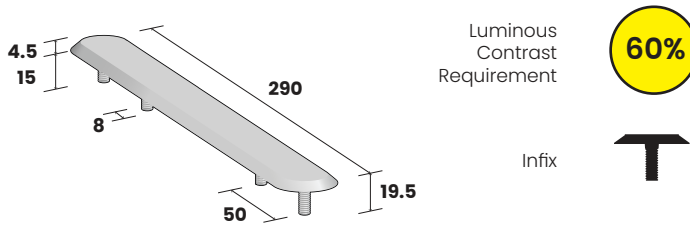
**SUBSTRATES**  
STONE | CERAMIC | CONCRETE | MASONRY | TIMBER | VINYL | ASPHALT | EXPOSED AGGREGATE | CARPET TILE

| Infix Product Code             | 112111          | 112118 | 112211 |
|--------------------------------|-----------------|--------|--------|
| CarbTop Infill Colour          | Black           | Yellow | Black  |
| Tactile Colour                 | Stainless Steel |        | Brass  |
| Mean Dry Luminance (LRV)       | 3.61            | 35.93  | 3.61   |
| Mean Wet Luminance (LRV)       | 3.11            | 33.21  | 3.11   |
| Slip Resistance Classification | P5              |        |        |
| Product Warranty               | 5 Years         |        |        |

## Nouvel® CarbTop Composite Discrete Directional



Black CarbTop Infill  
Yellow CarbTop Infill



**SUBSTRATES**  
STONE | CERAMIC | CONCRETE | MASONRY | TIMBER | VINYL | ASPHALT | EXPOSED AGGREGATE | CARPET TILE

| Infix Product Code             | 112121          | 112128 |
|--------------------------------|-----------------|--------|
| CarbTop Infill Colour          | Black           | Yellow |
| Tactile Colour                 | Stainless Steel |        |
| Mean Dry Luminance (LRV)       | 3.61            | 35.93  |
| Mean Wet Luminance (LRV)       | 3.11            | 33.21  |
| Slip Resistance Classification | P5              |        |
| Product Warranty               | 5 Years         |        |

# 3.3 Nouvel® Plate

The integrated TGSi plate is often a preferred solution when Stainless Steel Tactile Indicators are desired, but there are potential issues relating to the installation of discrete TGSIs.

Commonly, integrated TGSi plates are installed in the following applications;

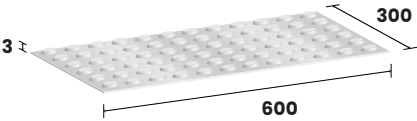
- ▶ Access hatches at the foot of travelators and escalators. They can be permanently fixed in a manner that allows tradesmen to reach the mechanical fixing points to access below the hatch for routine maintenance.
- ▶ Where service loads of the suspended timber decking cannot be compromised by excessive penetrations required for individually drilled tactiles.
- ▶ In suspended ceramic flooring with electrical assets underneath, especially where water feed diamond drilling would be hazardous.
- ▶ Additionally they are also well suited to more complicated substrates such as expanded mesh, checkerplate, & carpet tile.

Furthermore, the easy “DIY peel and stick” technology with optional mechanical fixings points makes them instantly trafficable.

The *Nouvel®* Plates are available in both the Classic & CarbTop variants providing an integrated TGSi variant that incorporates the Classic or CarbTop TGSi into a solid plate formed from stainless steel.

TGSIs used with the *Nouvel®* Plate offer all the benefits of the discrete range, including being manufactured from 316 marine grade stainless steel. Korb’s stainless steel *Nouvel®* Plate range is stylish, hard-wearing, highly trafficable and slip resistant, and it comes with a 5 year warranty.

## Nouvel® Plate Classic Integrated Warning



Luminous  
Reflectance  
Contrast  
Requirement

30%

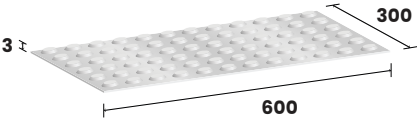
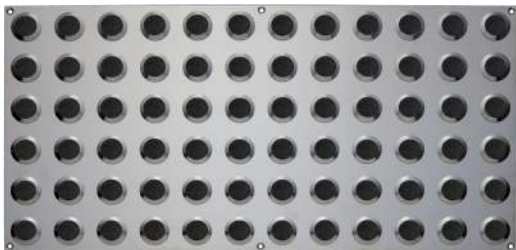
Infix

T

**SUBSTRATES**  
STONE | CERAMIC | CONCRETE | MASONRY | TIMBER | ASPHALT | EXPOSED AGGREGATE | CARPET TILE | ESCALATOR & TRAVELATOR PIT LIDS

| Infix Product Code             | 115113          |
|--------------------------------|-----------------|
| Tactile Colour                 | Stainless Steel |
| Mean Dry Luminance (LRV)       | 53.97           |
| Mean Wet Luminance (LRV)       | 50.11           |
| Slip Resistance Classification | P5              |
| Product Warranty               | 5 Years         |

## Nouvel® Plate CarbTop Composite Integrated Warning



Luminous  
Reflectance  
Contrast  
Requirement

60%

Infix

T

**SUBSTRATES**  
STONE | CERAMIC | CONCRETE | MASONRY | TIMBER | ASPHALT | EXPOSED AGGREGATE | CARPET TILE | ESCALATOR & TRAVELATOR PIT LIDS

| Infix Product Code             | 115211          |
|--------------------------------|-----------------|
| CarbTop Infill Colour          | Black           |
| Tactile Colour                 | Stainless Steel |
| Mean Dry Luminance (LRV)       | 3.61            |
| Mean Wet Luminance (LRV)       | 3.11            |
| Slip Resistance Classification | P5              |
| Product Warranty               | 5 Years         |

# 3.5 Nouvel® Dome

The *Nouvel®* Dome is provided as a handrail based sensory cue for situations where tactile navigation is required, but TGSIs are not suitable or applicable. As stated in AS/NZ 1428.4.1:2021

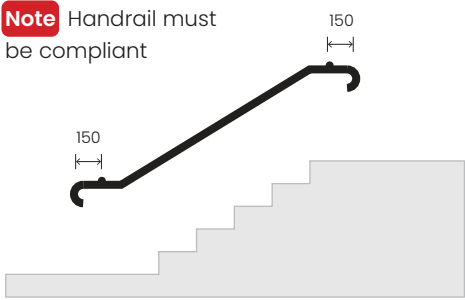
*“Where the Building Code of Australia (BCA) does not require the installation of TGSIs, handrails shall have a raised tactile warning in the form of a domed button 4mm to 5mm in height and 10mm to 12mm in diameter.”*

The dome button is to be positioned on top of the stair or ramp handrail 150mm from the end of the handrail.



Location | **Stonnington Civic Precinct**  
Architect | **Williams Ross Architects**  
Builder | **Harris HMC**

**Note** Handrail must be compliant



**Dome button location on top of handrail** - Configuration applicable to stairway or ramp

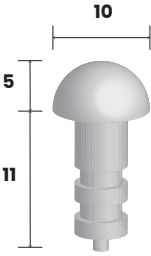
Dome buttons are to be used on specified stairway and ramp handrails when a facility is exempt from the provision of TGSIs in those locations. The facilities listed as exempt in BCA, D3.8(c) include:

- Hostels for the aged.
- Nursing homes for the aged.
- Residential aged care building Class 3 accommodation for the aged.
- A class 9a health-care building or a class 9c building

**Note** TGSIs remain required for other areas in these facilities.

The *Nouvel®* Dome is provided in high quality stainless steel, and it can be installed on any compliant handrail.

