



TECHNICAL MANUAL

RITEDECK Ultimate Value Composite Decking*

1. Introduction
2. Physical Properties
3. Profiles & Sizes
4. Installation
5. Cleaning & Maintenance

1.1 About This Manual:

This manual has been developed to effectively assist fabricators and contractors to work with RITEDECK. Due to the uncontrollable conditions onsite and different methods of job scope, as well as the variable skills and judgment of installers and the quality of equipment, tools, etc, the suggestions and recommendations contained in this manual are provided without warranty. The information and recommendations herein are believed to be correct at time of publishing.

BLUECHIP reserves the right to revise the contents of this manual without prior notice. Any construction or use of the product must be in accordance with all local zoning and/or building codes and in accordance with the current NCC at the time of use. Except as contained in a written warranty certificate, the supplier does not provide any other warranty, either express or implied, and shall not be liable for any damages, including consequential damages.

1.2 Company Background:

Founded in 2003 by five brothers, BLUECHIP has grown every year since to become one of Australia's leading suppliers of architectural building envelopes. BLUECHIP's product range covers the complete system from the structure out including all types of cladding materials, composite decking, sub-framing, insulation, waterproofing and fixings.

With offices in Sydney, Melbourne and Perth, BLUECHIP has supplied more than 3,000,000m² of materials to Australian projects since 2003. Our commitment to innovation and ongoing investment in R&D ensures BLUECHIP will continue to lead the market with BCA/NCC compliant facade solutions in the years ahead.

For architects and consultants, BLUECHIP's wide range of different materials and 'complete-system' approach enables the creation of inspiring high-performance facades. For builders and contractors, BLUECHIP's large local stock, well established supply chains and genuine appreciation for our clients means you can trust us to deliver as promised every time.

1.3 Company Details:

Company: Blue Chip Group Pty Ltd
ABN: 98 162 282 064
Locations: Sydney | Melbourne | Brisbane | Perth
Phone: 1300 945 123
Email: sales@bluechipgroup.net.au

***Please Note:** RITEDECK is a traditional wood plastic composite (WPC) material made from recycled timber fibres and high-density plastic (HDPE). If a mineral-fibre material is preferred containing ZERO percent (0%) timber content, then consider using TRAXION mineral-fibre decking instead. Find out more about TRAXION decking [here](#).



1.4 Product Description:

Ultimate Value Composite Decking

RITEDECK really is the ultimate value composite decking and like many traditional wood plastic composite materials (WPC's), it has all the attributes of timber along with many added advantages such as low maintenance and greater durability. That, however, is where the comparison ends. RITEDECK's outstanding value proposition comes from a unique combination of USA composite technologies, an impervious surface capping with unrivalled scratch, stain and fade resistance, a P5 slip rating and best of all, import direct supply to guarantee ultimate value.

Ultimate Value

Bang-for-buck and kilo-for-kilo, RITEDECK decking is unrivalled in the market because it combines the world's best technology and materials from the USA with an importer direct supply chain for ultimate value.

Cost Effective System

A combination of the latest USA composite technologies and the best quality materials mean that RITEDECK is much lighter per M2 than comparable products helping to drive superior value engineering outcomes.

Long-term Value

RITEDECK composite decking does not require any surface finish at the time of installation and further to this it never requires any oiling, painting or coating over the life of the product.

Secret Fix System

RITEDECK ultimate value composite decking's preloaded CAMO secret fix system can be installed in 4 quick and easy steps to achieve a clean finish with no pre-drilling and no visible screws.

Excellent Slip Resistance

RITEDECK ultimate value composite decking achieves the highest possible slip rating of P5 when tested to the latest Australian standard AS 4586 meaning it is compliant for use in all applications.

Dimensional Stability

Using patented extrusion technology, every strand of wood fibre in RITEDECK decking boards is encased in high-density polyethylene, for minimal movement and superior protection against UV and moisture.

Rot & Pest Resistant

RITEDECK ultimate value composite decking is guaranteed not to rot, split, warp or check. It is highly resistant to damage caused by termites and fungal decay and ideal for use in termite prone areas.

