

Compliant Products Register for Tactile Ground Surface Indicators (TGSi)

Assessed as compliant to AS/NZS 1428.4.1:2009 and other criteria as determined by Transport and Main Roads.

TGSi are truncated cones and or bars installed on the ground or floor surface designed to provide pedestrians who are blind or vision impaired with warning or directional orientation information.

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Feedback

Please send your feedback regarding this document to: tmr.techdocs@tmr.qld.gov.au

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1 Introduction

This is a controlled document that presents a listing of Tactile Ground Surface Indicator (TGSi) products, which the Department of Transport and Main Roads considers to be compliant with:

- a) Australian Standard AS/NZS 1428.4.1: *Design for access and mobility, Part 4.1: Means to assist the orientation of people with vision impairment – Tactile ground surface indicators*
- b) Australian Standard AS 4586 *Slip resistance classification of new pedestrian surface materials*, and
- c) other criteria as specified by the department.

Transport and Main Roads does not recommend any specific TGSi for particular applications. Practitioners will need to assess the style most suitable for the particular application, taking into account substrate, luminance contrast, aesthetics, availability, consistency in areas and whole-of-life cost.

Companies that supply TGSi may distribute or supply and install a range of products. Compliant TGSi listed in Table 5 are the products that have satisfied the criteria specified by the department.

This document is subject to periodic review and will be updated when new product registrations are received. If printed, practitioners are requested to access the [Transport and Main Roads website](#) for confirmation of the latest products register.

1.1 Relevant information for installation

Where TGSi are installed on a ramp steeper than 1 in 14 (such as the face of a kerb ramp that has a slope of 1 in 8), a wet pendulum test result of P5 is required for the product. Please refer to *Standards Australia Handbook SA HB 198 Guide to the specification and testing of slip resistance of pedestrian surfaces* Table 3B: *Wet pendulum test or oil-wet inclining platform classifications* for applications where the National Construction Code does not require slip resistance.

2 Definitions

- Refer AS/NZS 1428.4.1 *Design for access and mobility, Part 4.1: Means to assist the orientation of people with vision impairment – Tactile ground surface indicators*.

3 Disclaimer

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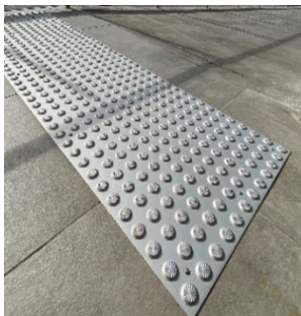
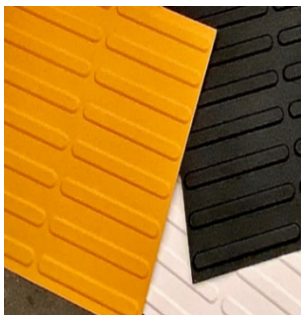

4 Standards







4.1 Governing manuals, specifications or guidelines



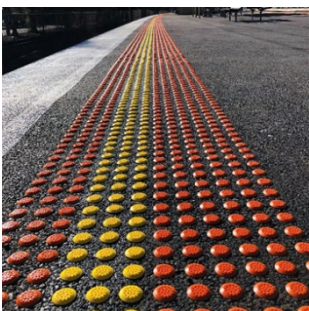

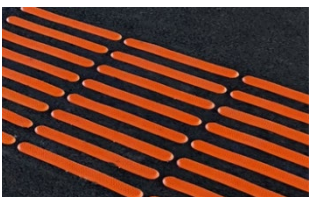
- AS/NZS 1428.4.1 *Design for access and mobility, Part 4.1: Means to assist the orientation of people with vision impairment – Tactile ground surface indicators*
- AS 4586 *Slip resistance classification of new pedestrian surface materials*
- *Standards Australia Handbook SA HB 198 Guide to the specification and testing of slip resistance of pedestrian surfaces*
- Queensland [*Manual of Uniform Traffic Control Devices*](#)
- [*Road Planning and Design Manual*](#) 2nd edition
- Transport and Main Roads [*Standard Drawings*](#) 1446, 1447, KRG1 and KRG2.
- Transport and Main Roads Specification (Measurement) MRS14 *Road Furniture*, and
- Transport and Main Roads [*Technical Specification*](#) MRTS14 *Road Furniture*.




