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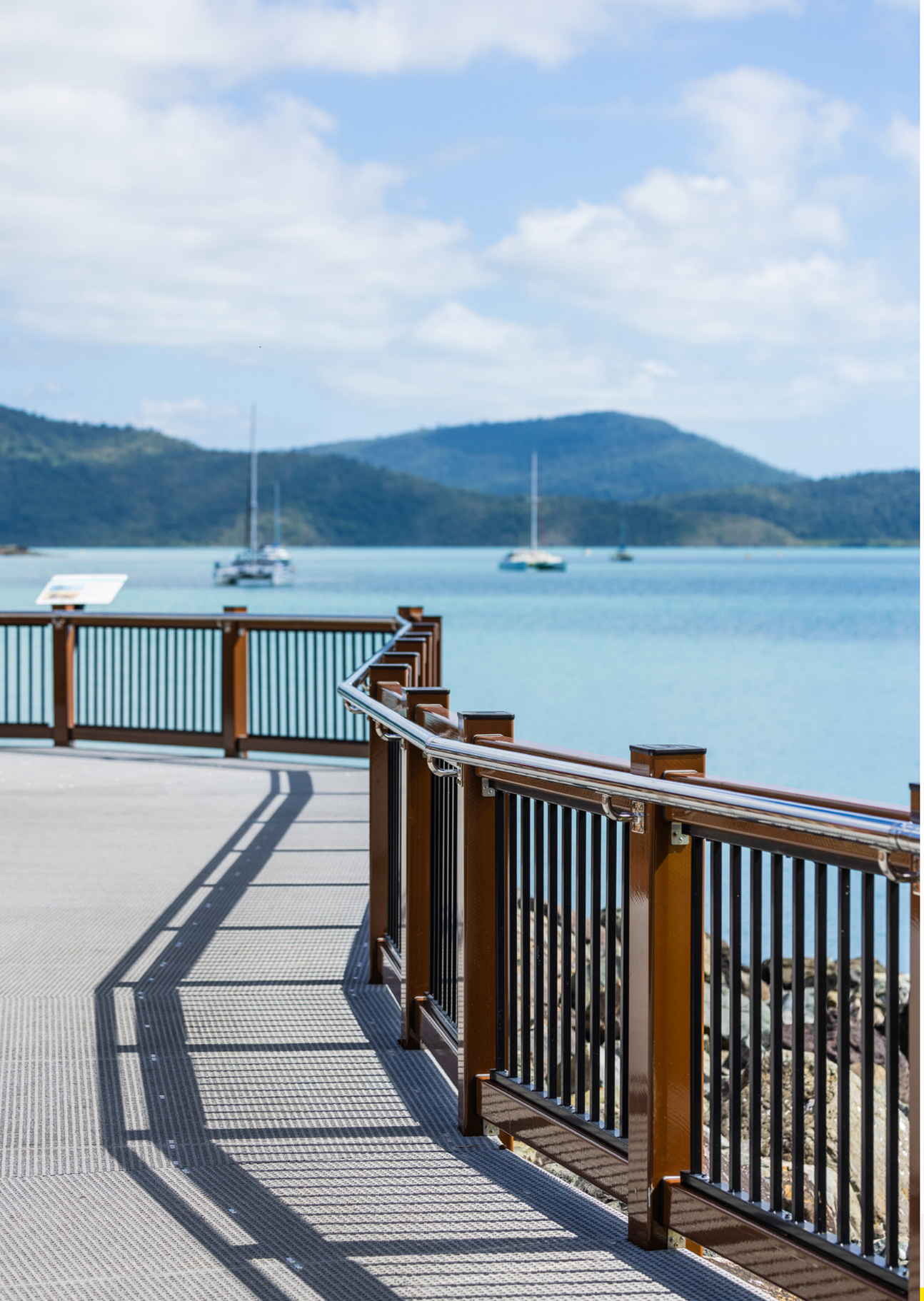
Maintenance and Care Manual

Wagners Composite Fibre Technologies (CFT)

WAGNERS



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1.0

Introduction

Wagners CFT Manufacturing Pty Ltd ACN 099 936 446s is a leading Australian manufacturer of advanced composite solutions for civil and structural infrastructure. With decades of experience and innovation, Wagners CFT focusses on the design, engineering, and manufacture of Fibre Reinforced Polymer (FRP). FRP products which are engineered to perform well in demanding environmental conditions delivering longer term benefits and value. Our products are used across a wide range of applications including pedestrian infrastructure, bridges, electrical distribution infrastructure, and structural profiles.

Wagners FRP composites are made by combining high-strength glass reinforcing fibres with a polymer resin matrix. This combination produces a lightweight, high-performance material with excellent mechanical properties, including a high strength-to-weight ratio, fatigue resistance, and dimensional stability. FRP materials are non-conductive, corrosion-resistant, and inert to a range of chemicals and environmental conditions.

Compared to traditional construction materials such as steel, concrete, or timber; FRP offers several key advantages. FRP components do not rust or rot in the presence of moisture and salt. Their lightweight nature makes it easier to transport, handle, and install—often without the need for heavy equipment, resulting in time and cost savings during construction. Additionally, FRP's long design life, combined with its resistance to environmental degradation, contributes to a lower total cost of ownership and improved sustainability.