Pioneering USA Technology

RITEDECK composite decking has been developed by Universal Forest Products (UFPI), a listed global company headquartered in USA which has been producing industry leading composite materials for over 50 years.

1.5 More Information:

[RITEDECK Ultimate Value Composite Decking](#)



2.1 Physical Properties – Technical Data:

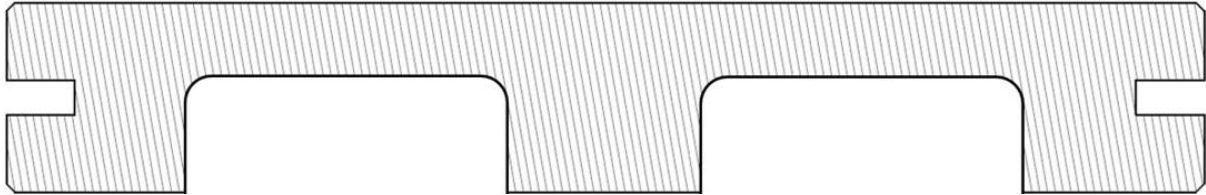
ITEM	TEST STANDARD	UNIT	RESULT
Material Density	Actual	Kg/m ³	1065
Deck Weight per M ²	Actual	Kg/m ²	16.45
Deck Weight per LM	Actual	Kg/metre	2.38
Allowable Decking Span	On centre	mm	400
Commercial Decking Span	On centre	mm	400
Slip Resistance	AS 4586	-	P5
Coefficient of Friction			
▪ Dry	ASTM F 1679	-	0.73
▪ Wet	ASTM F 1679	-	0.68
Capped Moisture Absorption	ASTM D 1037	24hr Submerged	<0.28%
Thermal Movement Coefficient	ASTM D 696	mm/m/°C	<0.02
Thermal Conductivity	ASTM C-177	Btu/hr/ft ² /°F	2.03
Wood Plastic Composite Core Structural Performance			
▪ Material Hardness	ASTM D 143	Lbs	1,390
▪ Flexural Modulus MOE	ASTM D 6109	PSI	554,985
▪ Flexural Strength MOR	ASTM D 6109	PSI	3,467
▪ Tensile Modulus MOE	ASTM D 790	PSI	450,000
▪ Tensile Strength	ASTM D 638	PSI	1,200
▪ Compressive Strength	ASTM D 143	PSI	2,350
▪ UV MOE Degradation	ASTM D 6662	%	-7.5
▪ UV MOR Degradation	ASTM D 6662	%	-4.3
▪ Moisture Absorption	ASTM D 1037	%	1.7
Concentrated Static Load (50°C)			
▪ Ultimate Load	ASTM E-661	kN	3.03
▪ Deflection at 0.89kN Load	ASTM E-661	mm	3.23
Impact Load of 100Nm (50°C)			
▪ Load of 1.78kN after Impact	ASTM E-661	No Break	Pass
▪ Deflection at 0.89kN Load	ASTM E-661	mm	2.42
Fastener Withdrawal Strength			
▪ Decking Screws	ASTM D 1761	N	1,712
▪ Secret Fix System	ASTM D 1761	N	1,037
Lateral Fastener Strength			
▪ Decking Screws	ASTM D 1761	N	3,263
▪ Secret Fix System	ASTM D 1761	N	2,701
Surface Accelerated Ageing			
▪ UV Exposure	ASTM G 155-13	Xenon Arc Cycles	4,000h
▪ Wet, Freeze, Thaw, Dry	Actual		5
Fungus Resistance (Brown & White Rot)	AWPA E7-93	-	Pass
Termite Resistance (Formosan Subterranean)	AWPA E7-93	-	Pass
Luminance Contrast	AS 1428.1	%	37.58
Solar Reflectance Index	ASTM E1980	SRI	12-36



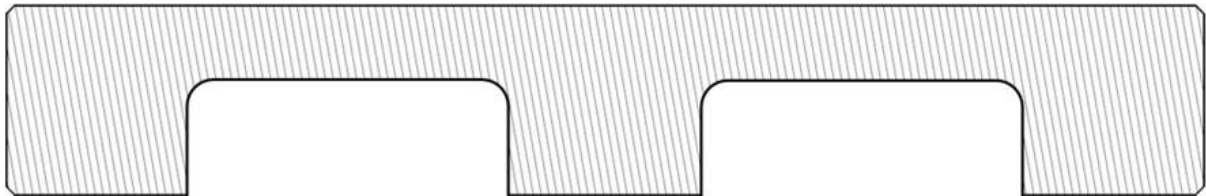
3.1 Decking Profiles:

RITEDECK Composite Decking is available in both a Secret Fix profile and a Pencil Round profile for use as edge boards, fascia boards, stair treads, screening and bench seats.

