



Enhancing  
Public Space

Product Application Guide

# Tactile Ground Surface Indicators (TGSIs)

**Application: Stairways, ramps,  
escalators and moving walks**

Our mission is to enhance and orchestrate  
the seamless and safe experience  
of public space **for everyone.**

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**classic**  
architectural group

# Enhancing public access one space at a time...

Architects and builders do an amazing job. They create buildings and spaces that are accessible to every Australian. We're just honoured to be part of the process.



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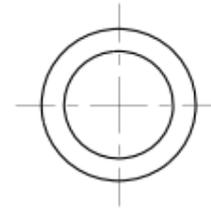
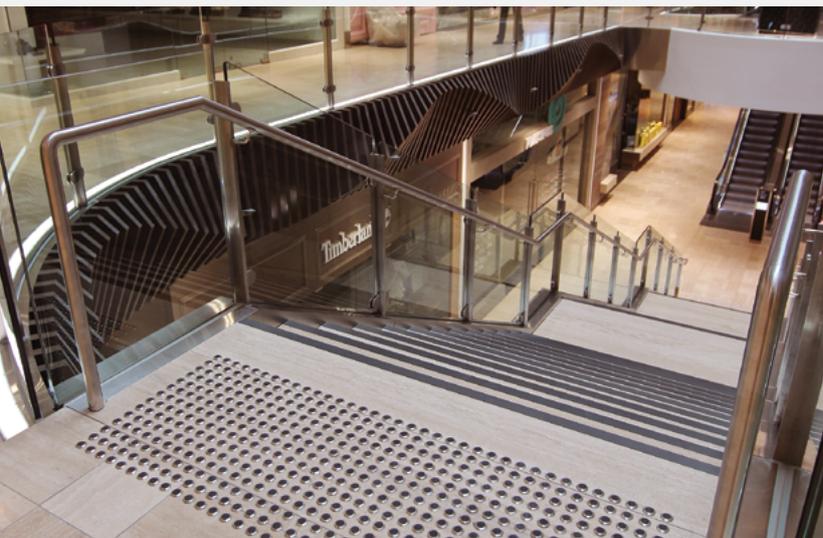
# Tactile Ground Surface Indicators (TGSIs)

## What are Tactile Ground Surface Indicators (TGSIs)?

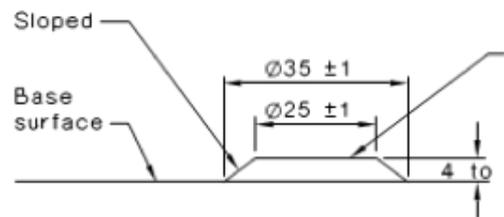
TGSIs provide cues, which, when combined with other environmental information, assist people who are blind or vision-impaired with their orientation. Orientation is a person's awareness of where they are, where they are going, and where they have been.

A person's orientation, through processing all available environmental cues, will make the information provided by the TGSIs meaningful. Warning TGSIs indicate an approaching hazard but not what the nature of the hazard will be.

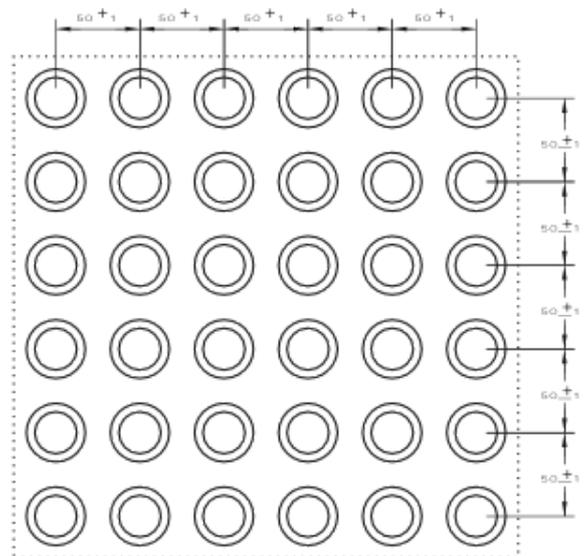
TGSIs should be installed to provide guidance and/or warning of an obstruction or hazard in any location where insufficient alternative or 'natural' tactile cues exist.



Plan of individual truncated cone

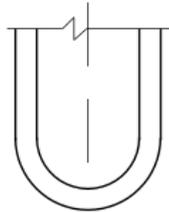


Elevation of individual truncated cone

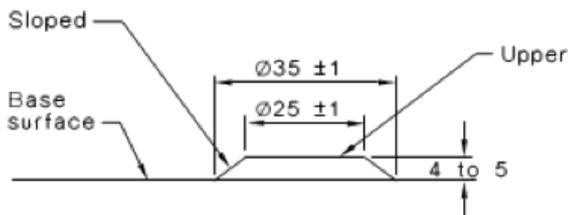


Plan arrangement of truncated cones for TGSIs

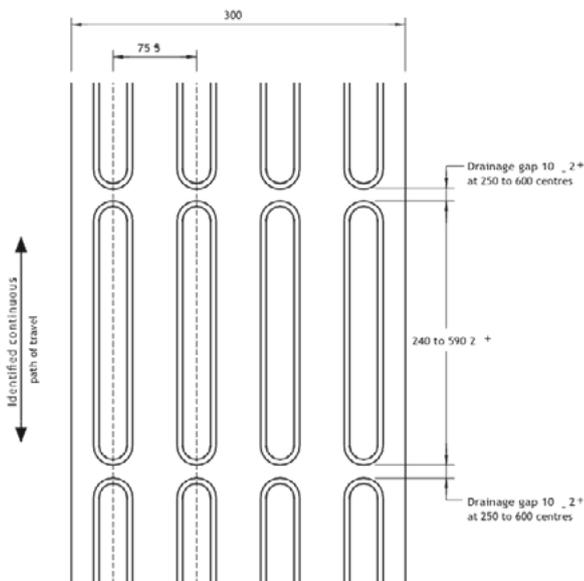
Figure 1: Design and arrangement of warning tactiles (dimensions in mm)



Plan



Pattern detail



Plan arrangement of integrated directional TGSIs

## What are the different types?

*Warning tactile indicators*, also known as hazard tactile indicators, are textured surface features applied to the walking surfaces that are intended to function much like a stop sign. They alert pedestrians who are blind or vision-impaired to hazards in their line of travel; indicating that they should stop to determine the nature of the hazard before proceeding further.