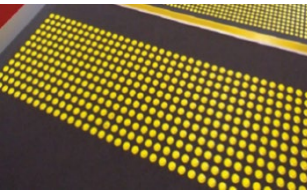
5 'Compliant' Tactile Ground Surface Indicators


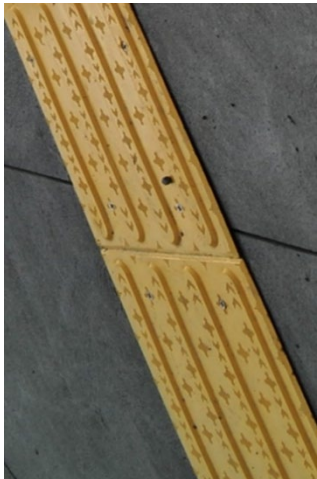
Table 5 – 'Compliant' Tactile Ground Surface Indicators





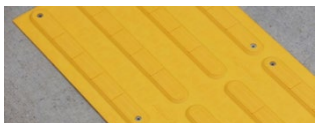


Name / TGSI type / dept. internal ref	Product picture	Product description (material, rating, size)	Supplier website / contact / warranty conditions
Sirus TGSI™ large format integrated warning plate #14-1		METAL P5, R11 <ul style="list-style-type: none"> platinum (displayed), Allgrip, natural or anodised metal sizes available 2400, 1500, 1200, 900 in 600 or 300 mm wide 	Alltac Pty Ltd www.alltac.com.au Phone: 1300 255 822 / 1300 ALL TAC Email: info@alltac.com.au <u>Installation warranty</u> <ul style="list-style-type: none"> 10+ years for foot traffic ability to touch up insitu extend life <u>UV resistance warranty</u> <ul style="list-style-type: none"> minimum 10 years <u>Other information</u> <ul style="list-style-type: none"> Australian-made products, large format metal plates (custom angles, sizes, colours, and widths available), low profile 1.6 mm base thickness, one-piece with patented self-cleaning hazard dome registered design and trademark protected products <i>Note: Products with less than 10 year warranty for manufacture or installation may not suit long term exterior use but may be suitable for temporary exterior use.</i>
Sirus TGSI™ large format integrated directional plate #14-2		P5, R11 <ul style="list-style-type: none"> Allgrip sizes available 1500, 1200, 900, 600, 300 in 600 or 300 mm wide 	
Allstar Warning Discrete #14-3		P5, R12 <ul style="list-style-type: none"> stainless steel metal studs 	

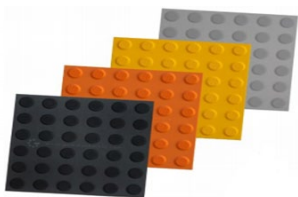






Name / TGSI type / dept. internal ref	Product picture	Product description (material, rating, size)	Supplier website / contact / warranty conditions
CME Integrated Warning #16-1		FIBRE POLYMER fibreglass reinforced resin polymer P5, R11 <ul style="list-style-type: none"> white and yellow 300 mm x 600 mm 3 mm thick plate cone height 5mm 	CME Composite Materials Engineering Pty Ltd www.cmetactile.com.au Bruno Tassone Mobile: +61 473 555 717 Email: Bruno.Tassone@composite.com.au Phone: 03 8720 7600 <u>Manufacturer warranty</u> <ul style="list-style-type: none"> 10 years material manufacturer warranty (conditional warranty) <u>UV resistance warranty</u> <ul style="list-style-type: none"> tested to Australian UV and weather conditions up to 10 years (conditional warranty) <u>Installation warranty</u> <ul style="list-style-type: none"> usually provided by the separate installer <u>Luminance reflectance value (LRV) tested.</u> <ul style="list-style-type: none"> white and yellow <p><i>Note: Products with less than 10 year warranty for manufacture or installation may not suit long term exterior use but may be suitable for temporary exterior use.</i></p>
			