R*X14024 – RITEDECK 140 x 24mm Secret Fix Decking Profile:



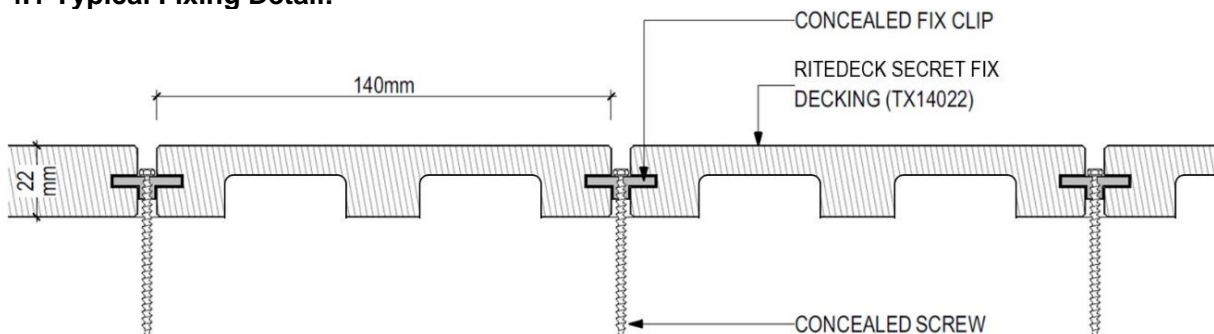
R*P14024 – RITEDECK 140 x 24mm Pencil Round Profile:



3.2 Sizes & Dimensions:

ITEM	TEST STANDARD	UNIT	RESULT
Lengths	Actual	metres	5.8
Board Width	Actual	mm	140
Board Thickness	Actual	mm	24
Coverage (5mm Spacing)			
▪ Lineal metres per m2	Actual	m/m2	6.9
▪ 5.8m Boards per m2	Actual	5.8m Boards	1.19
▪ M2 per 5.8m Board	Actual	m2	0.84

4.1 Typical Fixing Detail:



RITEDECK installation details are available in PDF and DWG/CAD on request. The RITEDECK installation details are provided for conceptual purposes only. These are not the only methods that can be used to attach RITEDECK, nor can they be used generically without consideration for each individual application. Good design engineering may preclude the choice of details used.



4.2 Sub-framing Requirements:

Sub-framing System:

The sub-framing system to be installed in a manner to ensure all applied loadings to the decking is transferred back to the ground. Size and spacing of sub-frame members shall be determined according to applied loads and deflection limitations. Joist spacings shall be installed at maximum 400mm centres or as required to adequately support the decking system.

Acceptable Sub-framing materials are:

- Suitably treated structural grade timber to suit the project location & requirements
- Suitably treated steel sub-framing system to suit the project location & requirements
- Aluminium sub-framing system to suit the project location & requirements

4.3 Installation Instructions:

Face Fixing With Screws:

We recommend using PRO PLUG colour-matched plugs & screws. Alternatively for visible fixings use 50 x 10g stainless steel square-drive screws. Always pre-drill and countersink prior to driving screws. Screws should be a minimum 20mm from the end or edge of the board and driven flush with the decking surface. Do not over-tighten. Use two fasteners per deck board at each joist. For butt joints, add additional blocking to the joist to adequately support both board ends.