*Directional tactile indicators*, also known as leading tactile indicators, are textured surface features consisting of directional bars applied to walking surfaces to give directional orientation to people who are blind or who have low-vision. Directional tactile indicators help vision-impaired people to navigate in open spaces and designate the continuous accessible route to be taken. Directional tactile indicators also guide people who must deviate from the continuous accessible path of travel, allowing them to safely access a crossing point, public transport access point or the entrance to a significant public facility.

## Formats

Both warning and directional tactiles are available in two formats for application - individual tactiles, which can be installed in custom dimensions depending on the area of application, and, in plate format, which is preset plate of 300mm x 600mm or 300mm x 300mm formats for standard applications.

Figure 2: Design and arrangement of directional tactiles (dimensions in mm)

## Tactile Material

Tactile Indicators can be made from a variety of materials including precast concrete, polyurethane, stainless steel, rubbers and ceramics.

As long as they comply with the relevant standards relating to dimensional and spacing requirements, tactile indicators can be manufactured from any material that will withstand the harsh roading environment.

Durable UV-stable and corrosion-resistant materials such as stainless steel, brass and polyurethanes are the best suited materials for tactile indicator manufacturing.

The most commonly installed tactile indicators in Australasia are polyurethane tactiles and stainless steel tactiles.

- > **Polyurethane tactile indicators** are a retro-fit system suitable for interior and exterior applications to new or existing surfaces. Polyurethane tactile indicators are a hard-wearing and tasteful solution that can be installed indoors or outdoors, to new or existing surfaces. They are designed as a retro-fit system, meaning they can be installed after the substrate has been laid. The standard colour is safety yellow; however, they can be manufactured in practically any solid or metallic colour.
- > **Stainless Steel tactile indicators** are also a retro-fit system suitable for interior and exterior applications to new or existing surfaces. Most stainless steel tactile indicators are a premium and stylish solution manufactured from high quality 316 marine-grade stainless steel. As with the polyurethane tactile indicator stud system, they can be installed indoors or outdoors, to new or existing surfaces. They are designed as a retro-fit system, meaning they can be installed after the substrate has been laid.
- > **Brass tactile indicators** is also a durable material for tactile indicators, although brass can vary in quality so it must be manufactured from high-grade materials to avoid corrosion. These are suitable for interior and exterior applications. However, they tend to show discoloration with time and need maintenance to keep them looking good and clean, just like any other brass product. Ceramic tactile indicators are primarily for indoor installations, where there is limited wheeled access and mostly foot-traffic. These are not ideal for exterior use as they are prone to cracking and chipping.
- > **Aluminium tactile indicators** are also available. However, stainless steel and brass are the preferred material as Aluminium tends to be softer and at times would not be ideal for heavy foot or wheeled traffic.

# Tactile Applications

## Why Tactiles?

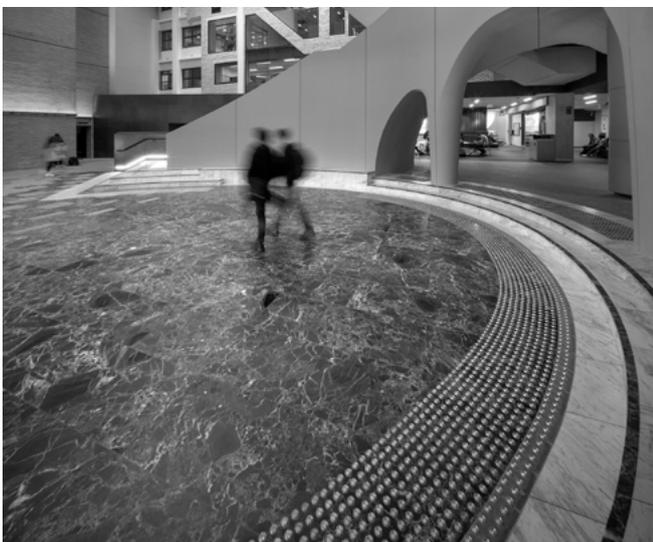
People with disabilities have the right to dignified, safe and independent access to the built environment.

Approximately 330 000 Australians are blind or vision-impaired and many more have some reduction in the effectiveness of their sight, the majority of whom are over the age of 65 years. The ageing of Australia's population is expected to see the number of people with vision impairment double in 25 years.

## Challenges Faced by the Vision Impaired

The built environment can be complex and challenging for the general population, but even more so for the vision impaired. The vision impaired are heavily reliant on environmental based cues for orientation, and it is the combination of these cues that enables them to safely navigate the environment in a dignified manner on a day to day basis. Unfortunately, not all environments make effective use of TGSIs's, and this can present some challenges and issues, including:

- > Exposure to trip and fall hazards
- > Disorientation
- > Diminished mobility due to loss of confidence
- > Social exclusion



## How Australian Standards help Address These Issues

Australian Standards have developed a set of initiatives and guidelines, with the aim of improving access to the built environment for the vision impaired and reducing the incidence of these challenges occurring. Australian Standards are split into the normative (covering requirements of DDA + federal legislative guidelines) and informative (General/helpful information and solutions regarding installation of tactiles) sections, and it is imperative that builders and designers have a comprehensive understanding of them both.