## Nouvel® Dome Integrated Warning



|                    |                 |
|--------------------|-----------------|
| Infix Product Code | 119113          |
| Tactile Colour     | Stainless Steel |
| Product Warranty   | 5 Years         |



Location | **Warnambool Learning & Library Centre**  
Architect | **Kosloff Architecture**  
Builder | **Nicholson Construction**

# Renzo®

## 4.0 Renzo®

CLASSIC | TILE | VANGUARD

Our *Renzo*® TGSIs are Australian Made from UV stabilised polymers, engineered to endure our high UV climate whilst achieving the highest slip resistance classification. Rigorous testing has confirmed our polymers exceed all statutory requirements whilst outperforming the competition in UV stability, shrinkage resistance, abrasive wear, shear and tensile strength.

*Renzo*® TGSIs combine versatility, value, and colour choice, giving you the freedom to design with confidence and stay compliant.

More info  
on our *Renzo*®  
Range



# 4.1 Renzo®

Classic



The *Renzo*® Classic TGSIs sophisticated design enhances the interference fit anchor ensuring anti-rotation and making it vandal and removal proof. The classic surface profile delivers the highest slip resistance classification for warning and directional indicators, and the product range can be retrofitted to most substrates. *Renzo*® Classic TGSIs are able to harmoniously achieve their regulatory functions whilst allowing the floor finishes to remain the pre-eminent feature of a space. They are suitable for external and internal use.

The *Renzo*® Classic is a popular alternative to the *Nouvel*® Classic TGSi due to its high versatility and comparative low cost. It is available in a wide range of colours making it complementary to Korb's Venturi Polymer stair nosing.

Location | Pakenham Station  
Architect | Genton  
Builder | John Holland Group

Renzo® Classic Discrete Warning

Black

Charcoal

Light Grey

White

Blue

Red

Orange

Yellow

Custom

35

4.5

24

8

Luminous Contrast Requirement

45%

SUBSTRATES

STONE | CERAMIC | CONCRETE | MASONRY | TIMBER | ASPHALT | EXPOSED AGGREGATE | CARPET TILE

| Infix Product Code             | 121111  | 121112   | 121113     | 121114 | 121115 | 121116 | 121117 | 121118 |
|--------------------------------|---------|----------|------------|--------|--------|--------|--------|--------|
| Tactile Colour                 | Black   | Charcoal | Light Grey | White  | Blue   | Red    | Orange | Yellow |
| Mean Dry Luminance (LRV)       | 1.91    | 11.34    | 58.89      | 87.60  | 8.73   | 16.26  | 25.42  | 70.01  |
| Mean Wet Luminance (LRV)       | 1.89    | 11.61    | 58.63      | 87.65  | 8.66   | 15.85  | 25.21  | 69.75  |
| Slip Resistance Classification | P5      |          |            |        |        |        |        |        |
| Product Warranty               | 5 Years |          |            |        |        |        |        |        |

Renzo® Classic Discrete Directional

Black

Charcoal

Light Grey

White

Blue

Red

Orange

Yellow

4.5

24

8

290

28.5

50

Luminous Contrast Requirement

45%

SUBSTRATES

STONE | CERAMIC | CONCRETE | MASONRY | TIMBER | ASPHALT | EXPOSED AGGREGATE | CARPET TILE

| Infix Product Code             | 121121  | 121122   | 121123     | 121124 | 121125 | 121126 | 121127 | 121128 |
|--------------------------------|---------|----------|------------|--------|--------|--------|--------|--------|
| Tactile Colour                 | Black   | Charcoal | Light Grey | White  | Blue   | Red    | Orange | Yellow |
| Mean Dry Luminance (LRV)       | 1.91    | 11.34    | 58.89      | 87.60  | 8.73   | 16.26  | 25.42  | 70.01  |
| Mean Wet Luminance (LRV)       | 1.89    | 11.61    | 58.63      | 87.65  | 8.66   | 15.85  | 25.21  | 69.75  |
| Slip Resistance Classification | P5      |          |            |        |        |        |        |        |
| Product Warranty               | 5 Years |          |            |        |        |        |        |        |

Renzo®

# 4.2 Renzo®

## Tile

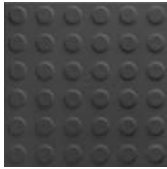


The *Renzo*® Tile is an integrated TGSi with an easy DIY peel and stick adhesive technology which allows for rapid installation on a wide variety of substrates. (Primer may be required for specific substrates.) This highly versatile Australian Made TGSi is suitable for heavy pedestrian traffic, high impact, and external and internal environments.

The *Renzo*® Tile is available in a variety of colours that have been colour matched to our Venturi Polymer stair nosing. This offers a complementary finish to all your stairway areas, whilst accommodating compliance with luminous contrast requirements.

Location | Coburg Station  
Architect | Wood Marsh  
Builder | North West Program Alliance

### Renzo® Tile Integrated Warning

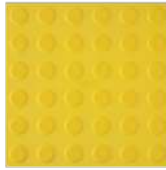


Black

Charcoal

Light Grey

White

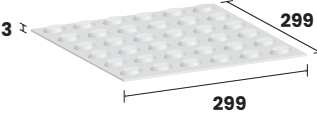


Blue

Red

Orange

Yellow

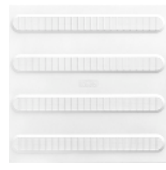
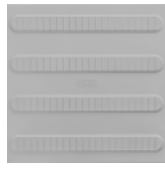


Luminous Contrast Requirement

30%

| SUBSTRATES                                                                                                       |         |          |            |        |        |        |        |        |
|------------------------------------------------------------------------------------------------------------------|---------|----------|------------|--------|--------|--------|--------|--------|
| STONE   CERAMIC   CONCRETE   MASONRY   TIMBER   ASPHALT   EXPOSED AGGREGATE   CARPET TILE   CARPET WITH UNDERLAY |         |          |            |        |        |        |        |        |
| Infix Product Code                                                                                               | 123111  | 123112   | 123113     | 123114 | 123115 | 123116 | 123117 | 123118 |
| Tactile Colour                                                                                                   | Black   | Charcoal | Light Grey | White  | Blue   | Red    | Orange | Yellow |
| Mean Dry Luminance (LRV)                                                                                         | 1.91    | 11.34    | 58.89      | 87.60  | 8.73   | 16.26  | 25.42  | 70.01  |
| Mean Wet Luminance (LRV)                                                                                         | 1.89    | 11.61    | 58.63      | 87.65  | 8.66   | 15.85  | 25.21  | 69.75  |
| Slip Resistance Classification                                                                                   | P5      |          |            |        |        |        |        |        |
| Product Warranty                                                                                                 | 5 Years |          |            |        |        |        |        |        |

### Renzo® Tile Integrated Directional



Black

Charcoal

Light Grey

White

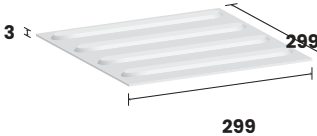


Blue

Red

Orange

Yellow



Luminous Contrast Requirement

30%

| SUBSTRATES                                                                                                       |         |          |            |        |        |        |        |        |
|------------------------------------------------------------------------------------------------------------------|---------|----------|------------|--------|--------|--------|--------|--------|
| STONE   CERAMIC   CONCRETE   MASONRY   TIMBER   ASPHALT   EXPOSED AGGREGATE   CARPET TILE   CARPET WITH UNDERLAY |         |          |            |        |        |        |        |        |
| Infix Product Code                                                                                               | 123121  | 123122   | 123123     | 123124 | 123125 | 123126 | 123127 | 123128 |
| Tactile Colour                                                                                                   | Black   | Charcoal | Light Grey | White  | Blue   | Red    | Orange | Yellow |
| Mean Dry Luminance (LRV)                                                                                         | 1.91    | 11.34    | 58.89      | 87.60  | 8.73   | 16.26  | 25.42  | 70.01  |
| Mean Wet Luminance (LRV)                                                                                         | 1.89    | 11.61    | 58.63      | 87.65  | 8.66   | 15.85  | 25.21  | 69.75  |
| Slip Resistance Classification                                                                                   | P5      |          |            |        |        |        |        |        |
| Product Warranty                                                                                                 | 5 Years |          |            |        |        |        |        |        |