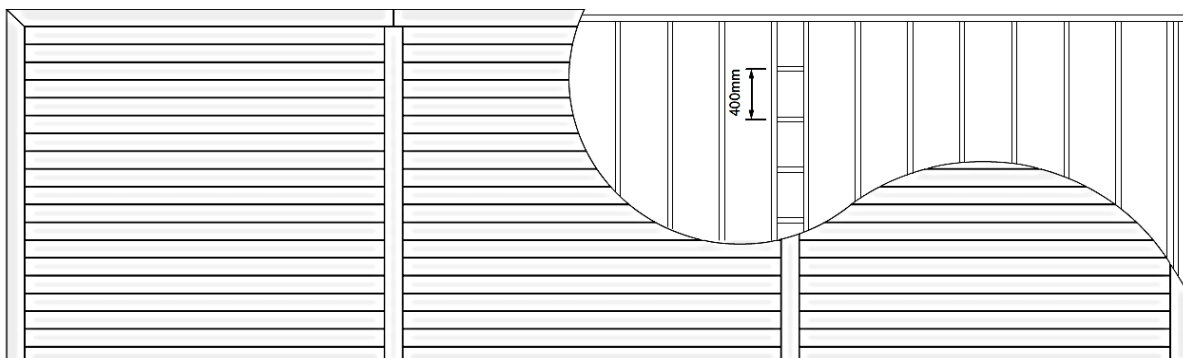
Spacing for Ventilation:

RITEDECK like all wood and composite decking products requires proper ventilation and drainage in order to ensure its longevity. There should be a 50mm clear space between the bottom edge of the joists and the finished ground level in order to allow for proper ventilation. Adequate drainage is also needed to prevent water pooling under the deck.

Expansion, Contraction & Breaker Boards (See below):

Allowance for expansion and contraction is critical. Accordingly, we strongly recommend the use of Breaker boards on any deck longer than 6 metres to limit the expansion / contraction gaps to 6 mm. The traditional butt joining of boards is strongly advised against. The preferred method of deck design incorporates the use of breaker boards that are run across the deck at 90 degrees to the ends of the long boards so that the maximum gap possible is 6 mm. This gap can be halved if the board is fixed in the middle with the gap evenly distributed to either end of the board (see below regards locking screws). Additional joists/support is required in the substructure wherever a breaker board is being used, as shown in the illustration below. The breaker boards can be Face Fixed directly into the joists as above using PRO PLUG colour-matched plugs & screws.

Illustration of Breaker Boards & Required Framing:





End-to-End Spacing Between Boards:

Allow minimum of 3mm gap between board ends per 10°C of difference between installation temperature and the hottest temperature expected annually in the region as per below table. Additional blocking to either side of the joist is recommended for support of butt joins.

		Warmest annual temperature °C expected in region												
		°C	-5	0	5	10	15	20	25	30	35	40	45	
Temperature °C on day of installation	-5		3mm	3mm	3mm	3mm	3mm	3mm	5mm	5mm	6mm	6mm	8mm	8mm
	0			3mm	3mm	3mm	3mm	3mm	3mm	5mm	5mm	6mm	6mm	8mm
	5				3mm	3mm	3mm	3mm	3mm	3mm	5mm	5mm	6mm	6mm
	10					3mm	3mm	3mm	3mm	3mm	3mm	5mm	5mm	6mm
	15						3mm	3mm	3mm	3mm	3mm	3mm	5mm	5mm
	20							3mm	3mm	3mm	3mm	3mm	3mm	5mm
	25								3mm	3mm	3mm	3mm	3mm	3mm
	30									3mm	3mm	3mm	3mm	3mm
	35										3mm	3mm	3mm	3mm
	40											3mm	3mm	3mm
	45													3mm

Edge Board Installation - Horizontal Picture Frame Option:

Cut the 140 x 24mm Pencil Round edge-boards to length, mitre as required for corners and then fasten the outside edge to the rim joist with PRO PLUG colour-matched plugs & screws. Although not critical, it is recommended to overhang the edge-board 24mm past the sub-frame to allow for running decking vertically down the sides of the deck as fascia boards if required.

Edge Board Installation – Vertical Fascia Type Option:

An alternative to using an edge-board is to use the same 140 x 24mm Pencil Round profile but as a fascia board on the side of the decking as opposed to the horizontal picture frame option. Cut the solid 140 x 24mm Pencil Round edge-boards to length, mitre as required for corners and then fasten to the rim joist with PRO PLUG colour-matched plugs & screws. Overhang the boards 24mm above the top of the rim joist to allow for the thickness of the decking.