Tactiles alone will not make an unsafe environment safe. Therefore, Australian Standards emphasise the need for good design and planning for public spaces, with tactiles playing an important secondary role in providing vital warnings and directional information to the vision impaired. AS/NZS 1428.4 requires that all new building works as well as renovated public/private works install tactiles. This is further supported by the Building Code of Australia (BCA) Section D Clause 3.8, as well as the Disability Discrimination Act (DDA).

## Application of Tactiles

Tactiles have been in use for more than 30 years and are easily recognised in high traffic areas of the built environment as slightly raised dots/truncated-cones or directional bars sitting above the ground in an organised fashion. They are required to be installed across the full width of the path of travel, enabling them to be felt underfoot or with the tip of a cane. The surface must be slip resistant, they must meet a minimum luminance contrast standard of 30%, and the top must sit no more than 4-5mm above the base surface.

All potentially hazardous situations such as rail platforms, stairs, ramps, kerb ramps, pedestrian walkways and vehicle carriageways are required to use tactiles. When installed in accordance with the guidelines, the vision impaired are afforded the ability to safely and independently navigate the built environment with confidence.

## Application: Stairways, ramps, escalators and moving walks

Stairways, ramps, escalators and moving walks are built with the intention of improving efficiency and traffic flows, but they can be particularly challenging for the vision impaired. AS 1428.4 requires that warning indicators be set back from the top of the stairs/escalators/ramps/moving walks by  $300 \pm 10$  mm, and they should be installed at both the top and bottom (see figures 3, 4, 5, 6 and 7). These figures demonstrate the required application of

tactiles across the full width of the path of travel, and in the case of figure 6A and 6B the tactiles have been placed at the top of the landing as well as the bottom of the ramp. When installed in accordance with AS guidelines, TGSIs provide the vision impaired with adequate warning of an impending hazard by letting them know that they have about 300mm between themselves and the hazard.

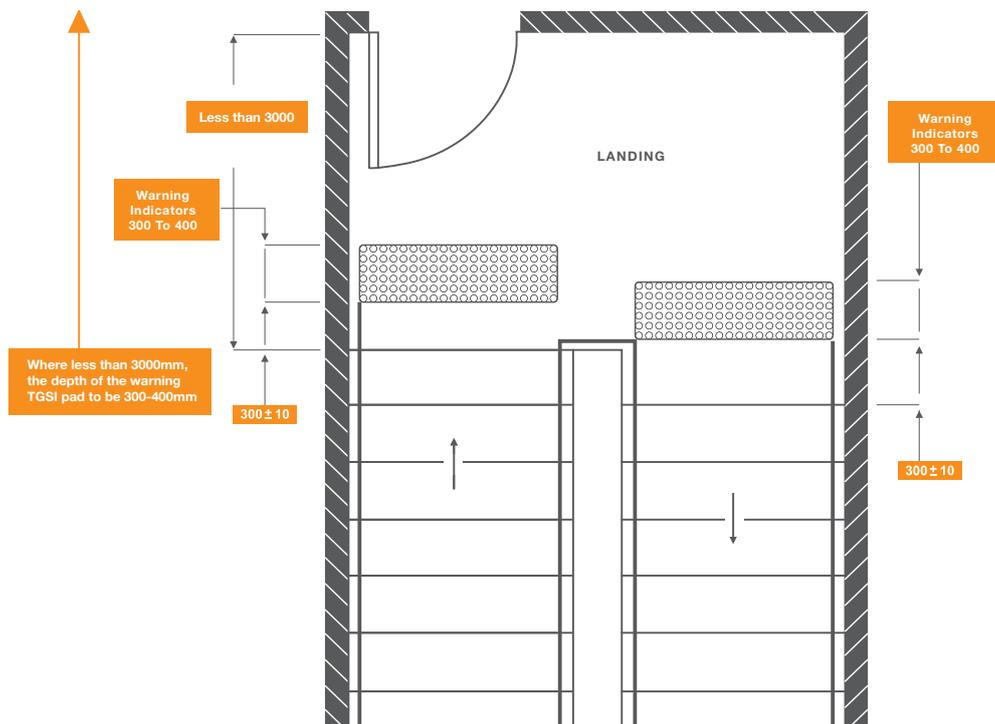


Figure 3A(j): Warning indicators—right angle stairways and landings plan a of warning tactiles at a stairway landing less than 3000 with no continuous outer handrail