1.1 Purpose of the manual

The purpose of this manual is to provide clear, practical guidance on the inspection, cleaning, repair, and ongoing maintenance of FRP to ensure it continues to perform as intended for the whole design life of the structure.

This manual outlines the product, the required maintenance schedules, identifies common issues and how to address them, and promotes safe handling and maintenance practices.

1.2 FRP and maintenance

Wagners FRP structures are designed in accordance with Austroads Technical Specifications (ATS 5880) for FRP Bridge Members, ASCE/SEI 74-23 LRFD for Pultruded FRP Structures and EN 1990 – "Basis of Structural Design" Category 5 to a design life of 100 years. EN 1990 sets out that reliability and serviceability of the 100-years design life can be achieved by taking preventative and protective measures and by adequate inspection and maintenance.

Therefore, while Wagners FRP structural profiles are known for their durability, corrosion resistance, and low maintenance demands, regular inspection and care is essential to ensure their optimal performance throughout their service life.

Accidental impacts, improper installation, extreme environmental exposure, or excessive loading conditions, if left unchecked, can compromise the integrity of the structure over time. Addressing these concerns promptly helps maintain public safety, minimise disruption, and safeguard the long-term value of the asset.

2.0

Safety Considerations

2.1 Personal protective equipment (PPE)

When working with FRP structural profiles, appropriate personal protective equipment (PPE) is essential to maximise worker safety.

Although FRP materials are generally safe to handle, certain tasks require protective measures.

- Gloves—preferably nitrile or cut-resistant types—should be used to protect hands from sharp edges and chemicals used for cleaning.
- Long-sleeved shirts and full-length trousers are advised to reduce skin contact with fibres or dust, and hearing protection may be necessary if power tools are in use.
- When cutting or grinding, recommended PPE includes safety glasses or goggles plus a dust mask to protect against airborne fibres and debris.

When working at heights or in confined spaces, additional PPE such as fall protection harnesses or ventilation equipment may be required in accordance with site-specific safety protocols.

Wagners CFT recommend a site-specific risk assessment to be undertaken before commencing any work.

2.2 Safe handling practices

FRP structural profiles are lightweight and generally easy to manoeuvre, but safe handling practices remain critical to prevent injury and avoid damage to the product. FRP components can have sharp edges or corners, particularly after cutting or machining, so caution should be exercised during manual handling and always wear appropriate PPE.

When moving or positioning long FRP elements, ensure they are supported at multiple points to avoid excessive flexing and use lifting techniques that protect both personnel and the integrity of the FRP profiles.

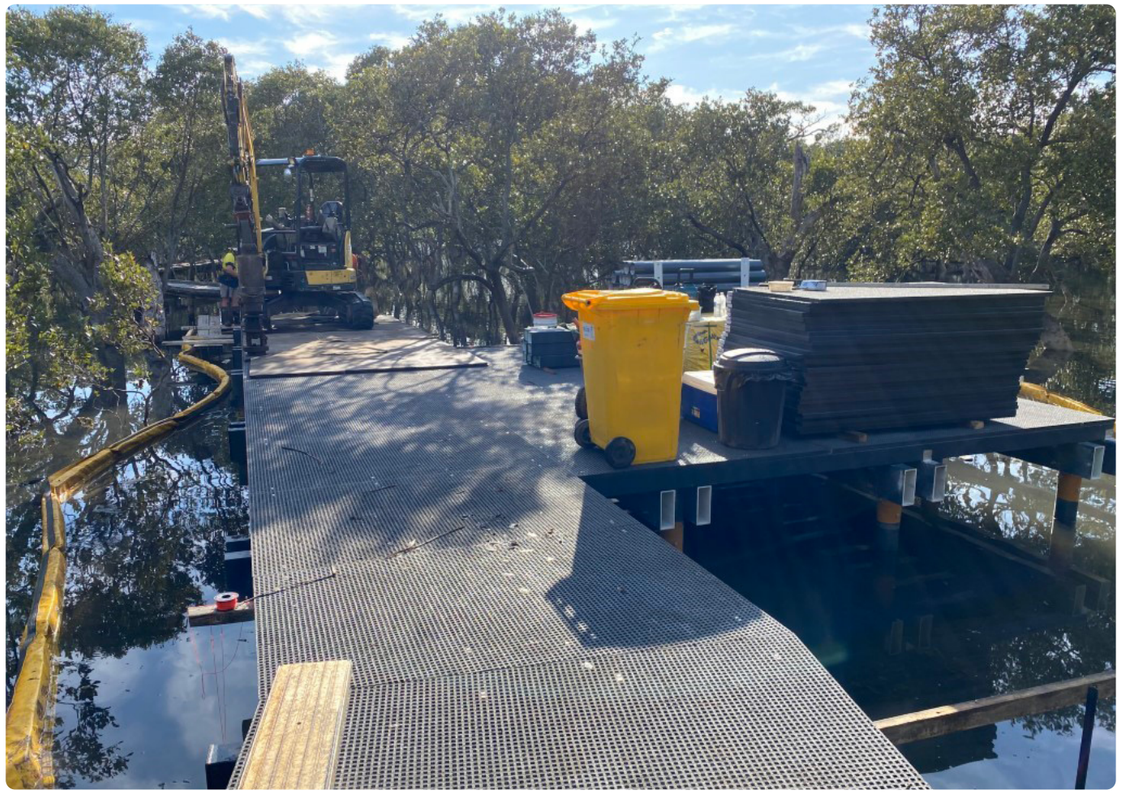
Use slings or padded lifting devices and never use chains or bare hooks, which can create surface abrasions or crush points. Do not drag FRP components across rough surfaces.