# 4.2 Renzo®

Vanguard



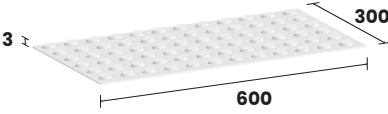
The *Renzo®* Vanguard Tile is the newest addition to the Korb TGSi range. Designed specifically for the civil sector, it offers an impervious, UV-stable, low-maintenance solution with outstanding anti-wear performance. Its nine-point mechanical fixing system, secured with nylon drive anchors, prevents debonding and delamination for long-lasting durability

The *Renzo®* Vanguard Tile is highly versatile and suitable for all substrates. Its colour variety delivers options to suit any designer's vision, with the flexibility to comply with luminous contrast requirements.

Renzo® Vanguard Integrated Warning



BlackWhiteYellow



Luminous Contrast Requirement30%

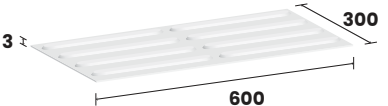
SUBSTRATES  
STONE | CONCRETE | MASONRY | TIMBER | ASPHALT | EXPOSED AGGREGATE

| Infix Product Code             | 124111  | 124114 | 124118 |
|--------------------------------|---------|--------|--------|
| Tactile Colour                 | Black   | White  | Yellow |
| Mean Dry Luminance (LRV)       | 1.36    | 81.98  | 63.23  |
| Mean Wet Luminance (LRV)       | 1.85    | 81.43  | 63.72  |
| Slip Resistance Classification | P5      |        |        |
| Product Warranty               | 5 Years |        |        |

Renzo® Vanguard Integrated Directional



BlackWhiteYellow



Luminous Contrast Requirement30%

SUBSTRATES  
STONE | CONCRETE | MASONRY | TIMBER | ASPHALT | EXPOSED AGGREGATE

| Infix Product Code             | 124121  | 124123 | 124124 |
|--------------------------------|---------|--------|--------|
| Tactile Colour                 | Black   | White  | Yellow |
| Mean Dry Luminance (LRV)       | 2.91    | 81.13  | 64.59  |
| Mean Wet Luminance (LRV)       | 2.40    | 80.44  | 64.04  |
| Slip Resistance Classification | P5      |        |        |
| Product Warranty               | 5 Years |        |        |

Location | Bullen Park & Ride  
Architect | Peter Elliott Architecture + Urban Design  
Builder | CPB Contractors Alliance



Renzo®

Kahn®

# 5.0 Kahn®

MODULAR | SOLID CARVED | PORCELAIN

The Korb *Kahn*® TGSi pavers and tiles are made from the highest quality earthen materials including granite, marble, bluestone and ceramics. These long lasting products are suitable for internal or external use, and can easily be recessed into many common substrates. *Kahn*® TGSIs are the most robust products on the market delivering an elegant finish perfectly suited to endure and enliven any bustling environment.

Kahn®

More info  
on our *Kahn*®  
Range



# 5.1

## Kahn®

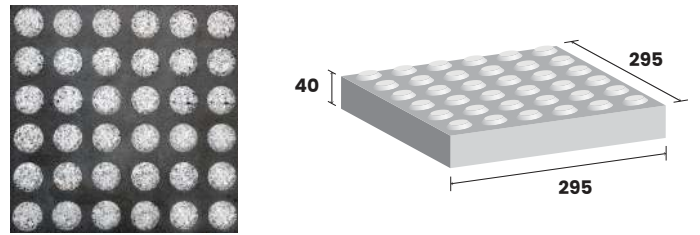
Modular

Melbourne City's premier product, the *Kahn®* Modular TGSI paver is made from rugged granite and bluestone. It delivers unparalleled durability and is well suited to areas that are required to resist a constant battering. The refined modular design of the *Kahn®* Modular TGSI has an ivory and black granite alternative to satisfy compliance with luminous contrast requirements.

*Kahn®* Modular granite TGSI pavers are provided in 40mm making them suitable for most paved applications.

Location | Margaret Court Arena  
Architect | NH Architecture  
Builder | Lend Lease

### Kahn® Modular Discrete Warning



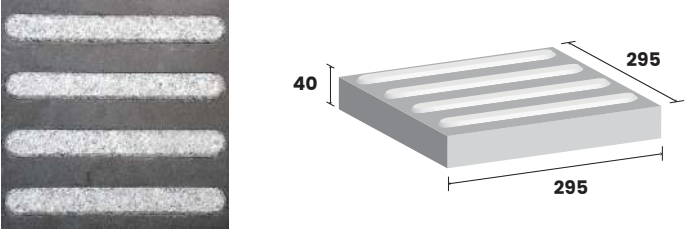
Luminous Contrast Requirement

45%

SUBSTRATES  
STONE | CERAMIC | ASPHALT

| Infix Product Code             | 131214   |
|--------------------------------|----------|
| Mean Dry Luminance (LRV)       | 40.55    |
| Mean Wet Luminance (LRV)       | 25.00    |
| Slip Resistance Classification | P5       |
| Product Warranty               | 10 Years |

### Kahn® Modular Discrete Directional



Luminous Contrast Requirement

45%

SUBSTRATES  
STONE | CERAMIC | ASPHALT

| Infix Product Code             | 131224    |
|--------------------------------|-----------|
| Tactile Colour                 | Ivory     |
| Tile Colour                    | Bluestone |
| Mean Dry Luminance (LRV)       | 40.55     |
| Mean Wet Luminance (LRV)       | 25.00     |
| Slip Resistance Classification | P5        |
| Product Warranty               | 10 Years  |

Kahn®

# 5.2

## Kahn®

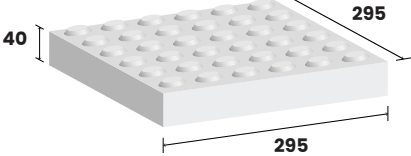
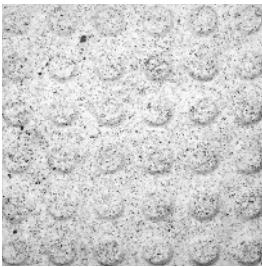
Solid Carved

The *Kahn®* Solid Carved TGSi is a precisely carved granite stone paver that delivers a natural and organic design element that is aesthetically pleasing. These pavers are characterised by their inherent toughness, and present a solution which will outlast its environment.

The *Kahn®* Solid Carved TGSIs are available in ivory and black granite, satisfying most luminous contrast requirements. This range is made to suit both 20mm and 40mm paved areas and should not be disregarded for internal applications.