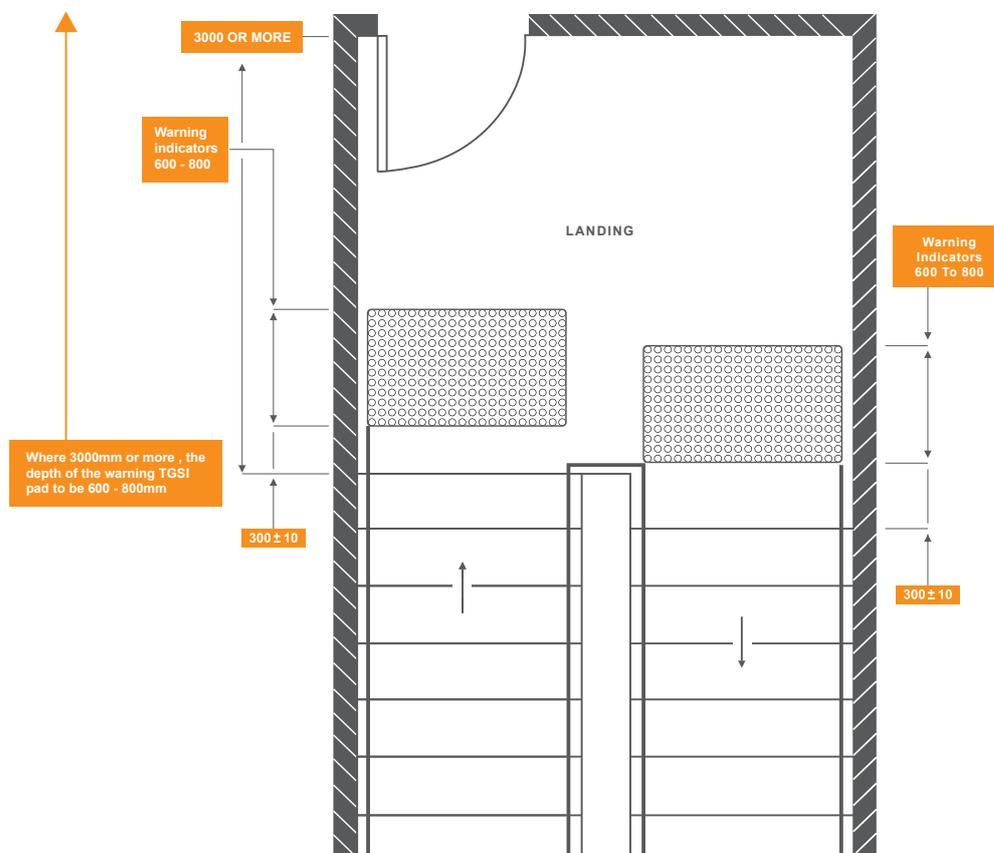


Figure 3A(ii): Warning indicators—right angle stairways and landings plan b of warning tactiles at a stairway landing 3000 or more

Figure 3B(i): Warning indicators— right angle stairways and landings Plan C of enclosed stairway landing less than 3000 with continuous outer handrail

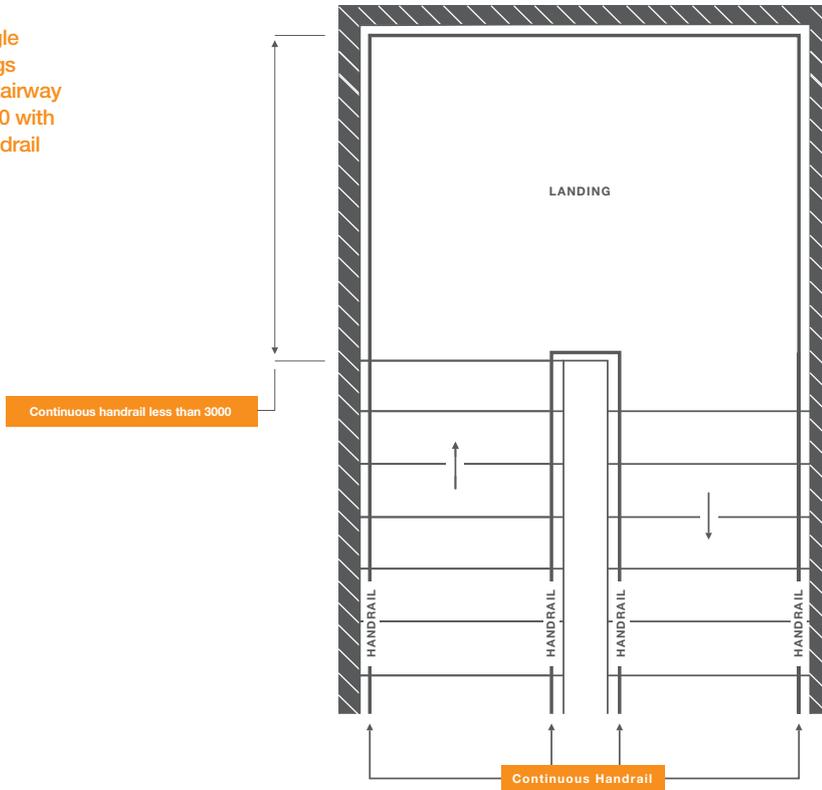


Figure 3B(ii): Warning indicators— right angle stairways and landings plan of unenclosed stairway

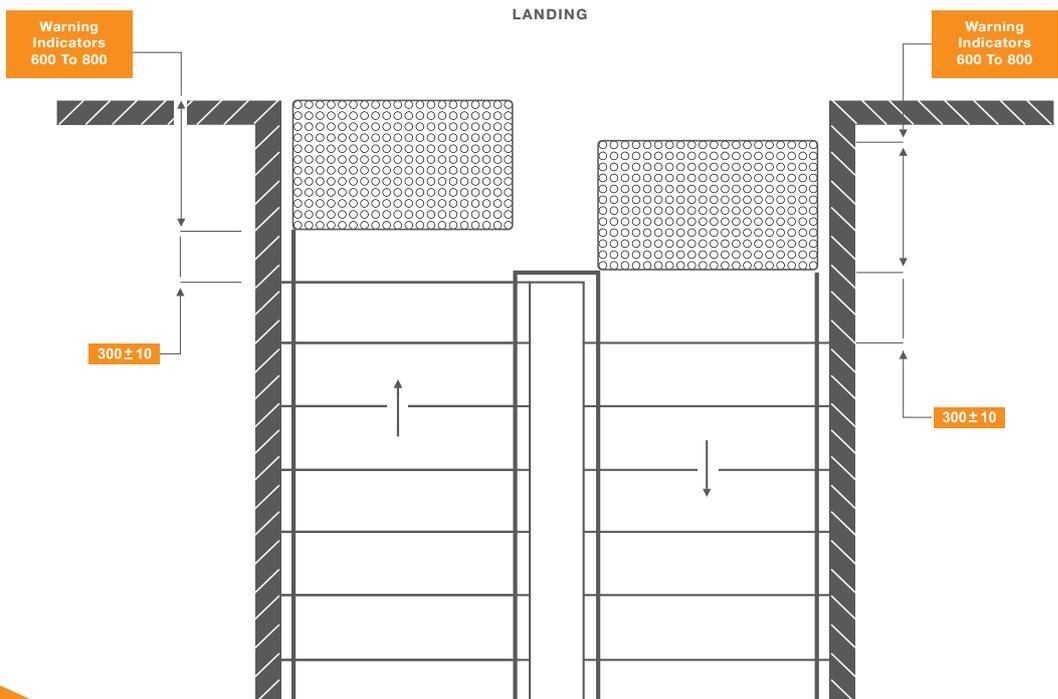


Figure 4A: Warning Indicators - Stairways  
Plan of a side elevation where top of stairway or escalator leads to an open area and the bottom landing is enclosed, less than 3000 wide and handrail is continuous