CME Integrated Directional #16-2	   	P5, R12 <i>Note: Deteriorated polymer may affect waterways and associated environment.</i>	<u>UV resistance warranty</u> <ul style="list-style-type: none"> tested to Australian UV and weather conditions up to 10 years (conditional warranty) <u>Installation warranty</u> <ul style="list-style-type: none"> usually provided by the separate installer <u>Luminance reflectance value (LRV) tested.</u> <ul style="list-style-type: none"> white and yellow <p><i>Note: Products with less than 10 year warranty for manufacture or installation may not suit long term exterior use but may be suitable for temporary exterior use.</i></p>




Name / TGSi type / dept. internal ref	Product picture	Product description (material, rating, size)	Supplier website / contact / warranty conditions
Austact® - Warning Stud #7-1		POLYMER (polyurethane) P5, R11 <ul style="list-style-type: none"> • installation warranty 2 years • individually inserted indicators (discrete) • suited to new or retrofit installations <ul style="list-style-type: none"> – adhesive-free installation – UV resistant polymer – 9 colours available <i>Note: Deteriorated polymer may affect waterways and associated environment.</i>	CTA (QLD) Pty Ltd www.ctagroup.com.au Phone: 1300 282 282 Email: craig.rogers@ctagroup.com.au <u>UV resistance warranty</u> <ul style="list-style-type: none"> • may be affected by high UV exposure <i>Note: Products with less than 10 year warranty for manufacture or installation may not suit long term exterior use but may be suitable for temporary exterior use.</i>
			
			
Austact® – Directional Strip #7-2		P5, R11	
			


Name / TGSi type / dept. internal ref	Product picture	Product description (material, rating, size)	Supplier website / contact / warranty conditions
Rhinotac® Warning Plate #7-3		FIBRE REINFORCED POLYMER P5, R12 <ul style="list-style-type: none"> • installation warranty 2 years • installed with fixings and adhesive • retrofit solution • internal & external 	CTA (QLD) Pty Ltd (continued) www.ctagroup.com.au Phone: 1300 282 282 Email: craig.rogers@ctagroup.com.au . <u>UV resistance warranty</u> <ul style="list-style-type: none"> • may be affected by high UV exposure <i>Note: Products with less than 10 year warranty for manufacture or installation may not suit long term exterior use but may be suitable for temporary exterior use.</i>
Rhinotac® Directional Plate #7-4		P5, R13 <ul style="list-style-type: none"> • installation warranty 2 years <i>Note: Deteriorated polymer may affect waterways and associated environment.</i>	
PolyPad® Warning Pad (directional product is a variant, not registered) #7-5		RUBBER P5, R11 <ul style="list-style-type: none"> • installation warranty 2 years • internal & external • 9 colours available 	
PolyStud® Warning Studs #7-6		POLYMER P5, R11 <ul style="list-style-type: none"> • installation warranty 5 years • discrete • adhesive-free installation • 7 colours available 	



Name / TGSI type / dept. internal ref	Product picture	Product description (material, rating, size)	Supplier website / contact / warranty conditions
Eigen FibreTac Warning #11-1		FIBRE POLYMER fibreglass reinforced resin polymer P5, R12 <ul style="list-style-type: none"> new or retrofit installation <i>Note: Deteriorated polymer may affect waterways and associated environment.</i>	EIGEN HOLDINGS PTY LTD (Eigen Tactile) www.eigentactile.com Phone: 03 9018 7954 Michael Lim Mobile: 0412 544 795 Email: info@eigentactile.com <u>Manufacturer warranty</u> <ul style="list-style-type: none"> 5 years material manufacturer warranty <u>Installation warranty</u> <ul style="list-style-type: none"> usually 24 months provided by the separate installer <u>Warranty conditions</u> <ul style="list-style-type: none"> warranty may void if installation do not follow minimum 10 days 'bleed' requirement for asphalt surface, and/or minimum 7 days 'dried' requirement for concrete surface
Eigen FibreTac Directional #11-2		P5, R11	<u>Other information</u> <ul style="list-style-type: none"> UV stabilised resin reinforced with embedded fibreglass, may be affected by high UV exposure <i>Note: Products with less than 10 year warranty for manufacture or installation may not suit long term exterior use but may be suitable for temporary exterior use.</i>