Additionally, profiles should be kept clean and dry during handling to reduce the risk of slipping or loss of grip.

2.3 Environmental considerations

When conducting maintenance or handling activities involving FRP materials, it is important to be aware of the potential environmental impacts when planning to undertake any of those activities. While FRP itself is chemically stable and non-leaching under normal conditions, tasks such as cutting, grinding, or sanding can produce dust that should be contained and properly managed to prevent dispersion into surrounding air, soil, or waterways.

If operating near sensitive environments—such as waterways, stormwater drains, or vegetation—employ physical barriers, collection mats, or containment zones to prevent debris or residue from entering the ecosystem. Waste materials, including off-cuts, used PPE, and any chemical products (such as cleaning agents or adhesives), should be disposed of in accordance with local environmental regulations.



Product Overview

3.1 Types of FRP profiles covered

Wagners CFT offer a range of FRP profiles including Circular Hollow Sections (CHS), Square Hollow Sections (SHS), Rectangular Hollow Sections (RHS), Flat Sections, Bonded Rectangular and Square Sections, Bonded I Sections and Bonded U Sections. (For full details of Wagners CFT structural profiles see pages 12-25 of our **Product Guide**) Information provided in this Maintenance Manual directly relates to these products and all FRP supplied by Wagners CFT.

The standard finish for all Wagners FRP structural profiles is painted either with fluoropolymer (for highly corrosive environments and direct UV), or polyurethane coating supplied by A&I Coatings. A&I Coatings belongs to the Australian Paint Manufacturers' Federation (APMF) and aligns with national standards for product quality and innovation, environmental responsibility, workplace health and safety and technical guidance and support for industrial and architectural coatings. For more details on A&I Coatings visit **aicoatings.com.au**.

3.2 Other Key components

In addition to Wagners FRP structural profiles, many civil infrastructure projects incorporate a range of complementary components to deliver a complete, functional, and durable system including stainless steel fittings, fluoropolymer or polyurethane coating, FRP decking (not manufactured by Wagners CFT) and aluminium balustrading systems.

Wagners CFT supply stainless steel connectors and fasteners to suit the use of the FRP structural profiles in many applications. These are 316 Marine Grade Stainless Steel brackets, bolts, nuts and washers, steel screws and steel rivets which comply with AS1449:1994, AS/NZS1554.6:2012, AS/NZS4673:2001 and ASTM A240/A240M.

Stainless steel material shall not be stored with carbon steel. Tools used for carbon steel shall not be used to fabricate or assemble stainless steel components. Work area for stainless steel shall be isolated from those where carbon steel is processed to avoid contamination by dust or debris. Stainless steel shall be marked using xylene free pens only. Stainless steel shall be wrapped or otherwise protected during transport to avoid contamination by ferrous products. If a plastic coating is used all traces of adhesive shall be removed on removal of the plastic. To assist with surface corrosion resistance, all stainless steel connections are to be coated with a suitable stainless steel sealing agent such as Lanotec in accordance with the manufacturer's requirements.

Wagners CFT supplies FRP decking panels sourced from manufacturers selected to meet the performance, safety, and durability requirements of Australian civil infrastructure applications; achieving low slip potential, P5 classification as per AS4586.

Anti slip decking coating is a wear part and therefore will degrade with use. Regular inspection is required and where necessary it should be recoated. Please note that whilst FRP decking is engineered for high strength and chemical resistance, the application of harsh chemicals will cause staining.

Aluminium balustrading systems used by Wagners CFT are sourced from manufacturers who fabricate to meet relevant Australian Standards for structural performance and safety, including compliance with AS 1170 and AS 1657 where applicable. Aluminium balustrading coating process complies with Dulux Powder Coating Specifications and meets the requirements of AS 3715:2002, the Australian Standard for thermoset powder coatings on architectural aluminium.

Maintenance Schedule

Regular inspection of FRP components and their complementary systems is essential to ensure ongoing structural performance, safety and durability.

4.1 Recommended inspection intervals

Type	Interval	Purpose	Methods
Routine Visual	Annually	Identify surface damage caused by impacts/ graffiti/ wear, cracks, any discolouration, loose or missing fasteners.	Visual walk-through inspection of all accessible FRP and components, especially high-stress areas (connections, joints, spans). Adequate lighting and safe access to inspection areas are essential to ensure accuracy. Detailed notes must be taken.
After Major Events	Immediately after severe weather, impact, seismic activity or flooding.	Check for damage caused by wind loads, water ingress, debris impact or unexpected structural stresses.	Site-specific visual walk-through inspection of all affected elements and surrounding structures. Adequate lighting and safe access to inspection areas are essential to ensure accuracy. Detailed notes must be taken.

4.2 Reporting and documentation standards

All inspections, assessments, and maintenance activities performed on FRP structures must be thoroughly documented to establish a clear history of asset condition and performance. Each entry should include the date, type of inspection (e.g., visual or post-event), name and qualifications of the inspector, environmental conditions at the time of assessment, and detailed notes on findings including any defects, measurements, or anomalies observed. Photographic evidence should accompany all reported issues, with references to specific structural components.