Secret Fix Decking Installation:

Install one CAMO secret-fixing clip at each joist location along the length of each decking board. For installations where deck boards are butted end-to-end at the joist, we recommend adding a 200mm blocking to either side of the joist and using a CAMO secret-fixing clip at the end of each board (4 clips per butt join). Be sure to gap the boards as previously described. Repeat the process for each board until the final board is cut to size to fit between the edge-board or building and fastened through the non-grooved edge with PRO PLUG system as described above.

Important Note: Do not overdrive screws into the CAMO clips. Screws should be flush with the top off the clip and screw gun torque should be adjusted to low. Overdriving the fasteners into the CAMO clips may result in structural failure of either the clip or the decking board and will not be covered by warranty.

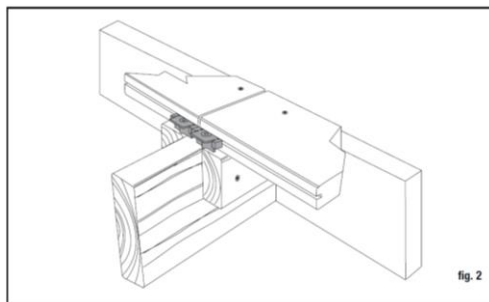
See next page for pictures to illustrate the above



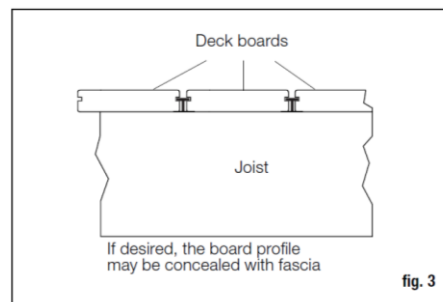
Locking Screws (Very Important):

To keep the decking boards from 'creeping' over time, we recommend 1 x locking screw per decking board in the centre of the board's length using a 50x7g screw fastened diagonally through the side of the decking board. Pre-drill in the slot of the deck board at 45° with a 3mm drill bit and drive screw into the slot so it's flush with the bottom of the groove. This will allow the CAMO secret-fixing clip to fit into the slot over the screw and centred over the joist.

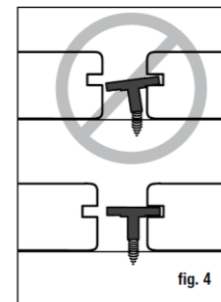
Illustration of Various Details Referenced Above:



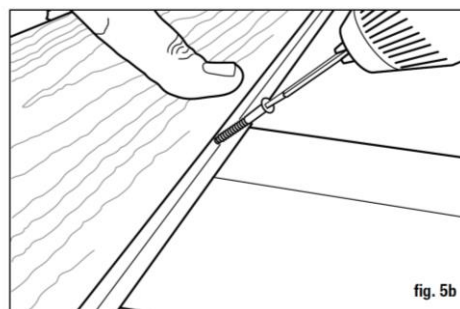
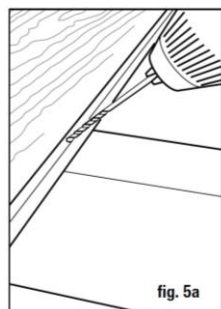
Final board against building.



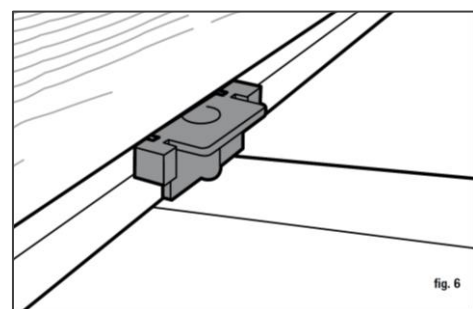
End-view of boards.