Name / TGSI type / dept. internal ref	Product picture	Product description (material, rating, size)	Supplier website / contact / warranty conditions
ESP Warning Integrated Surface Applied Access Tile #4-1		FIBRE POLYMER fibre reinforced polymer P5, R11 <ul style="list-style-type: none"> screwed and glue application, perfect for retrofit installation 	ESP Australia Pty Ltd www.espaust.net.au Mathew Shallard Phone: 1300 665 761 E: sales@espaust.net.au <u>Manufacture warranty</u> <ul style="list-style-type: none"> 10 years manufacturer's warranty (conditional warranty) <u>Installation warranty</u>
ESP Warning Integrated Cast-In-Place Access Tile #4-2		P5, R11 <ul style="list-style-type: none"> pressed into place for new concrete pours 	<ul style="list-style-type: none"> Usually provided by installation contractor <u>UV resistance warranty</u> <ul style="list-style-type: none"> Not available (although Supplier asserts that product includes UV stabilizer designed for QLD conditions). Product may be affected by high UV exposure.
ESP Directional Surface Applied Access Tile #4-3•	  	P4, R11 <i>Due to the P4 rating, this product suits flat surfaces but not ramps.</i> <i>Note: Deteriorated polymer may affect waterways and associated environment.</i>	<i>Note: Products with less than 10 year warranty for manufacture or installation may not suit long term exterior use but may be suitable for temporary exterior use.</i>
ESP Directional Cast-In-Place Access Tile #4-4	 	P4, R11 <i>Due to the P4 rating, this product suits flat surfaces but not ramps.</i>	

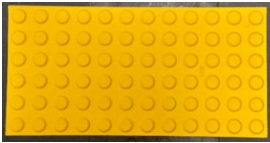





Name / TGSi type / dept. internal ref	Product picture	Product description (material, rating, size)	Supplier website / contact / warranty conditions
Warning Tactile #10-1		POLYMER polyurethane, PU P5, R11 <ul style="list-style-type: none"> 300 x 300 mm black, warning yellow, terracotta, medium grey 	Guardian Tactile Systems Pty Ltd www.guardiantactile.com 08 9240 1888 sales@guardiantactile.com Polyurethane products <ul style="list-style-type: none"> 10 year warranty (manufacturing, UV resistance, excludes installation)
FRP Warning Tactile #10-3	  	FIBRE POLYMER fibre reinforced resin polymer – FRP P5, R12 <ul style="list-style-type: none"> 300 x 600 mm black, yellow, white <p><i>Note: Deteriorated polymer may affect waterways and associated environment.</i></p>	Fibre reinforced resin polymer (FRP) products <ul style="list-style-type: none"> 2 year warranty (manufacturing, UV resistance, excludes installation). Product may be affected by high UV exposure <p><i>Note: Products with less than 10 year warranty for manufacture or installation may not suit long term exterior use but may be suitable for temporary exterior use.</i></p>
FRP Directional Tactile #10-4	  	P5, R11	

Name / TGSI type / dept. internal ref	Product picture	Product description (material, rating, size)	Supplier website / contact / warranty conditions
Renzo Classic – Warning (Discrete) #18-1		POLYMER P5, R11 <i>Note: Deteriorated polymer may affect waterways and associated environment.</i>	Korb Pty Ltd https://www.korb.com.au/ Contact: Julien Buhagiar info@korb.com.au 1300 00 KORB (5672) <ul style="list-style-type: none"> Product warranty: 5 years (check limitations). Product may be affected by high UV exposure. <i>Note: Products with less than 10 year warranty for manufacture or installation may not suit long term exterior use but may be suitable for temporary exterior use.</i>
			
Renzo Tile – Warning (Integrated) #18-2		POLYMER P5, R11 <i>Note: Deteriorated polymer may affect waterways and associated environment.</i>	