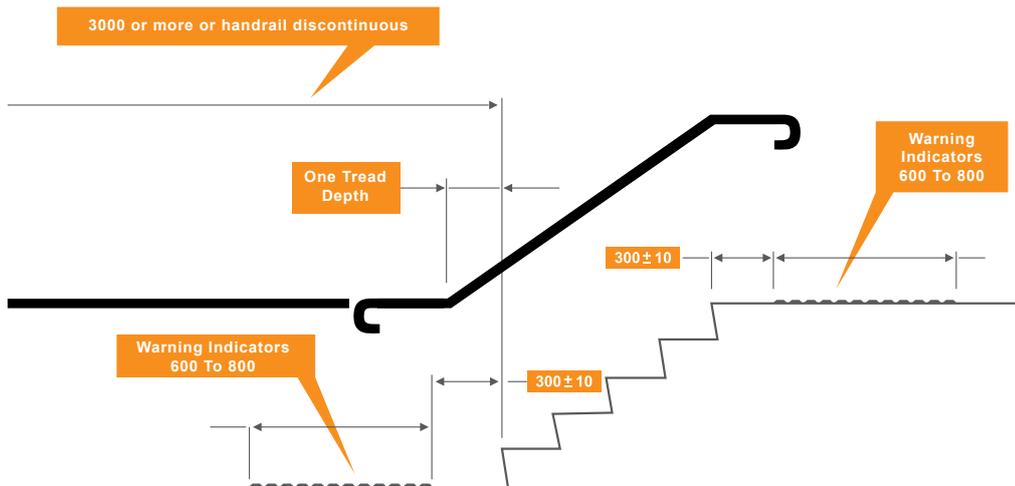
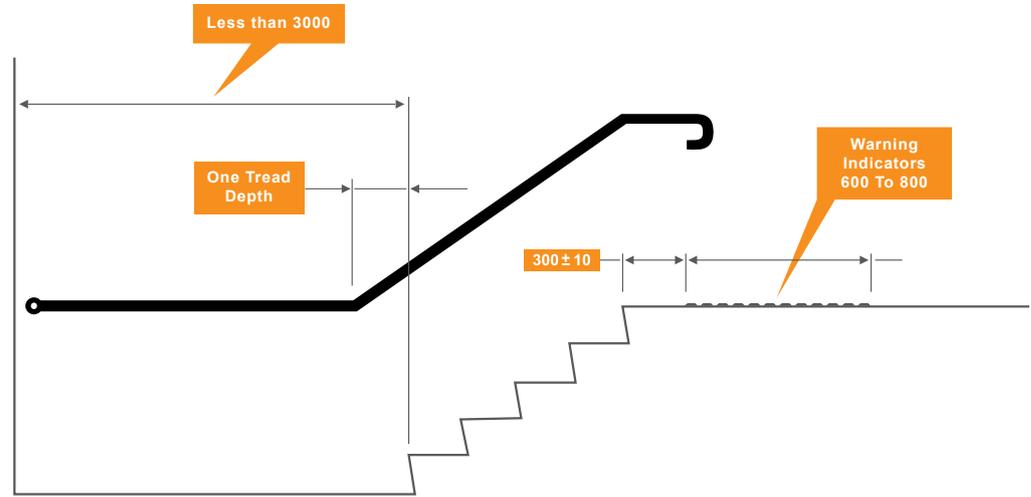
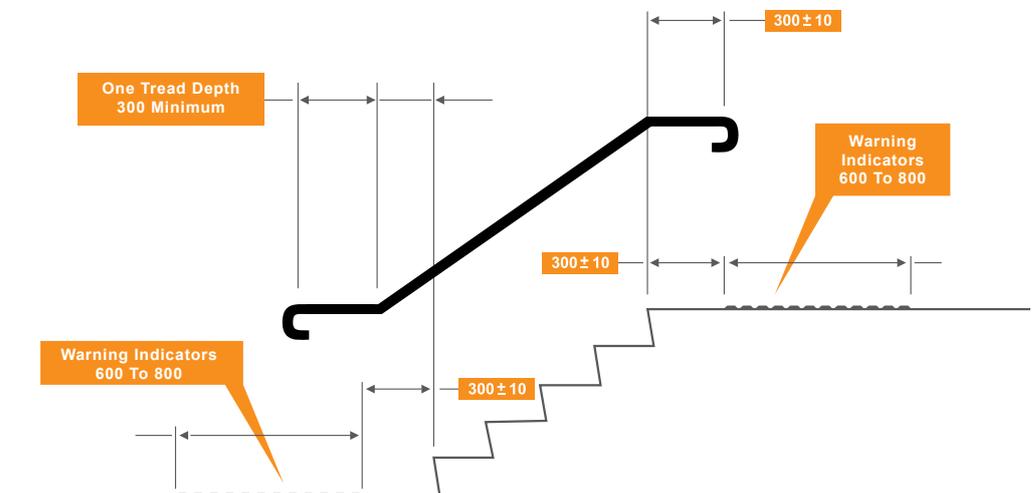


Figure 4B: Warning Indicators - Stairways.  
Plan of a side elevation where top of stairway or escalator leads to an open area and the bottom landing is enclosed, 3000 or more wide and/or handrail is discontinuous

Figure 4C: Warning Indicators - Stairways  
Plan of a side elevation where top and bottom of stairway or escalator leads to an open area