Where applicable, any testing results must be recorded and retained. Subsequent maintenance action repairs, replacements, or coatings—must be logged with materials used, responsible personnel, and completion dates. The structure's documentation archive should allow for easy traceability to track trends over time, identify recurring issues, and support engineering reviews, audits, or regulatory compliance. Proper reporting is a condition of the product's warranty. A checklist is provided at section 9.3.

Cleaning and Maintenance Procedures

5.1 Recommended cleaning agents and techniques

When cleaning FRP surfaces that are coated with either fluoropolymer or polyurethane finishes, it's important to use products and techniques that protect both the composite structure and the integrity of the coating. Mild, pH-neutral detergents diluted in clean water are generally safe for routine cleaning of these coated surfaces. For removing light soils, dust, or environmental deposits, a soft cloth or sponge can be used to gently wash the surface, followed by rinsing with clean water and drying with a non-abrasive cloth. If heavier contamination is present—such as grease, oil, or industrial particulates—non-abrasive water-based degreasers or cleaning agents formulated specifically for coated substrates may be suitable, provided they do not contain strong solvents or acids that could degrade the fluoropolymer or polyurethane layers.

Abrasive tools such as scouring pads, stiff brushes, or aggressive cleaners like bleach, acetone, or alkaline solutions must be avoided, as they will damage the smooth, protective finish of the coating and may lead to premature aging or discoloration. For stubborn residues, a spot test should always be conducted in a discreet area using low-strength isopropyl alcohol or a recommended solvent-compatible cleaner. Pressure washing may be employed for extensive cleaning, but only at low pressures (below 2000 psi), with a wide spray tip and a minimum distance of 300 mm from the surface to prevent erosion or blistering of the coating. Cleaning should ideally be performed during cooler parts of the day to reduce drying streaks and spotting, and all agents used should comply with environmental discharge regulations. Any maintenance activity—including products used and techniques applied—should be recorded in the maintenance log for ongoing reference and compliance tracking.

5.2 Surface preparation before any repainting

Before maintaining FRP coated surfaces you should ensure the structure is sound and free of contamination, particularly salt deposits. Loose or flaking paint must be removed by abrasive blast cleaning, power tool cleaning or sanding to AS 1627 and AS/NZS 2311:2017. Oil grease, dirt etc must be removed with detergent and water blasting or solvent cleaning to AS 1627.1

For more details see A&I Coatings Technical Data Sheet for fluoropolymer and polyurethane visit **aicoatings.com.au/wp-content/uploads/V620-TDS-2024.pdf** and **aicoatings.com.au/wp-content/uploads/V795-TDS-2024.pdf**

5.3 Repair procedures for minor damages (scratches and surface cracks)

Minor scratches and surface cracks on FRP components coated with fluoropolymer or polyurethane finishes should be repaired promptly to preserve their protective properties and visual appearance. Begin by cleaning the affected area with isopropyl alcohol or acetone to eliminate contaminants, and then inspect the damage to confirm that it's limited to the paint layer—free of fibre exposure or deep cracking. Light sanding with fine-grit paper (typically P220 to P320) will help feather the edges and remove loose coating. For superficial scratches, a compatible touch-up coating that matches the original system can be applied using a fine brush or applicator. Wagners CFT have spray cans for purchase matching your exact paint colour and coating type. To order phone +61 7 4637 7777, email **cftsales@wagner.com.au** or use the Contact Us form on the website **wagnerscft.com.au/contact-us/**.

For shallow cracks or pinholes, use ultra-low viscosity epoxy or vinyl ester resin for cracks repair, and epoxy-based fillers and gelcoats for pinholes. After the filler or touch-up coating has cured, gently sand the area again using ultrafine grit paper (P400 or finer) to achieve a smooth blend. If the repair affects the topcoat's integrity, apply a clear fluoropolymer or polyurethane topcoat to restore protection against UV and chemical exposure—either by spraying or light brush application. Buffing with a non-abrasive compound may help harmonize gloss levels. Finally, inspect the repair for consistency and finish quality, and document it carefully in the maintenance log, noting the location, products used, and date completed.

Emergency Procedures

6.1 Response to severe damage or failure scenarios

In the event of severe damage or failure of FRP structural components, immediate action must be taken to ensure safety, prevent escalation, and initiate appropriate remediation. Severe damage may include extensive cracking, delamination, fibre exposure, structural deformation, or coating failure that compromises the load-bearing capacity or environmental protection of the asset. Upon identification, the affected area must be isolated and clearly marked to prevent access or loading. A qualified structural engineer should be engaged to assess the extent of damage and determine whether temporary support, load redistribution, or full shutdown of the asset is required. All findings must be documented with photographs, measurements, and a detailed description of the failure mode.

Following initial containment, a formal engineering investigation should be undertaken to determine the root cause—whether due to impact, overload, environmental degradation, manufacturing defect, or installation error. The repair strategy must be developed in consultation with the original design specifications and coating system supplier (e.g. A&I Coatings), ensuring compatibility with the FRP substrate and any protective layers. In cases where structural integrity is compromised, replacement of the affected component may be necessary. All repair works must be carried out by certified personnel using approved materials and techniques, and the completed repair must be inspected, tested, and documented before the asset is returned to service. A post-repair review should be conducted to update maintenance protocols and prevent recurrence.