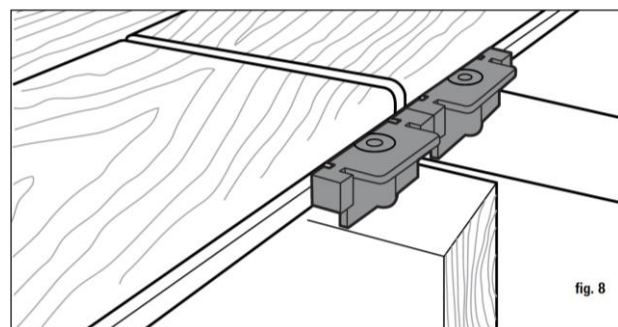
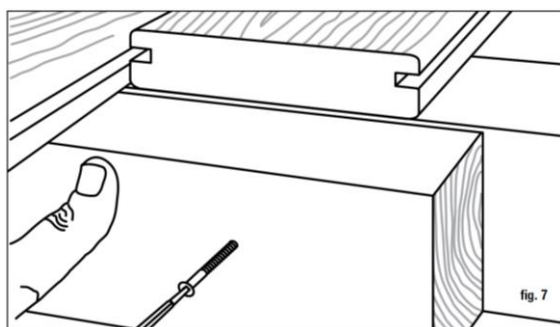
Clips to be level.



Pre-drill and insert diagonal locking screw in each board.



CAMO clip at each joist.



Additional blocking to be installed at all butt joints with a clip at the end of both boards.

Finish Variation:

As with all products, there may be some finish and colour variation between different batches of RITEDECK decking and as such it is always recommended to order all the materials required for any project in one order. Each RITEDECK board has a unique appearance and should be arranged according to the end user's preference. Also, the direction of installation may slightly alter the appearance so the tags on the board ends should be used to install all the boards in one direction. Alternatively, install the boards in random different directions for more variation.



4.4 Acceptable System Components:

Secret Fix Clip System:

Shall be CAMO secret fixing system supplied by Blue Chip Group Pty Ltd and installed using below tools in accordance with this manual and manufacturer's recommendations.



Secret Fix Plug System:

Shall be PRO PLUG colour-matched plugs & screws supplied by Blue Chip Group Pty Ltd and installed using below tools in accordance with this manual and manufacturer's recommendations.



Specialist Tools:

Installation of above components shall be carried out using proprietary specialist tools supplied by Blue Chip Group Pty Ltd and used in strict accordance with manufacturer's recommendations.



4.5 General Installation Guidelines:

- Tools needed and/or recommended are Safety Glasses, Pencil or Pen, Tape Measure, Utility Knife, Jigsaw, Carpenter Square, Power Screw Gun or Drill with Torque Setting, Soft Mallet, Power Saw, Fine Tooth Blade (40-teeth minimum, sharp carbide-tipped wood or finish/trim blades) Large File or Medium Grit Sandpaper, Chalk Line, Spacing Tools, Fastener Specific Tools.
- Upcut boards with clean/smooth fine-tooth saw blade
- Cut boards with leading edge of saw blade cutting into the exposed face. Use a sharp utility knife or jigsaw to finish cuts where circular saw cannot complete cuts.
- Use jigsaw to cut openings for any protrusions.
- If deemed necessary, use a large file or medium-grit sandpaper to clean cut edges.
- Use utility knife to cut any protruding fibres or strands.
- In the rare event that a fibre or strand protrudes from the board DO NOT pull it.
- Set power drive such that screws are NOT overdriven.

4.6 Storage & Handling:

- RITEDECK decking boards should be stored covered, flat and off the ground.
- Standard 5800mm long packs of RITEDECK require a minimum of eight gluts (supports), evenly spaced under and between each pack for proper storage.



5.1 Cleaning & Maintenance:

Low Maintenance:

RITEDECK decking is virtually maintenance free, needing only periodic cleaning to keep it looking great. Like any surface in your home, RITEDECK looks best when the surface is kept clean.

General Cleaning Recommendations:

Periodic washing with soap / detergent and water will help remove surface dirt. This will also help prevent the build-up of pollen, debris and spores that can cause and accelerate mould / mildew growth. A pressure washer should not be used to “blast” mould / mildew or soils from the decking surface however, a fan tipped nozzle can be used to lightly wet or rinse the decking surface. There are many decking wash and exterior cleaning products available at retail stores. It is important to make sure you use a cleaner specifically intended for your application. After selecting a product, be certain to read, understand and follow all instructions supplied by the manufacturer. Some cleaning products and inhibitors may be more effective than others, depending on the environmental conditions your decking is subjected to. Additionally, it is always a good idea to test the cleaner in a small area prior to applying it to the entire decking.