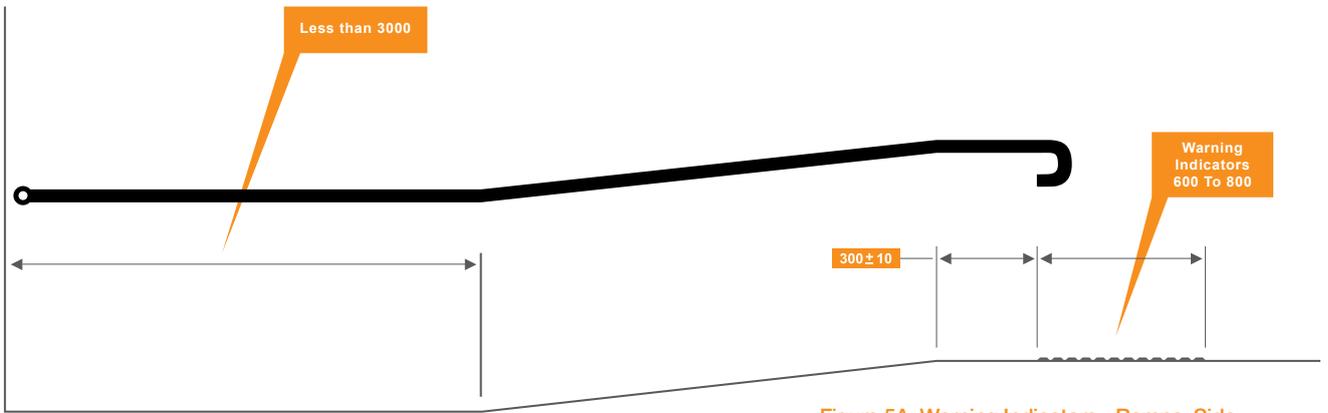


Figure 5A: Warning Indicators - Ramps. Side elevation where top of ramp leads to an open area and the bottom landing is enclosed, less than 3000 wide and handrail is continuous

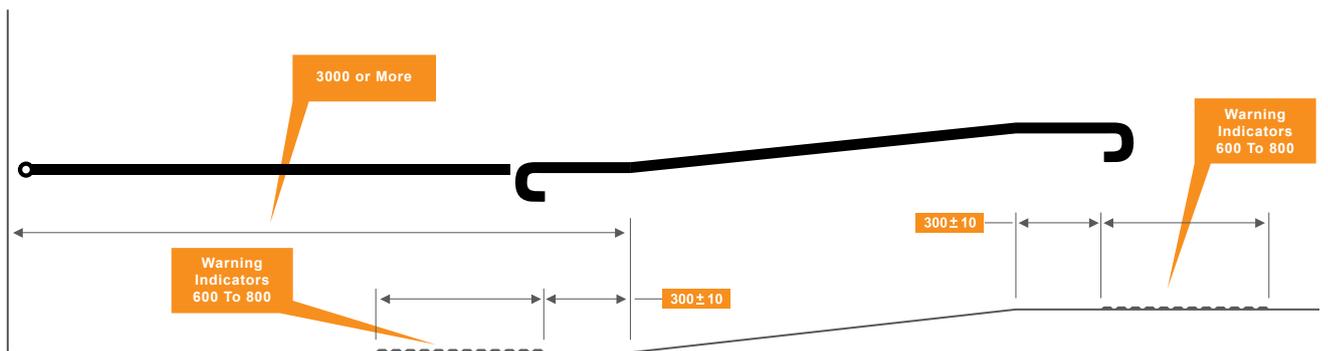


Figure 5B: Warning Indicators - Ramps. Side elevation where top of ramp leads to an open area and the bottom landing is enclosed, 3000 or more wide and/or handrail is discontinuous

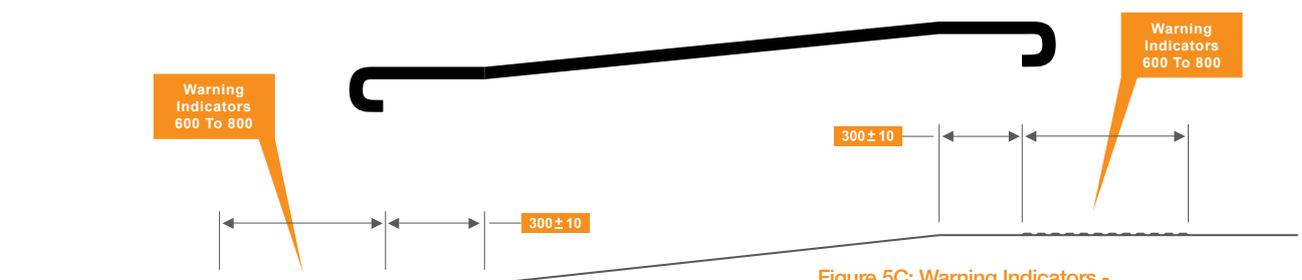


Figure 5C: Warning Indicators - Ramps. Side elevation where top and bottom of ramp leads to an open area