Location | Glenhuntly Station  
Architect | Cox Architecture  
Builder | Acciona Coleman Rail Joint Venture

### Kahn® Solid Carved Discrete Warning



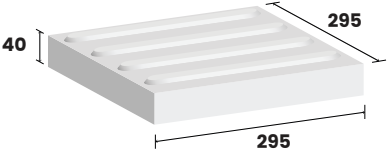
Luminous Contrast Requirement

30%

SUBSTRATES  
STONE | CERAMIC | ASPHALT

|                                |          |        |
|--------------------------------|----------|--------|
| 20mm Product Code              | 132111   | 132114 |
| 40mm Product Code              | 132211   | 132214 |
| Tactile Colour                 | Ivory    |        |
| Mean Dry Luminance (LRV)       | 12.44    | 40.55  |
| Mean Wet Luminance (LRV)       | 6.97     | 25.00  |
| Slip Resistance Classification | P5       |        |
| Product Warranty               | 10 Years |        |

### Kahn® Solid Carved Discrete Directional



Luminous Contrast Requirement

30%

SUBSTRATES  
STONE | CERAMIC | ASPHALT

|                                |          |        |
|--------------------------------|----------|--------|
| 20mm Product Code              | 132121   | 132124 |
| 40mm Product Code              | 132221   | 132224 |
| Tactile Colour                 | Ivory    |        |
| Mean Dry Luminance (LRV)       | 12.44    | 40.55  |
| Mean Wet Luminance (LRV)       | 6.97     | 25.00  |
| Slip Resistance Classification | P5       |        |
| Product Warranty               | 10 Years |        |

# 5.3

## Kahn®

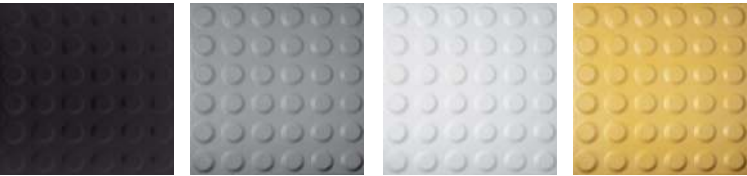
Porcelain

The *Kahn®* Porcelain TGSIs are cost effective and deliver great durability and resilience to any bustling urban environment.

The 10mm thick, UV stable porcelain tiles are available in 4 colour options. They are suitable for external and internal applications and come with a 10 year warranty when installed in accordance with the manufacturer's instructions.

Location | Southern Cross Railway Station  
Architect | Grimshaw Architects  
Builder | Leighton Contractors

### Kahn® Porcelain Integrated Warning



Charcoal      Grey      Ivory      Yellow



Luminous  
Contrast  
Requirement

30%

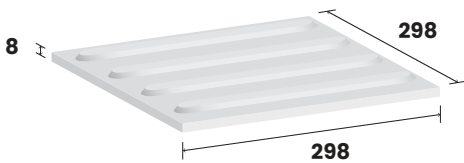
SUBSTRATES  
STONE | CERAMIC | CONCRETE | ASPHALT

| Infix Product Code             | 133011   | 133013 | 133014 | 133018 |
|--------------------------------|----------|--------|--------|--------|
| Tactile Colour                 | Charcoal | Grey   | Ivory  | Yellow |
| Mean Dry Luminance (LRV)       | 10.97    | 19.36  | 42.64  | 28.20  |
| Mean Wet Luminance (LRV)       | 8.10     | 16.39  | 34.35  | 27.72  |
| Slip Resistance Classification | P5       |        |        |        |
| Product Warranty               | 10 years |        |        |        |

### Kahn® Porcelain Integrated Directional



Charcoal      Grey      Ivory      Yellow



Luminous  
Contrast  
Requirement

30%

SUBSTRATES  
STONE | CERAMIC | CONCRETE | ASPHALT

| Infix Product Code             | 133021   | 133023 | 133024 | 133028 |
|--------------------------------|----------|--------|--------|--------|
| Tactile Colour                 | Charcoal | Grey   | Ivory  | Yellow |
| Mean Dry Luminance (LRV)       | 10.97    | 19.36  | 42.64  | 28.20  |
| Mean Wet Luminance (LRV)       | 8.10     | 16.39  | 34.35  | 27.72  |
| Slip Resistance Classification | P5       |        |        |        |
| Product Warranty               | 10 years |        |        |        |

# Carpet Systems

## 6.0 Carpet Systems

Korb's Carpet System is the exemplary solution for any architect or builder seeking to integrate carpet and underlay in their designs while ensuring the space remains accessible. This innovative system is built to accommodate all combinations of carpet and underlay, allowing you to maintain your design integrity without compromising on accessibility.

To comply with the AS 1428.1:2021, the carpet dimensions must be as per the following;

- ▶ The carpet's overall pile height is to be kept within a 11mm maximum.
- ▶ The underlay portion of the carpet is restricted to a maximum height of 4mm.
- ▶ The combined total dimension shall be a maximum 15mm respectively.

More info  
on our Carpet  
Systems Range



# 6.0 Carpet Systems

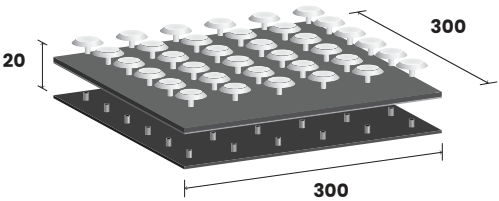
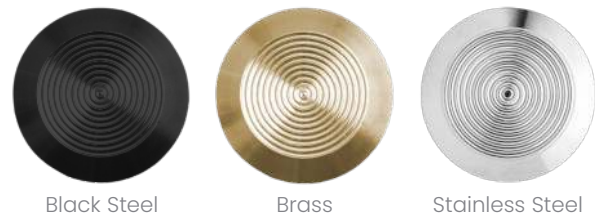
Designed specifically with carpet and underlay applications in mind, the system's configurable base plate and ferrule heights allow for the installation of Tactile Ground Surface Indicators (TGSIs) on a diverse range of carpet and underlay combinations.

Where other systems can lead to uneven installations, the Korb system ensures uniformity of heights and centres, creating a visually pleasing and consistent environment. Furthermore, its robust design resists rotation and potential failure from loose tapping threads, ensuring its longevity matches the lifespan of your designs.

Designed exclusively for indoor use, Korb's Carpet System is the preferred choice for the integration of TGSIs into carpets with underlays. This system leads the industry in its aesthetic integration, practicality, adaptability, and durability.

Location | Warnambool Learning & Library Centre  
Architect | Kosloff Architecture  
Builder | Nicholson Construction

## Nouvel® Classic Discrete Warning

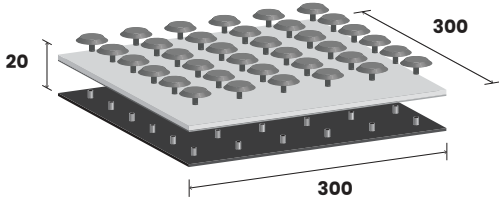
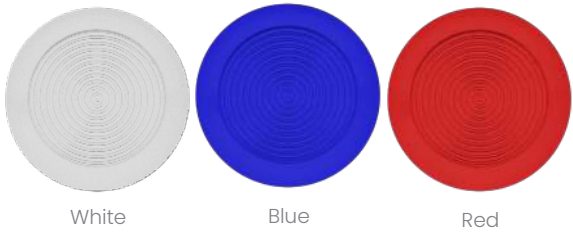


Luminous Contrast Requirement **45%**

SUBSTRATES  
CARPET WITH UNDERLAY

| Tactile Colour                 | Black Steel | Brass  | Stainless Steel |
|--------------------------------|-------------|--------|-----------------|
| 7/13 Carpet 1 Base Plate       | 116111      | 116112 | 116113          |
| Mean Dry Luminance (LRV)       | 5.38        | 56.60  | 53.97           |
| Mean Wet Luminance (LRV)       | 4.77        | 51.06  | 50.11           |
| Slip Resistance Classification | P5          |        |                 |
| Product Warranty               | 5 Years     |        |                 |