Name / TGSI type / dept. internal ref	Product picture	Product description (material, rating, size)	Supplier website / contact / warranty conditions
Ultimate Tactile Integrated Hazard #13-1		<p>POLYMER recycled polyethylene terephthalate (RPET) P5, R11</p> <ul style="list-style-type: none"> made from recycled material, plastic bottles tactile suited to new or retrofit installations 300 mm x 600 mm black, yellow or white <p><i>Note: Deteriorated polymer may affect waterways and associated environment.</i></p>	<p>SAFETY XPRESS Pty Ltd www.safetyxpress.com.au Phone: 1300 049 246 (VIC) Email: qldsales@safetyxpress.com.au Nic Eason (QLD) Mobile: 0435 760 692</p> <p><u>Life of warranty</u></p> <ul style="list-style-type: none"> high pedestrian foot traffic 5+ years material manufacturing warranty only, excludes installation warranty <p><u>Installation warranty</u></p> <ul style="list-style-type: none"> installation warranty is supplied by third party which will follow the installation guideline <p><u>Guaranteed 5 years of UV protection and colour fastness</u></p> <ul style="list-style-type: none"> an ultra UV stabilised resin guaranteed to last without fading for at least 5 years, and luminance contrast tested Australian made <p><i>Note: Products with less than ten year warranty for manufacture or installation may not suit long term exterior use but may be suitable for temporary exterior use.</i></p>

Name / TGSI type / dept. internal ref	Product picture	Product description (material, rating, size)	Supplier website / contact / warranty conditions
316 Marine Grade TGSI Warning Discrete Studs #15-1		METAL Stainless steel P5, R11	SUPPLYM8 QLD PTY LTD www.supplym8qld.com.au Email: info@supplym8qld.com.au QLD representatives Rob Ninness, Suzy Black Phone: 0487 132 575 <u>Warranty guarantee</u> <ul style="list-style-type: none"> installation 10 years with terms and conditions <i>Note: Products with less than 10 year warranty for manufacture or installation may not suit long term exterior use but may be suitable for temporary exterior use.</i>
FRP Hazard Integrated Tactile #15-2		FIBRE POLYMER fibreglass and resin polymer P5, R12 <ul style="list-style-type: none"> 2 mm & 20 mm thick 600 mm x 300 mm 	
FRP Directional Integrated Tactile #15-3		P5, R13 <ul style="list-style-type: none"> 2 mm & 20 mm thick 600 mm x 300 mm 	
Pre-cast Concrete Tactile Pavers, Warning #15-4		PRECAST REINFORCED CONCRETE PAVER P5, R11 300 mm x 300 mm	
Pre-cast Concrete Tactile Pavers, Directional #15-5		P5, R11	

Name / TGSi type / dept. internal ref	Product picture	Product description (material, rating, size)	Supplier website / contact / warranty conditions
TSA Warning Discrete TGSi Single Stem #12-1		POLYMER polyurethane plastic P5, R12 <ul style="list-style-type: none"> tactile suited to new or retrofit installations 	Tactile Systems Australia (TSA) www.tactilesystems.com.au Contact: Sam Tatters Phone: 07 5580 6993 Email: sales@tactilesystems.com.au <u>Manufacturing and UV resistance warranty</u>
TSA Warning Discrete TGSi Bladed Shaft #12-2		Polyurethane plastic P5, R12 <u>Installation warranty</u> <ul style="list-style-type: none"> 2 year <i>Note: Deteriorated polymer may affect waterways and associated environment.</i>	<ul style="list-style-type: none"> manufacturing and UV resistance warranty is not available. UV performance has been tested. Product may be affected by high UV exposure. <i>Note: Products with less than 10 year warranty for manufacture or installation may not suit long term exterior use but may be suitable for temporary exterior use.</i>
TSA Warning Integrated TGSi Future-Tech #12-3		FIBRE POLYMER fibreglass reinforced polymer P5, R12 <ul style="list-style-type: none"> tactile suited to new or retrofit installations <u>Installation warranty</u> <ul style="list-style-type: none"> 5 years 	