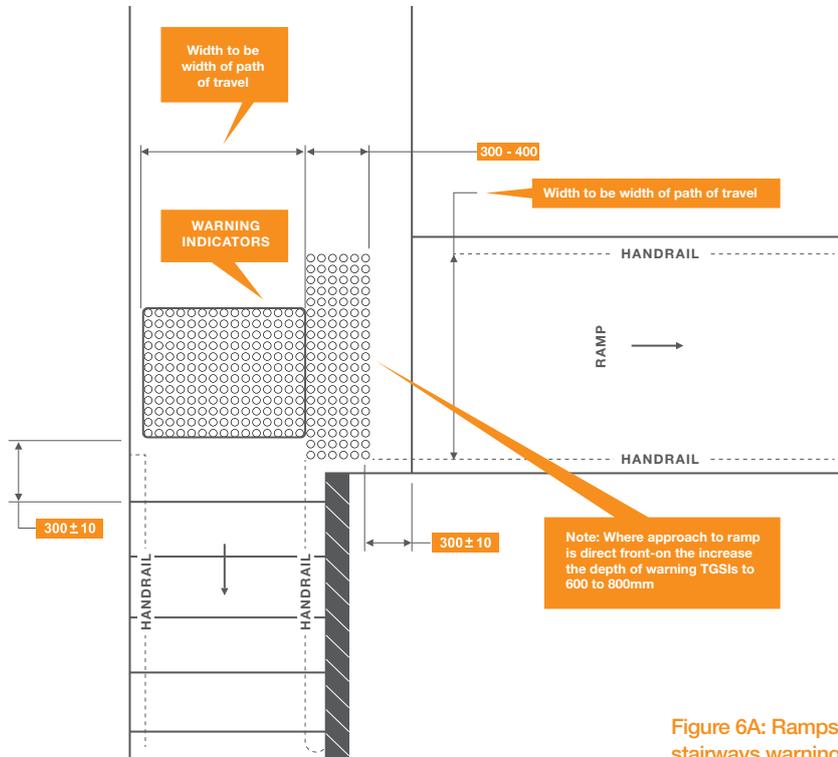


Figure 6A: Ramps and landings - stairways warning indicators

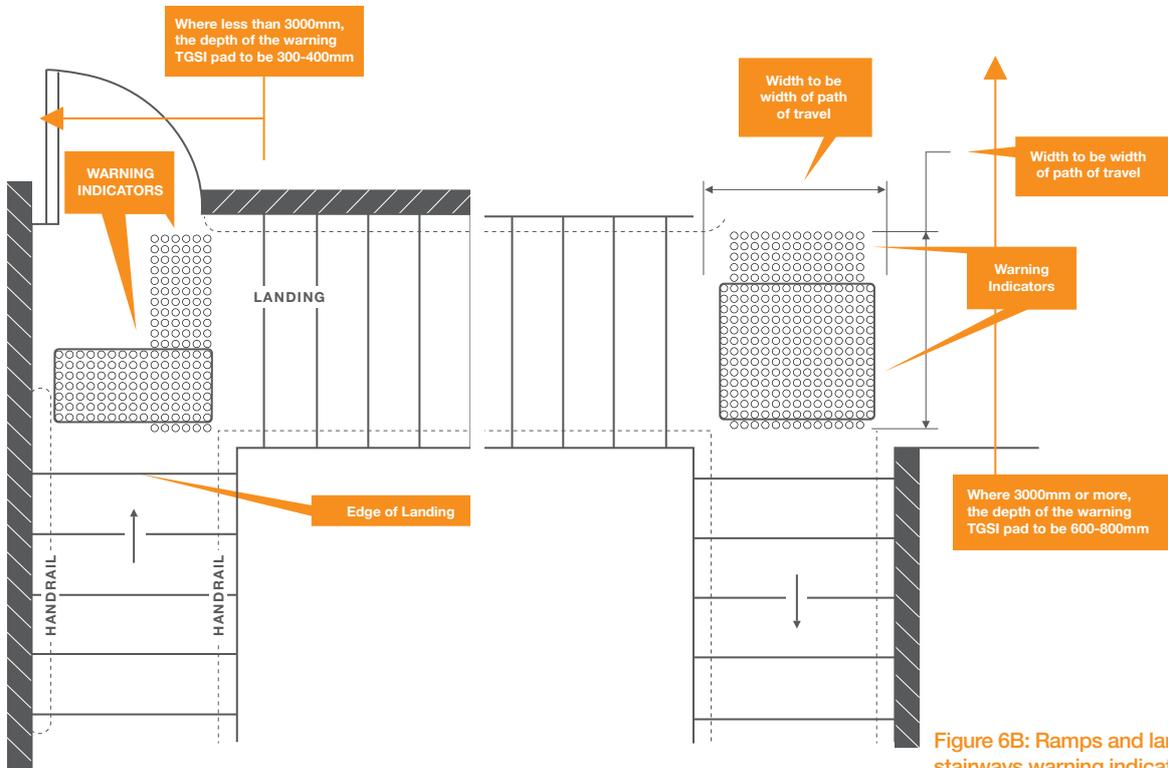


Figure 6B: Ramps and landings - stairways warning indicators

Figure 7A : Warning indicators at escalators & moving walks— Plan

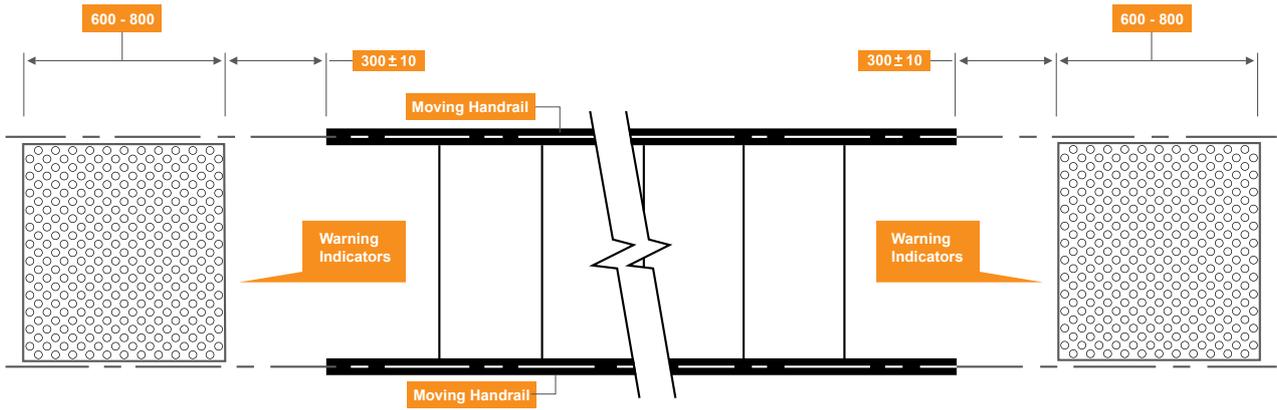
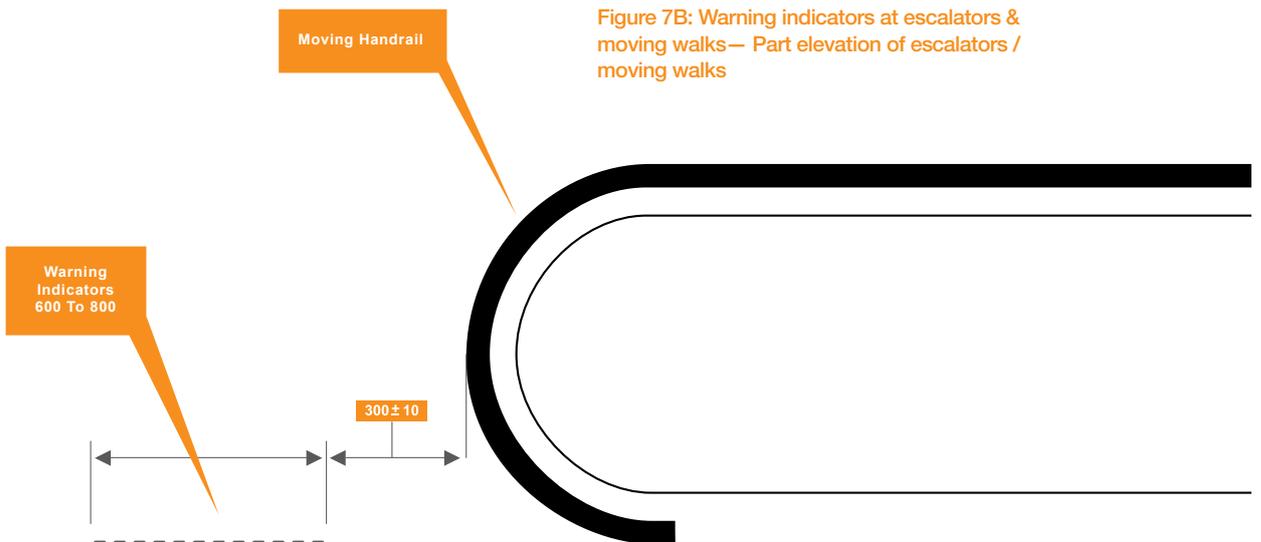


Figure 7B: Warning indicators at escalators & moving walks— Part elevation of escalators / moving walks



# Classic Tactile Indicators Range

## Individual Stainless Steel



**SH10N**  
Description: Grooved top with rear nylon stud



**SH10P**  
Description: Grooved top with rear stud



**SH10F**  
Description: Grooved top without rear stud



**SH60N**  
Description: Anti-slip insert with rear nylon stud



**SH60P**  
Description: Anti-slip insert with rear stud



**SH60F**  
Description: Anti-slip insert without rear stud



**SH75N**  
Description: Poly insert with rear nylon stud



**SH75F**  
Description: Poly insert without rear stud



**SH10C**  
Description: Grooved top with countersunk screw



**SD19P**  
Description: Directional Bar

## Individual Aluminium



**AH10N**  
Description: Grooved top with rear nylon stud



**AH10P**  
Description: Grooved top with rear stud



**AH10F**  
Description: Grooved top without rear stud

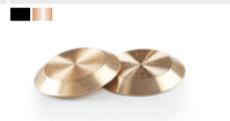
## Individual Brass



**BH10N**  
Description: Grooved top with rear nylon stud



**BH10P**  
Description: Grooved top with rear stud



**BH10F**  
Description: Grooved top without rear stud



**BH60P**  
Description: Anti-slip top with rear stud



**BH60N**  
Description: Anti-slip top with rear nylon stud

## Individual Poly



**PH06P**  
Description: Grooved top with rear nylon stud



**PH06F**  
Description: Grooved top without rear stud