## Renzo® Classic Discrete Warning



Luminous Contrast Requirement **45%**

SUBSTRATES  
CARPET WITH UNDERLAY

| Tactile Colour                 | White   | Blue   | Red    | Orange | Yellow |
|--------------------------------|---------|--------|--------|--------|--------|
| 7/13 Carpet 1 Base Plate       | 126114  | 126115 | 126116 | 126117 | 126118 |
| Mean Dry Luminance (LRV)       | 87.60   | 8.73   | 16.26  | 25.42  | 70.01  |
| Mean Wet Luminance (LRV)       | 87.65   | 8.66   | 15.85  | 25.21  | 69.75  |
| Slip Resistance Classification | P5      |        |        |        |        |
| Product Warranty               | 5 Years |        |        |        |        |

# Installation

## 7.0 Installation

The lasting performance of any TGSi is reliant upon appropriate installation and good workmanship. Proper installation ensures the TGSi achieves the required compliance and that it continues to do so for the duration of its life. Poor installation often leads to non-compliance, and may even create a new or future hazard.

For professional installations please contact Korb to obtain a referral to an experienced and trained member of our preferred installer network. By using a preferred installer, with appropriate oversight from our consulting group, we ensure our products are installed to achieve the quality and longevity our clients have come to expect.

Self installation is an option for most Korb products. For the installation of Korb TGSIs the following information and methodologies should be applied.

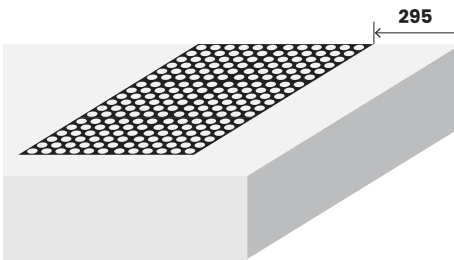
### Substrate Preparation

Prior to installation, all substrates must be clean, dry and free of dust or grease. Any existing damage to the substrate should be rectified prior to TGSi installation. If adhesive is being used, both the substrate and the back of the TGSi should be wiped thoroughly with methylated spirits.

### Mark Out and Layout

Identify the appropriate location to be covered by TGSIs in accordance with AS1428.4.1:2021. Wherever possible, position the requisite interlocking installation templates in location as a guide for drilling or adhesive methodologies.

**Note** discrete interlocking templates should be located 295mm from the hazard so that the edge of the discrete TGSIs upon installation falls within the required 300±10mm from the hazard as per illustration below..



### Carpet

When TGSIs are installed on carpet it is necessary to determine the type of carpet and/or underlay prior to selection of the requisite installation method. If carpet with underlay or broadloom carpet is present and discrete TGSIs are being installed, Korb's Carpet System will be required. If integrated TGSIs are being installed it will be necessary to remove both carpet and underlay in the TGSi area and replace it with an equivalent height sheet of MDF, allowing for the compression of the carpet. This is further commonly finished with an angle frame for enhanced aesthetics. For all carpet with underlay installations it will be necessary to coordinate the works in conjunction with the carpet contractor.

# 7.1

## Fixing Methodology

### Individually Drilled – Mechanical or Adhesive

NOUVEL CLASSIC | NOUVEL CARBTOP | RENZO CLASSIC

**Applicable Substrates**

Concrete, Asphalt, Masonry, 40mm Stone Pavers, Timber, Carpet Tile.

**Advantages**

- ▶ Efficient
- ▶ Standard masonry or timber hand drills
- ▶ Mechanical Fix – Instantly trafficable

**Disadvantages**

- ▶ Drilling can only be completed during dry conditions
- ▶ Not suitable for sensitive substrates such as ceramic and 20mm stone pavers
- ▶ Adhesive Fix – Not instantly trafficable

**Tool Requirements**

Masonry or timber drill, vacuum, hammer, tape measure, interlocking templates, consumables including drill bits, Acetone, dry cloth, adhesive as required, safety management and Personal Protective Equipment.

**Installation:**

1. Complete “Substrate Preparation” as defined previously. (IMPORTANT)
2. Complete “Mark Out and Layout” as defined previously.
3. Set out interlocking TGSi templates and drill corner TGSi locations to allow temporary mechanical fixing of the template in position.
4. Individually drill all holes in accordance with the template.  
Note: To ensure templates function effectively as a guide, only allow them to be used 2-3 times and then discard.
5. Remove templates and vacuum debris, and where applicable use Acetone and a dry cloth to clean any debris away from holes.
6. Depending on TGSi selected, apply the next step from below:

- a. **Mechanical Fix** – Insert TGSIs into cavity and use a hammer to firmly knock the indicator into the receiving substrate until secure and flush. Upon completion tactiles are immediately trafficable.
- b. **Adhesive Fix** – Apply adhesive to the drilled cavity and gently insert TGSIs into the substrate until secure and flush. Use safety management equipment to isolate the area until adhesive has cured. Allow 4 hours prior to opening area to local traffic.

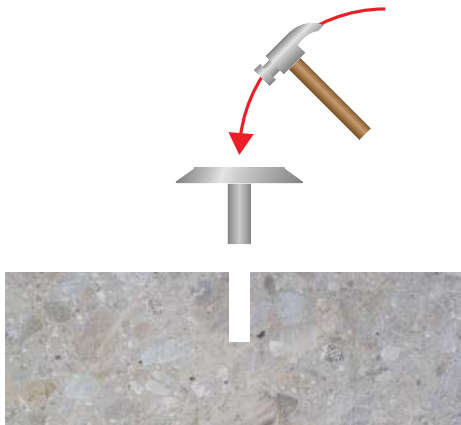


Image 2 – Mechanical or Adhesive: Drilled and insert fix into solid substrate.

# 7.1

## Fixing Methodology

### Individually Core Drilled – Mechanical or Adhesive

NOUVEL CLASSIC | NOUVEL CARBTOP | RENZO CLASSIC

**Applicable Substrates**

Ceramic or 20mm Stone Pavers

**Advantages**

- ▶ Penetrations will not shatter/crack tiles
- ▶ Drilling can be completed during either dry or wet conditions

**Disadvantages**

- ▶ Additional setup required
- ▶ Specialised tooling required

**Tool Requirements**

Diamond core drill, wet-dry vacuum, water extraction unit, hammer, tape measure, interlocking templates, Acetone, dry cloth, diamond core drill bits and safety management equipment.

**Installation**

1. Complete “Substrate Preparation” as defined previously. (IMPORTANT)
2. Complete “Mark Out and Layout” as defined previously.
3. Set out interlocking TGSi templates and drill corner TGSi locations to allow temporary mechanical fixing of the template in position.
4. Individually drill all holes in accordance with the template  
**Note:** To ensure templates function effectively as a guide, only allow them to be used 2-3 times and then discard.
5. Remove templates and vacuum excess water and debris away from holes.
6. Depending on TGSi selected, apply the next step from the following:

- a. **Mechanical Fix** – Insert TGSIs into cavity and use a hammer to firmly knock the indicator into the receiving substrate until secure and flush. Upon completion tactiles are immediately trafficable.
- b. **Adhesive Fix** – Apply adhesive to the drilled cavity and gently insert TGSIs into the substrate until secure and flush. Use safety management equipment to isolate the area until adhesive has cured. Allow 4 hours prior to opening area to local traffic.