Name / TGSI type / dept. internal ref	Product picture	Product description (material, rating, size)	Supplier website / contact / warranty conditions
Flexi Pave Integrated Warning #1-1		FIBRE POLYMER CONCRETE fibre reinforced polymer concrete P5, R13 <ul style="list-style-type: none"> • yellow, black, ivory • size: 300 mm x 600 mm • thickness: 2mm 	United Civil Constructions Pty Ltd (UCC) www.ucctactile.com.au Phone: (03) 9701 8498 Mobile (Danny Chee): 0417 322 886 E-mail: unitedcivil@hotmail.com <ul style="list-style-type: none"> • suited to new or retrofit installations. Installation warranty <ul style="list-style-type: none"> • 7 years, warranty is available first 12 months with no conditions; after year 1, warranty is conditional on 2-yearly maintenance UV resistance warranty <ul style="list-style-type: none"> • UV resistance warranty is available first 12 months • UV resistant paint can be renewed every 2 years to increase the usage life and restore UV resistant capability
			
			
Flexi Pave Integrated Directional #1-2		P5, R13 <ul style="list-style-type: none"> • yellow, black, ivory • size: 300 mm x 600 mm • thickness: 2 mm <i>Note: Deteriorated polymer may affect waterways and associated environment.</i>	<ul style="list-style-type: none"> • UV protection is approximately 95% when sealed with the paint, namely Dulux road master line marking A1 • Product may be affected by high UV exposure Manufacturing warranty <ul style="list-style-type: none"> • warranty is available first 12 months with no condition Other information <ul style="list-style-type: none"> • Australian made products <i>Note: Products with less than 10 year warranty for manufacture or installation may not suit long term exterior use but may be suitable for temporary exterior use.</i>
			
			

6 Contact for enquiries and proposed changes

To be included in the 'Compliant Products Register', TGSI suppliers should supply evidence to the contact following, demonstrating that the product meets the criteria requirements specified in Appendix A *Compliant products criteria requirements*. Upon satisfying the criteria, the supplier will be included on this 'Register'. If you have any other questions regarding this document or if you have feedback on the performance of certain products, please contact:

Contact Vulnerable Road User Team, Traffic Engineering Unit, Engineering & Technology "Branch

Email CyclePedTech@tmr.qld.gov.au

Appendix A – Compliant products criteria checklist

Products are required to meet the following criteria to be included on the 'Compliant Products Register' of tactile ground surface indicators (TGSi).

M – Mandatory Requirements (if applicable); D – Desired Requirements; I – Information only

If you do not think a specific criterion is applicable to your product, please supply reasons.

1. **M** Slip resistance, tested in accordance with AS 4586 *Slip resistance classification of new pedestrian surface materials* linked to the specific product being registered. Tests results confirming the product is in accordance with both slip resistance tests is required. If the manufacturing process has changed, new tests are required.
 'Wet Pendulum Test' assessment group = P4 or P5
 'Oil Wet Inclining Platform Test' assessment group = R11 or better
2. **M** TGSi design (size and spacing) compliant with AS/NZS 1428.4.1 *Design for access and mobility, Part 4.1: Means to assist the orientation of people with vision impairment – Tactile ground surface indicator*
3. **M** Minimum guarantee of product including UV resistance and installation (if applicable) of 5 years
4. **M** For ceramic TGSi tile products, minimum breaking strength = 1100N tested in accordance with AS ISO 10545.4 *Ceramic tiles, Method 4: Determination of modulus of rupture and breaking strength*
5. **M** For ceramic TGSi tile products, water absorption (E) ≤ 3%, tested in accordance with AS ISO 10545.3 *Ceramic tiles, Method 3: Determination of water absorption, apparent porosity, apparent relative density and bulk density*.
6. **D** Installation and production specification.
7. **D** Variability in products to provide luminance contrast specified in AS 1428.4.1 to be achieved in typical footways and kerb ramps (concrete, asphalt, pavers).
8. **M** Product name and TGSi type (Discrete or Integrated & Directional or Warning)
9. **M** Material type. Major material component and generic classification only (Ceramic, Concrete, Plastic, Polymer, Fibre Polymer or Metal)