6.2 Contact information for emergency repairs

In the event of structural damage, coating failure, or any situation requiring urgent attention, Wagners CFT can assist with rapid-response support through our dedicated maintenance team or extensive contractor network. For emergency repairs, please contact us immediately via phone, email or the Contact Us form on the website as per the details provided below. Our technical specialists are equipped to assess the situation, provide guidance, and coordinate swift on-site assistance to minimise risk and restore asset integrity. All emergency enquiries will be prioritised and managed in accordance with our critical response procedures to ensure safety, compliance, and minimal operational disruption.

For emergency repairs please contact Wagners Composite Fibre Technologies via phone on +61 7 4637 7777, email at cftsales@wagner.com.au or by submitting a Contact Us form on the website at **wagnerscft.com.au/contact-us/**

7.0

Storage and Handling

7.1 Proper storage conditions

Proper storage of Wagners FRP structural profiles and decking is essential to preserve their long-term durability prior to installation. Profiles and decking should be stored in a dry, shaded, and well-ventilated area, free of moisture and temperature extremes. Profiles and decking should be elevated at least 200 mm above ground level using timber dunnage or padded supports to prevent contact with standing water or abrasive surfaces.

7.2 Handling procedures to prevent damage during transportation and installation

To maintain the integrity and finish of Wagners FRP, handling should avoid surface abrasion, impact damage, and stress-induced cracking.

During transportation, profiles must be securely restrained using padded straps or timber chocks to prevent movement and vibration. Components should be stacked with protective spacers between layers, and all contact points must be cushioned to avoid pressure marks or resin bruising. Forklift tines and crane slings must be fitted with non-abrasive sleeves, and lifting should be performed using multiple points or spreader bars to distribute load evenly. Under no circumstances should profiles be dragged, dropped, or lifted by protrusions such as flanges or bolt holes.

Installation requires similar care. Profiles must be lifted manually or mechanically in a way that avoids flexural stress—particularly for long spans or hollow sections. Decking panels should be placed onto prepared supports and aligned without forcing. Fasteners must be installed using pre-drilled holes and torque-limited tools to prevent crushing or delamination. All handling personnel must wear clean gloves to avoid marking coated surfaces, and any contamination must be cleaned immediately using approved agents. Final inspection should confirm that no damage has occurred during handling, and any defects must be documented and reported to Wagners CFT prior to commissioning.

8.0

Troubleshooting Guide

8.1 Common issues and their causes

Issue	Possible Causes	Recommended Action
Surface Discoloration	Chemical spill or contact. Incompatible cleaning agents or excessive UV exposure.	Identify source. Clean with approved detergent. If coating faded, recoat as per manufacturers instructions.
Cracking or Splitting	Impact during handling. Incorrect fastener torque. Stress from unsupported span.	Inspect extent of damage. Reinforce or replace section. Train handlers on property lifting techniques.
Coating Flaking	Excessive abrasion. Moisture ingresses under coating. Inadequate surface prep before re-coating.	Strip and reapply coating using correct prep and cure cycle. Check for moisture traps.
Loose Fasteners	Incorrect torque or thread engagement.	Retorque to spec. Use locking washers/nyloc nuts or thread locker compounds.
Tea staining and stainless steel	Brown discoloration due to superficial corrosion; often caused by airborne chlorides, se salt or industrial pollutants exacerbated by rough surface finishes, poor drainage, or proximity to marine environments.	Clean with mild detergent or baking soda paste using a soft cloth; for persistent stains, use a phosphoric acid-based stainless steel cleaner; avoid hydrochloric acid; improve drainage and surface finish; consider passivation or protective coatings for prevents re-occurrence.
Incorrect seating of beam	Misalignment during installation; inadequate bearing length or uneven support surface; omission of seat brackets or packers; poor coordination between beam and support design; thermal expansion not accounted for.	Verify alignment and bearing length per design specs; ensure support surfaces are level and load-bearing; install seat brackets or shims as needed; consult structural drawings for correct seating detail; inspect for signs of stress or cracking; document and rectify before load application.
Reduced slip resistance of decking surface	This is a wear part which will degrade over time due to use which will be made worse by a lack of regular cleaning or maintenance.	Clean surface with stiff bristled brush and mild detergent; apply anti-slip or grit infused coating as per manufacturers recommendations; install anti-slip strips or tape in high-traffic areas; improve drainage and airflow; consider replacing boards with grooved or textured profiles; schedule routine inspections and cleaning.