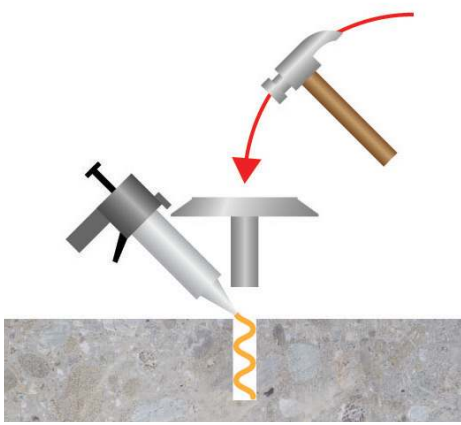


Image 3 – Mechanical or Adhesive: Core drill and insert fix into solid substrate.

# 7.1 Fixing Methodology

## Carpet Systems

NOUVEL CLASSIC | NOUVEL CARBTOP | RENZO CLASSIC

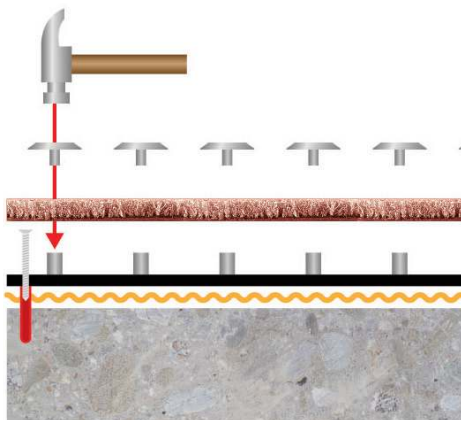


Image 4a – Carpet Series: Multi-stage install. (See pages 26-27).

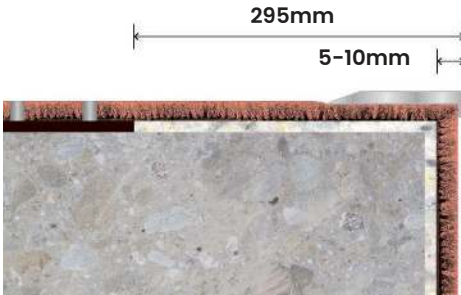


Image 4b – Note: Multi-stage install. (See pages 26-27).

### Applicable Substrates

Carpet with Underlay – Mechanically Fix.

### Advantages

- ▶ Uniform aesthetic appearance
- ▶ 3 standard ferrule heights to accommodate varied thickness' of carpet types.
- ▶ Single, double and triple base plate combinations are able accommodate varying thickness of the underlay

### Disadvantages

- ▶ 2 stage setup procedure requiring coordination with other trades

### Tool Requirements

Masonry or timber drill, cordless screwdriver, vacuum, hammer, tape measure, interlocking templates, consumables including drill bits, polyurethane adhesive, screws, wall plugs as appropriate to substrate and safety management equipment.

### Installation:

1. Complete "Substrate Preparation" as defined previously. (IMPORTANT)

2. Confirm thickness of both carpet and underlay and choose the appropriate ferrule height and base plate combination. See plate combination selection Matrix- Page 26.
3. Prior to carpet laying, complete "Mark Out and Layout" as defined previously.
4. TGSi plates should be set back 295mm from the required location and fastened using both mechanical means and adhesive

**Note** For installations next to a step allow +/-10mm to account for the combined thickness of the vertically installed underlay, carpet, and nosing. This will ensure that the TGSIs are positioned 300mm from the edge of the vertical nosing. See image 4b.

5. Coordinate with carpet trades to lay underlay to match baseplate and lay carpet over the base plate system.
6. With a hammer lightly tap the ferrules effectively hole punching the carpet in the perfect position. Remove carpet wads from the ferrule revealing the cavity to receive the TGSIs.
7. Insert a TGSi into each cavity and use a hammer to knock indicator firmly into the receiving Carpet Base System until it is secure and flush.

## Retrofit Integrated TGSIs – Peel and Stick Adhesive Fix\*

RENZO TILE

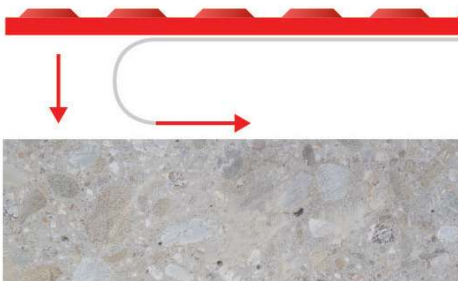


Image 5a – Peel and stick Adhesive: Surface fix onto solid substrate.



Image 5b – Peel and stick Adhesive: Recessed to floor finish on solid substrate.

### Applicable Substrates

Concrete, Asphalt, Masonry, Timber, Ceramic, Stone, Checkerplate, Metal, Vinyl, Carpet Tile, Carpet with Underlay

### Advantages

- ▶ Rapid installation
- ▶ Suitable for either external or internal application
- ▶ Applicable to almost any substrate

### Disadvantages

- ▶ Must be applied in dry conditions as substrate cannot have any moisture present

### Tool Requirements

Tape measure, dry cloth, Acetone and safety management equipment. If carpet add: Masonry or timber drill, vacuum, consumables including drill bits, fixings, stanley knife, straight edge, hammer, adhesive as required.

### Installation

1. Complete "Substrate Preparation" and "Mark Out and Layout" as defined previously. (IMPORTANT)
2. For internal applications (dry conditions), adhere 300x300mm TGSIs in required position using peel and stick butyl technology. (Instantly trafficable)
3. For external applications (dry and wet conditions), if substrate area is damp a commercial blow torch with gas bottle can be used to dry substrate prior to applying primer. All expansion joints, cracks etc to the substrate MUST be filled with good quality polyurethane adhesive. Extreme rough or uneven surfaces MUST be ground with a diamond cup wheel.
4. Place unpeeled 300x300mm TGSIs in required position and tape

- perimeter with masking tape leaving approximately 3mm space between the tape and the TGSi.
5. Apply a thin layer of uniformly distributed primer to required substrate within the masked area and allow time to go tacky.
  6. Install TGSIs into position.
  7. Remove masking tape taking care not to distribute adhesive applied to the masking tape around your work zone.
  8. Use safety management equipment to isolate the area until adhesive has cured.
  9. Allow 4 hours curing time prior to opening area.

### For carpet tile

1. Remove the carpet tile precisely in the area requiring TGSIs using a stanley knife and a straight edge.
2. Adhere 300x300mm TGSIs in required position using peel and stick butyl technology. The area is now instantaneously trafficable.

### For carpet with underlay

1. Remove the carpet and underlay in the TGSi area and replace it with an equivalent combined height of the integrated tile and sheet of MDF, allowing to match the compressed pile height of the carpet and underlay (exclude TGSi protrusion height). MDF sheet must be securely fastened to the substrate with adhesive and mechanical fixings. Frame area using aluminium angle for enhanced aesthetics.
2. Fix the 300x300mm TGSIs to the MDF in accordance with the previous instructions.
3. Carpet may then be cut in and laid around the TGSIs by the carpet contractor.

\* Warranty void if 2mm gap is not provided between tiles when installed.

# 7.1

## Fixing Methodology

### Retrofit Integrated TGSIs - Adhesive w/ Mechanical Fix

NOUVEL PLATE | RENZO VANGUARD

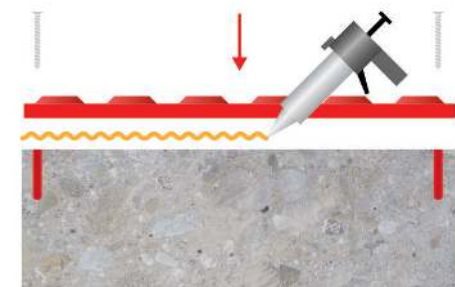


**Image 6 - Adhesive with mechanical:** Surface fix to solid substrate.

**Applicable Substrates**

Concrete, Asphalt, Masonry, Timber, Porcelain, Stone, Checkerplate, Metal, Vinyl.