Basic Cleaning Agents:

Decking cleaners usually contain sodium per carbonate and a detergent, which is effective on normal dirt and grime and bleaches out mould and mildew stains. Oxalic acid cleaners are effective on rust stains from metal furniture. Commercial degreasers contain propylene glycol, sodium hydroxide, and various detergents for removing grease and oil stains. Spot removers or thinners can be used sparingly on particularly stubborn grease or oil stains but should be washed off quickly with water as they will attack the grain pattern. These normally include petroleum distillates, xylene, methanol, acetone, or other organic solvents. As with any chemical product, it is always a good idea to test the cleaner in a small area prior to applying it to the entire decking area to ensure it does not damage the surface and achieves the desired result.

Scratches:

As with all decking materials, the surface of RITEDECK can become scratched or gouged. Its deep surface undulations are designed to add to its grip factor but also to aid in scratches not being as noticeable as they may be with other products. Normal wear and weathering will, over time, reduce the visual aspect of scratches. RITEDECK’s surface is an advanced Polyethylene and with an emphasis on being cautious, scratching can be ‘healed’ with the gentle use of a heat gun. Please be aware it is a very fine line between getting the right heat to mould-out scratches and burning the surface. The supplier takes no responsibility for damages caused by attempting repairs in this way. As with any product, if a board is irreparable, replace it with a new board.

Staining:

RITEDECK resists accidental staining better than most other products. Many stains can be removed with a household hose. It is recommended that any use of a pressure-cleaner or high-pressure hose be done with great care and with a wide-nozzle spray. Too much direct pressure can and will damage the surface. Where water alone is not successful, the use of mild household detergent or degreaser may be required. Use with a soft brush and wash off with water immediately. Do not allow stains to bake on under direct sunlight. If you use a barbecue grill on your decking, keep a splatter guard underneath it as grills are a major source of grease stains and burns. To prevent water pooling on the deck surface and staining it, make sure the decking boards have gaps between them and that the gaps have not become clogged with debris.



Mould & Mildew:

Mould and mildew can be a nuisance on any exterior building surface, regardless of the material. If conditions are right, they will spawn on wood, plastic, concrete, metal and other surfaces. Mould formation is most prevalent in wet, shaded areas. Spores from the natural environment are carried by the wind and commonly land on decking surfaces. It is important to note that the appearance of mould/mildew is a function of nature, not necessarily a deficiency with the decking material. Mould may form on any surface where moisture is prevalent, where there is heavy shading, or where pollen and debris can collect. To eliminate mould, use conventional decking washers or cleaners that contain sodium percarbonate and detergent. These cleaners can be found at most home centres. As with decking washers, there are several mould inhibitor products available from paint stores, hardware stores, online outlets and home centres to help prevent long term mould/mildew growth. For any product selected, be certain to read, understand and follow all instructions supplied by the manufacturer. Depending on the environmental factors affecting your decking some preventative cleaning products may be more effective than others. It may be necessary to try more than one product. For ongoing preventative maintenance, follow the manufacturer's recommendation.

Other Important Information:

As with any exposed exterior surface RITEDECK needs cleaning and maintenance to look its best and accordingly it is ultimately the client's responsibility to clean and maintain the product as required to maintain the desired performance and appearance. RITEDECK is not suitable for structural use. It should not be used for primary load bearing members such as posts, beams, joists or stringers. The same common sense precautions should be taken when handling as with wood or other building materials. Dust masks and eye protection are recommended to avoid possible irritation from sawdust and chips. Gloves will help to protect the hands. Always follow all safety precautions and instructions when using any cleaning or other chemical products. Any construction or use of the product must be carried out by a qualified installer in accordance with good commercial practice and any relevant codes or standards. The consumer assumes all risks and liability associated with the construction or use of this product. The consumer or contractor should take all necessary steps to ensure the safety of everyone involved in the project, including, but not limited to, wearing the appropriate safety equipment.