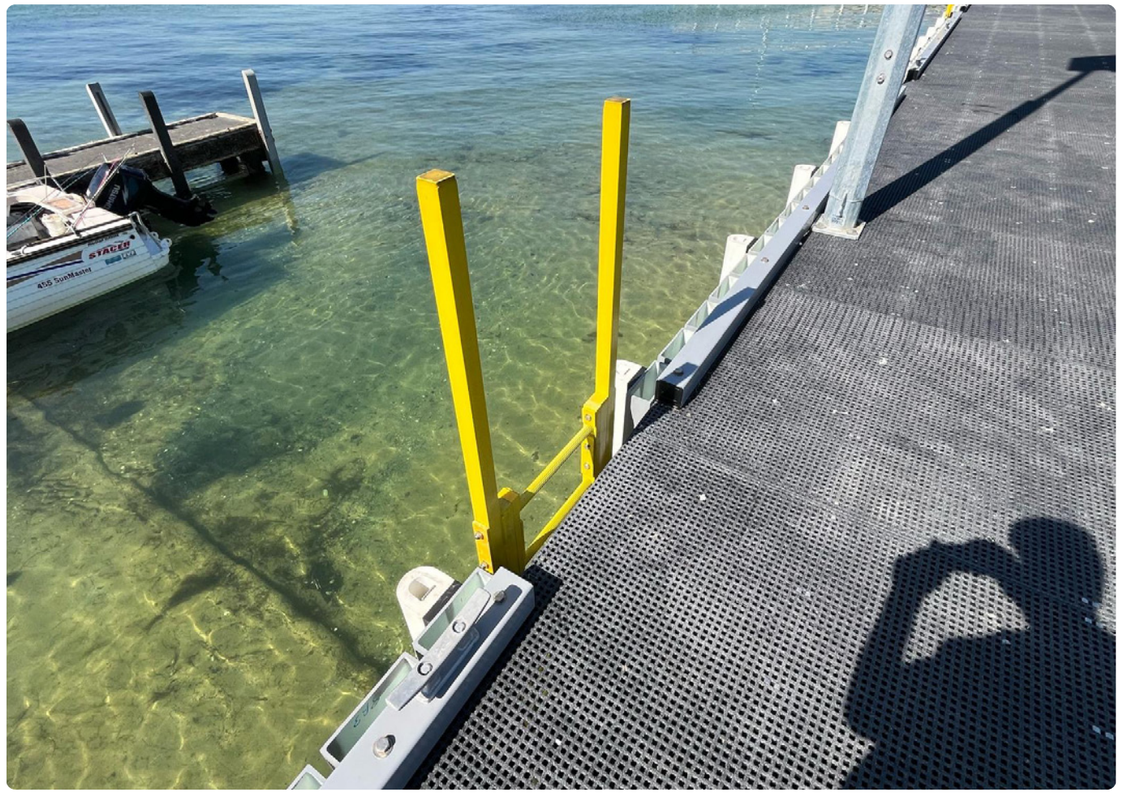
Issue	Possible Causes	Recommended Action
Rust on Stainless Steel Hardware (Dissimilar metal interaction).	Galvanic corrosion from contact with more anodic metals (eg carbon steel, aluminium, zinc); presence of moisture or salt acting as electrolyte; lack of electrical isolation between metals; poor surface area ratio.	Inspect for contact with dissimilar metals; install insulating washers, gaskets, or sleeves to break electrical path; apply corrosion-resistant coatings or sealants; ensure proper drainage and ventilation; consider using compatible metals or isolating barriers in future assemblies.
Minor Impact Damage (0.5mm depth, <50x50mm area, first glass layer only).	Localised blunt force from tool, debris or equipment; insufficient protective measures during handling or installation; surface vulnerability due to environmental exposure.	Clean area with isopropyl alcohol; inspect for fibre exposure or delamination; if intact, apply compatible epoxy-based gelcoat or resin patch; feather edges to blend with surrounding surface; cure per manufacturer specs; document and monitor for progression during next scheduled inspection.
Fire Damage (No Apparent Distortion)	Exposure to radiant heat, smoke or airborne particulates from nearby fire; surface discoloration or soot deposition without structural deformation; possible thermal softening not visible externally.	Conduct detailed inspection for surface degradation, discoloration or coating blistering; clean affected areas using approved methods for soot removal; perform tap test or NDT to assess subsurface integrity; document findings and monitor during next scheduled inspection; consult engineer if coating or matrix integrity is uncertain.
Excessive Deflection Above Design Load	Improper installation, support conditions or damaged members.	Verify load and span against design specifications and manufacturer data. Conduct visual inspection for signs of delamination, cracking or support misalignment. Perform deflection measurements under controlled load. Review installation records for compliance. Consult structural engineer for reinforcement options (eg stiffeners, support modifications). Monitor over time for progressive deflection or creep.
Significant Impact Damage (>0.5mm depth and or >50x50mm area)	High-energy impact from tools, vehicles or falling objects; inadequate protection during transport or installation; concentrated load or point stress.	Isolate and inspect damaged area for fibre exposure, delamination or structural compromise; conduct tap test or NDT if required; remove loose material and prepare surface; repair using compatible resin and reinforcement patch; consult engineer if damage affects load-bearing capacity; document and monitor post-repair.

This list is not exhaustive and actions that are described above are general in nature. Specialist engineering advice should be sought on the rectification of any structural defects that may arise. Contact Wagners CFT for damage assessment or information on +61 7 4637 7777, **cftsales@wagner.com.a**u or via the Contact Us form on the website **wagnerscft.com.au/contact-us/**

8.2 Steps to diagnose and resolve problems

Effective diagnosis and resolution of issues involving FRP structures and their complementary components begins with a systematic inspection process. All findings should be documented clearly, with photographic evidence, to support future monitoring or follow up maintenance activities.

Once a problem has been identified, the next step is to determine the severity and likely cause. Environmental exposure, installation errors, inappropriate use, or damage from extreme weather events are common contributors. Minor issues such as loose fittings or surface coating deterioration can often be resolved on-site using standard maintenance procedures. More complex structural issues may require component replacement, re-coating, or even partial redesign depending on the scale and location of the problem. In all cases, resolution steps should align with the manufacturer's guidance, applicable Australian Standards and safety regulations.