**Tool Requirements**

Masonry or timber drill, cordless screwdriver, vacuum, hammer, tape measure, consumables including drill bits, polyurethane adhesive, screws, wall plugs as appropriate to substrate and safety management equipment.

**Advantages**

- ▶ Mechanically fastened corners
- ▶ Suitable for external application
- ▶ Applicable to almost any substrate
- ▶ Instantly trafficable

**Disadvantages**

- ▶ Must be applied in dry conditions. Substrates cannot have any moisture present

**Installation**

1. Complete "Substrate Preparation" as defined previously. (IMPORTANT)
2. Complete "Mark Out and Layout" as defined previously.
3. Peel the backing from the underside of the tile to expose the butyl adhesive.
4. Place TGSs into position and fasten anchors in place.

### Inlaid Integrated TGSIs - Stone Paving and Porcelain Tiling

KAHN MODULAR | KAHN SOLID CARVED | KAHN PORCELAIN



**Image 7 - Inlay and Grout:** By appropriate contractor.

**Applicable Substrates**

Stone Paving or Porcelain Tiling.

**Advantages**

- ▶ Installed as an integral component of the surrounding substrate

**Disadvantages**

- ▶ Relies on compliant installation by a 3rd party contractor

**Installation**

1. Supply paving and tiling TGSs to requisite contractors to facilitate unimpeded work flow.
2. Contractors to install pavers or tiles as per surrounding substrate, whether it be over a wet/dry mortar bed or tiling adhesive. (5mm gap between pavers/tiles)
3. Allow 45mm (40mm Paver), 25mm (20mm Paver) or 12mm (Porcelain Tile) recess as required.

**Note** Tactile surface to be laid flush with surrounding substrate and tactile protuberance to be raised proud.

4. Grout between pavers/tiles, clean away surface prior to grout curing.
5. Allow minimum 12 hours before area is opened up to local traffic

# 7.2 Cleaning & Maintenance

To ensure optimal performance is maintained Korb TGSIs should be subject to a planned cleaning and maintenance programme. This is essential to help maintain the visual appearance and to maximise the lifespan of the product. Without regular cleaning the build up of dirt could potentially compromise both the slip resistance and the visual contrast of the TGSIs rendering less effective.

Neutral, diluted detergents are the most effective method of removing stains and marks off the surface of TGSIs, without adversely affecting the materials. The recommended cleaning process is as follows:

- Step 1



Sweep off excess dirt and debris with a soft to medium bristle broom.
- Step 2



TGSIs should only be cleaned with a diluted solution of mild soap, bleach and warm water.
- 

**Note** Avoid the use of harsh chemicals or abrasive solvent cleaning agents as these can scratch the surface or attack the TGSI material.
- Step 3

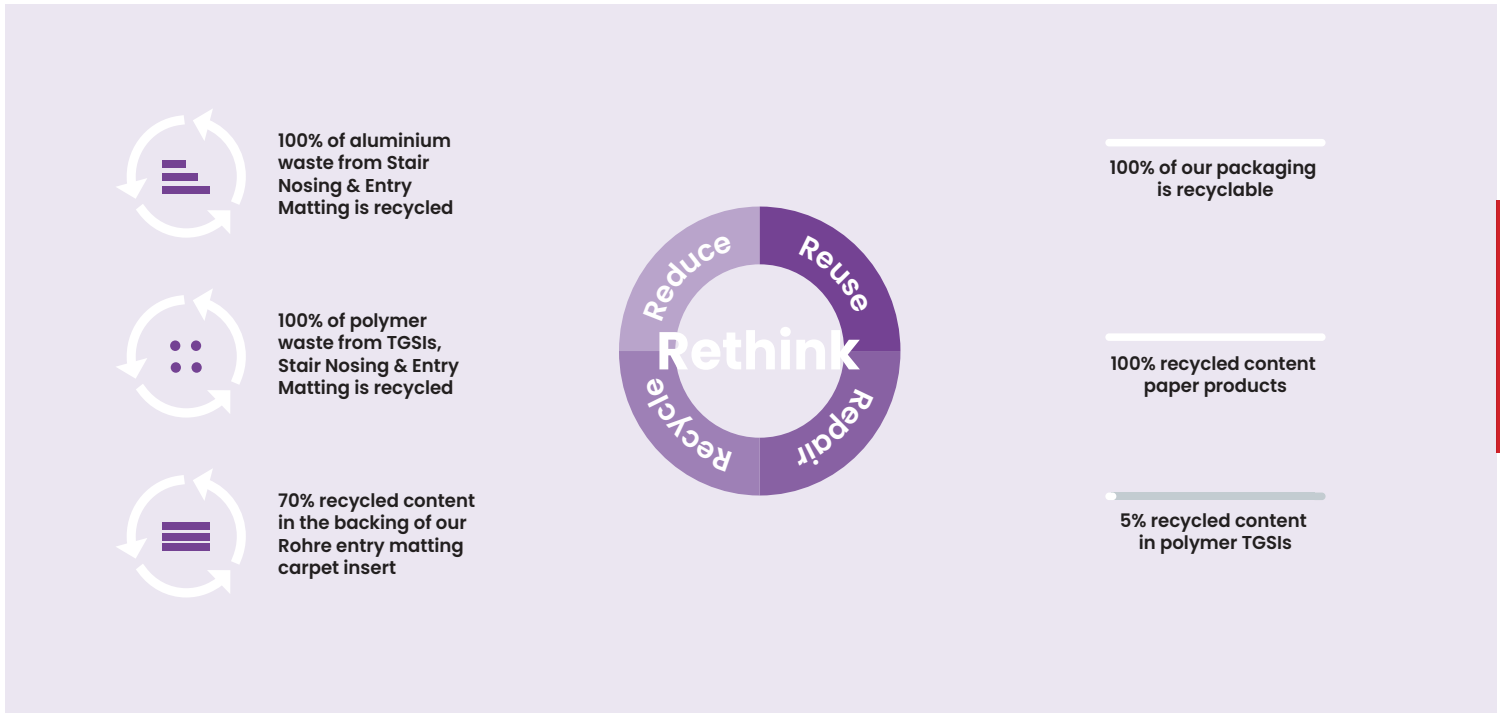
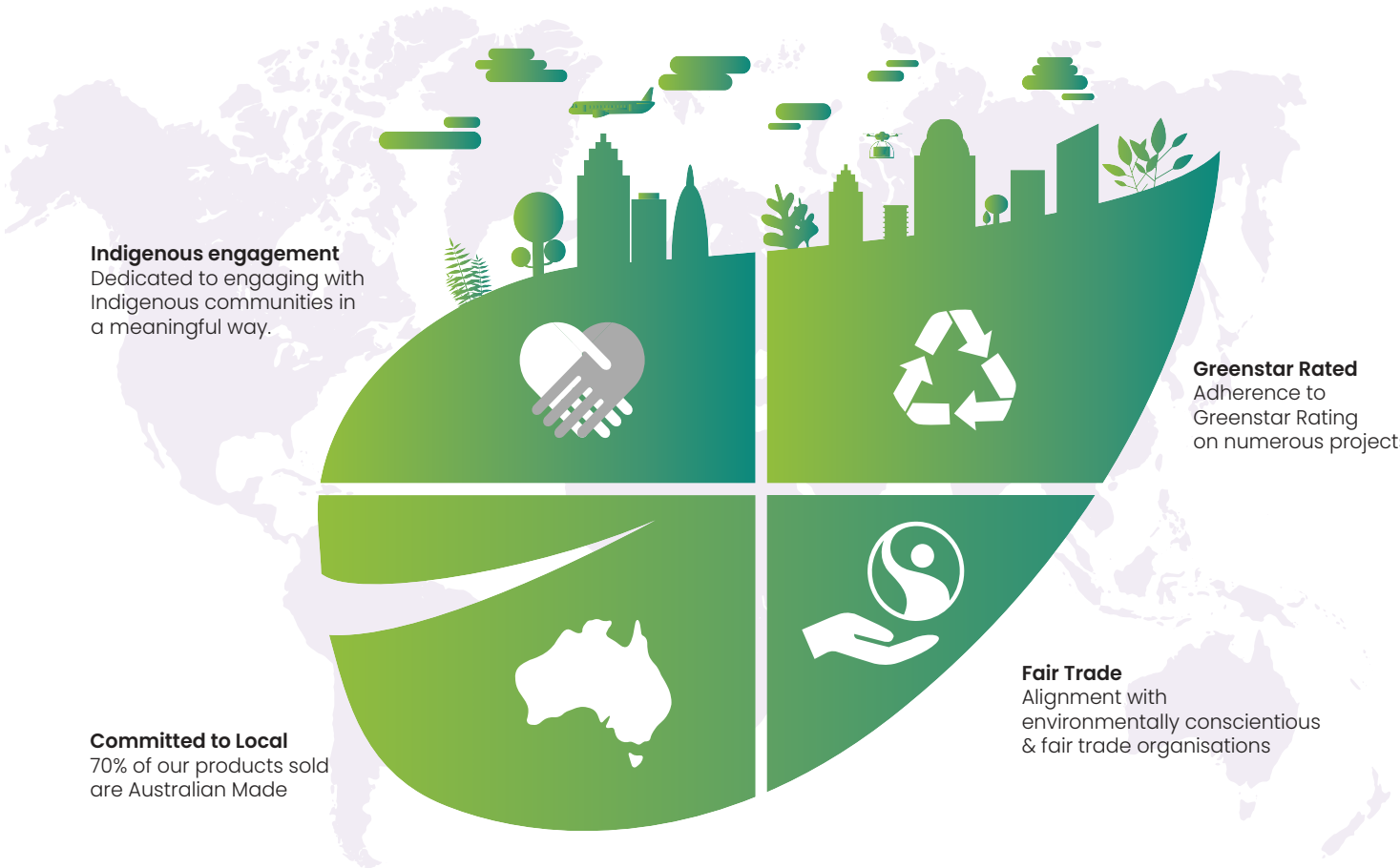