**PH65P**  
Description: Grooved Stainless Steel top with rear stud

## Poly Tile Format



**PT30**  
Description: Hazard format



**PT30A**  
Description: Hazard format with self-adhesive backing



**PT39**  
Description: Directional format



**PT39A**  
Description: Directional format with self-adhesive backing

## Ceramic Tile format



**CH40**  
Description: Non-slip ceramic tile



**CD49**  
Description: Non-slip ceramic directional tile

## Stainless Steel Plate Format



**SH10 Plate**  
Description: Grooved Top



**SH60 Plate**  
Description: With anti-slip insert

For more information on our Tactile Range, please go to our website:

[www.classic-arch.com](http://www.classic-arch.com)

## Our Ecosystem

To deliver on our promise, we rely on and work very closely with many architectural and construction firms including **Lend Lease, Probuild, Multiplex, John Holland, ADCO Constructions, Woods Bagot, Conrad Gargett, Thomson Adsett, Architectus, Bates Smart, The Buchan Group, Cox Architecture and Silver Thomas Hanley, Icon, Built, Watpac, Hansen Yuncken and many more.**

## What they say

*"Classic have a great operation here and are the best in town. No one comes close."*

*"I always come to Classic whenever I need advice on floor safety products, because they are always so happy to share it, and offer me solutions."*

*"Classic products are great - they are properly designed, they work well, and they last."*

*"I really appreciate the way Classic operates. I wish others were more like them!"*

## Our Projects

We deliver and install public safety and access solutions for many industries including Healthcare, Hospitality, Educational Institutions, Public Infrastructures, Aged care, Residential, Commercial Offices, Entertainment & Sports, Travel & Transport, and many more.