Appendices

9.1 Manufacturer's warranty information

"Australian Consumer Law" means Schedules 1 and 2 of the Competition and Consumer Act 2010 (Cth) and any other relevant provisions contained in that Act.

"Contract" means any contract for the sale of goods between Wagners and the Purchaser.

"CFT Component" means any product or good manufactured from composite fibre material, coated with Paint and supplied by Wagners.

"Defect or Defective" means any CFT Component which does not comply with written specifications agreed to in writing by Wagners, or which is faulty, materially non-conforming, inoperable or unsafe.

"Manuals" means the Wagners Maintenance Manual and the Wagners Composite Fibre Technologies Installation Guide as issued and updated by Wagners from time to time and available at www.wagnerscft.com.au.

"Maintenance Program" means the program, specified by Wagners, that details the processes, methods and the Purchaser's responsibility for CFT Component maintenance and includes the Manuals;

"Paint" means Vitreflon 700HB and Vitreflon 795 XSR coating supplied by A&I Coatings Pty Ltd ABN 55 161 784 185.

"Purchaser" means the purchaser of the CFT Components.

"Required Documents" includes all documents relevant to the CFT Components including without limitation, proof of purchase documents, commissioning documents and maintenance records;

"Wagners" Wagners CFT Manufacturing Pty Ltd ACN 099 936 446.

"Warranty Period" The time stated in the Contract, or if no time is stated or if there is no Contract then, 10 years from the date of delivery of the CFT Components to the Purchaser.

"Warranty Returns" means 11 Ballera Court, 1511 Toowoomba Cecil Plains Road, Wellcamp QLD 4350.

1. Warranty as to materials and workmanship

a. Except to the extent any statutory warranty applies and subject to the limitations and exclusions set out in this warranty, Wagners warrants that all CFT Components (excluding Paint) will be in accordance with any Wagners approved certified design drawings and will be free from Defects in materials and workmanship for the Warranty Period.

b. Except to the extent that any statutory warranty applies and subject to the limitations and exclusions set out in this warranty, Wagners warrants for the Warranty Period that the Paint will not under normal atmospheric conditions:

   i. fade or change colour to give delta CIE laboratory reading greater than 10 units from its original colour. Colour measurements shall be made on clean surfaces free of all oil, grease, dirt, chalk, oxidised film or other contaminants and using the procedure described in ASTM D-2244-85; and

   ii. exhibit loss of gloss in excess of 50% over the Warranty Period when measured with a 60∞ angle gloss meter in accordance with ASTM D523.

c. The warranties set out in clauses 1(a) and (b) do not apply if:

   i. the Purchaser fails to install, use and maintain the CFT Components in accordance with the Manuals;

   ii. the Defect is due to any event of force majeure including but not limited to any act of God, extreme weather, wars (whether declared or not), riot, civil commotion, terrorism, vandalism; accident; other malicious damage or industrial action;

   iii. the Defect is caused by or contributed to by an act or omission of the Purchaser;

   iv. any repairs or modification to the CFT Components are undertaken by persons not expressly authorised by Wagners;

   v. Wagners determines that the Defect or failure of the CFT Component is not caused by Wagners' manufacture of the CFT Component;

   vi. if any Defect arises as a result of or in connection with, a condition identified through a Maintenance Program or otherwise, for which Wagners has recommended a certain action to the Purchaser and the Purchaser fails to comply with that recommendation;

   vii. the Purchaser fails to provide evidence of its compliance with the Manuals;

   viii. in the case of Paint:

      (a) defects in the topcoat and/or underlying coatings arise from external causes outside Wagners' control such as but not limited to welding and other forms of heat, fairing, pollution, mechanical damage, incorrect cleaning or incorrect use, neglect, fire, explosion, radiation, collision or other accident, outside the design parameters of the system such as chemical or solvent spillage and immersion, severe micro climates including moisture/chemical ponding and exposure, exceptional climatic conditions and/or events, contact with process liquors;

      (b) deterioration in the coating film caused by electro-chemical action as a result of the presence of dissimilar metals; and

      (c) coating issues or defects as a result of surface contamination and/or inadequate surface preparation; and

   ix. the Purchaser fails to comply with clause 2 of this warranty.

d. Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. If the Australian Consumer Law applies, then you are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

e. To the extent permissible by law all other statutory provisions regarding the quality, state, condition, or fitness of goods are excluded from this warranty.

2. **How a claim is made**

   a. The Purchaser must provide written notice to Wagners of any warranty claim within the Warranty Period and within 7 days of it becoming aware of any Defect of a CFT Component. Wagners has no obligation under this warranty if the Purchaser fails to notify Wagners in accordance with this clause.

   b. In order to lodge a valid claim under this warranty, the Purchaser must:

      i. provide Wagners with details of the purchase;

      ii. provide all other Required Documents to Wagners;

      iii. pay for or provide all non-warranted labour and bear all non-warranted labour costs; pay for any non-warranted shipping charges (if any) and pay the non-warranted transport costs (if any) associated with moving the CFT Component to Warranty Returns; and

      iv. pay the costs incurred (if any), to investigate any claim found not to be covered by this warranty.