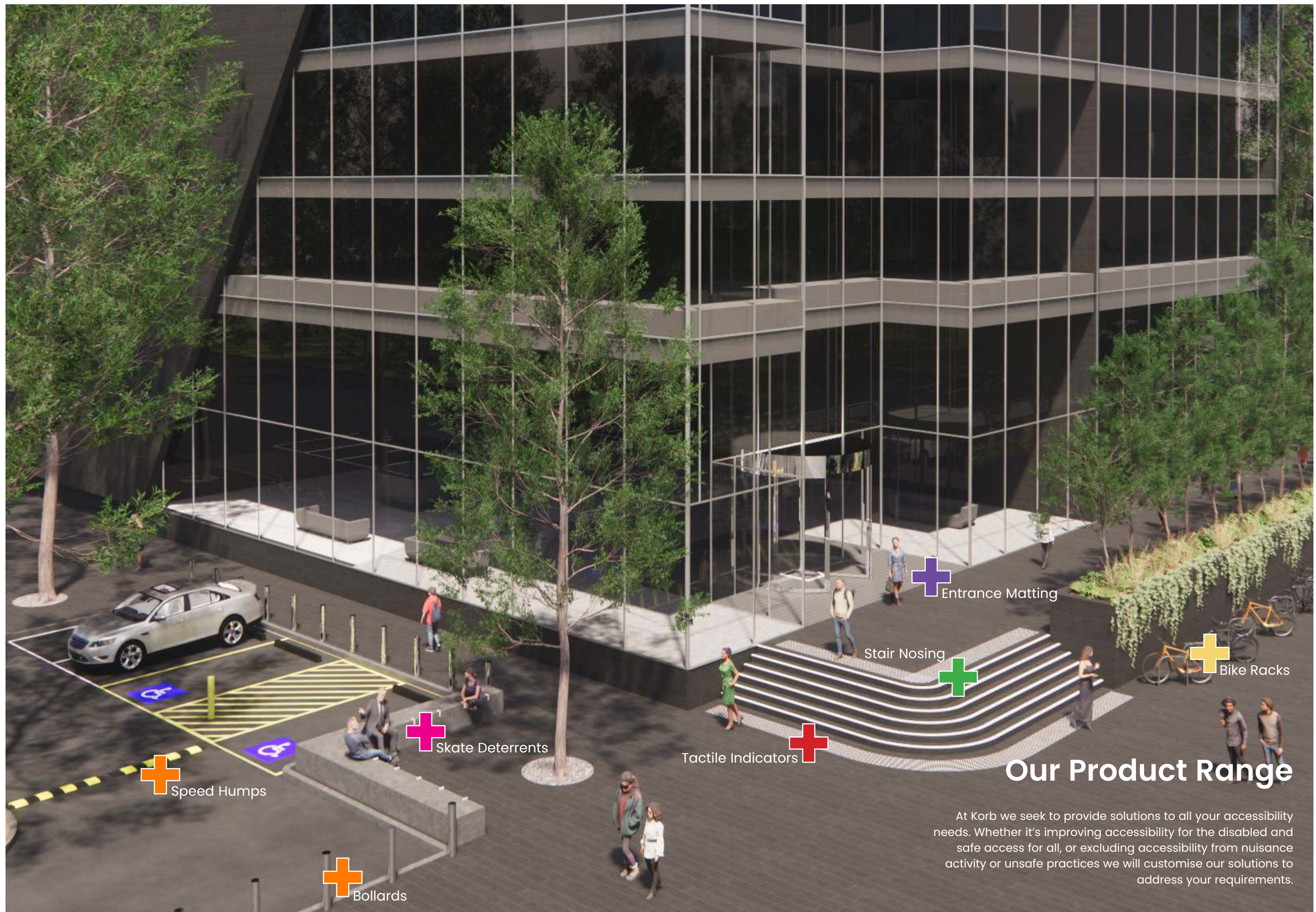
Rinse with clean water and dry with a lint-free cloth or sponge.
- 

**Note** Do not expose TGSIs to excessive abrasion or rubbing with a coarse material as it may leave unsightly scratches that are impossible to remove.

When it comes to cleaning flooring accessories made from stainless steel, polymers, brass, stone, porcelain materials or metal there are a variety of products available. However, it is important to avoid products that contain abrasives or harsh chemicals like acidic solvents, degreasers, high alkalinity, or those that are specifically designed for ceramic tile cleaners. To ensure the selected product is suitable, it's best to contact the cleaning product manufacturer or vendor for guidance on proper application. Korb Pty Ltd cannot assume responsibility for the performance of any cleaning agent or product or any potential damage that may occur from their use.

# 7.3 Sustainability & Ethics





## Our Product Range

At Korb we seek to provide solutions to all your accessibility needs. Whether it's improving accessibility for the disabled and safe access for all, or excluding accessibility from nuisance activity or unsafe practices we will customise our solutions to address your requirements.

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