3. **Liability**

   a. For any liability that cannot be excluded, and to the extent the law permits, Wagners' maximum liability arising out of or in connection with this document will not exceed the amount paid to Wagners by the Purchaser for the CFT Component.

   b. The liability of Wagners for breach of any non-excludable statutory condition or warranty, or its warranties for its CFT Components, is limited to any one or more of the following (as determined by Wagners in its absolute discretion):

      i. the replacement of the CFT Component;

      ii. the repair of the CFT Component;

      iii. the payment of the cost of replacing the CFT Component or of acquiring an equivalent composite fibre component;

      iv. the payment of the cost of having the CFT Component repaired;

      v. the re-installation of the CFT Component; or

      vi. the payment of the cost of having the CFT Component re-installed.

   c. Other than what is stated in this clause, Wagners will not under any circumstances be liable for any direct, indirect, special, incidental or consequential damages, loss or expense of any nature howsoever caused (whether based on negligence, other tort, contract or otherwise) arising directly or indirectly in any way attributable to the Wagners' supply of CFT Components under the Contract.

   d. For the avoidance of doubt, this warranty's application is limited to the CFT Component.

4. **General**

   a. The Purchaser must not assign or transfer any of its rights or obligations under this warranty unless the Purchaser obtains Wagners prior written consent to any assignment or transfer. Wagners may accept or reject any assignment or transfer in its sole discretion.

   b. This warranty is governed by the laws of Queensland.

9.2 Inspector Reporting & Documentation Checklist

General Information

- ☐ Record inspector name, company, and contact details
- ☐ Note date, time, and duration of inspection
- ☐ Identify asset name, location, and unique ID/reference
- ☐ Specify inspection type (routine, post-event, structural, etc.)

Site Conditions

- ☐ Describe weather and environmental conditions at time of inspection
- ☐ Note any access limitations or safety concerns
- ☐ Confirm use of appropriate PPE and safety protocols

Inspection Findings

- ☐ Document observed defects (e.g. impacts, cracks, loose or missing components)
- ☐ Include severity rating (minor, moderate, critical)
- ☐ Reference affected components by type and locations
- ☐ Note any signs of structural movement, corrosion, or coating failures

Visual Evidence

- ☐ Capture clear, high-resolution photos of each issue
- ☐ Annotate images with arrows, labels, or notes
- ☐ Include overview shots and close-ups for context
- ☐ Ensure photos are timestamped and location-tagged (if possible)

Measurements & Testing

- ☐ Record any dimensional checks or alignment measurements
- ☐ Include results from non-destructive testing (NDT) if performed
- ☐ Note equipment used and calibration status

Documentation Format

- ☐ Use standardised report template or digital inspection form
- ☐ Maintain consistent terminology and units of measurement
- ☐ Include drawing references or asset schematics if relevant
- ☐ Ensure legibility and completeness of all entries

Recommendations

- ☐ Provide clear actions (e.g. monitor, repair, recoat, re-inspect)
- ☐ Prioritise issues based on risk and urgency
- ☐ Suggest timelines for follow-up or remediatione
- ☐ Flag any items requiring engineering review)

Finalisation

- ☐ Review and verify all data before submissiont)
- ☐ Sign and date the report
- ☐ Submit to designated asset manager or maintenance coordinator
- ☐ Archive report in asset management system or digital repository)

9.3 Glossary of terms

FRP (Fibre Reinforced Polymer)

A composite material made of a polymer matrix reinforced with fibres (typically glass, carbon, or aramid), used for its high strength-to-weight ratio, corrosion resistance, and durability in civil infrastructure.

CFT (Composite Fibre Technologies)

Refers to Wagners Composite Fibre Technologies, a manufacturer of innovative structural FRP products including beams, columns, panels, and accessories for infrastructure applications.

Inspection Interval

The recommended frequency at which a component or structure should be inspected to ensure ongoing performance, safety, and compliance with relevant standards.

Fluoropolymer Coating

A highly durable, chemically resistant protective coating applied to FRP and metallic components to enhance weatherability, UV resistance, and longevity.

Polyurethane Coating

A protective finish known for its flexibility, durability, and resistance to abrasion and chemicals, often used as an alternative or complement to fluoropolymers.

Powder Coating

A dry finishing process where a thermoset or thermoplastic powder is applied to metal (e.g., aluminium balustrading) and cured under heat to form a tough, decorative, and protective layer.

AS/NZS

Refers to Australian and New Zealand Standards. These outline technical and safety requirements for materials, products, systems, and services used in infrastructure and construction.

316 Stainless Steel (Grade 316 / GR316)

A corrosion-resistant stainless-steel alloy commonly used in civil and marine applications due to its enhanced resistance to chloride and salt exposure.

Balustrading

A railing system composed of vertical posts (balusters) and horizontal rails, used for edge protection on bridges, walkways, and elevated platforms.

Non-Destructive Testing (NDT)

Inspection techniques used to evaluate the properties of a material or structure without causing damage, often used in structural maintenance programs.

9.0 APPENDICES

Delamination

The separation of layers in a laminated material such as FRP, often due to environmental stress or manufacturing defects. It can affect structural integrity if left unaddressed.

Service Life

The expected operational lifespan of a material or structure under normal use and environmental conditions.

Chalking

A white, powdery residue that forms on a surface as a result of UV degradation of the coating's binder. It's commonly monitored during visual inspections of coated surfaces.

Extreme Events

Unplanned or severe environmental occurrences (e.g., flooding, storms, cyclones) that may impact structural components and require immediate post-event inspections

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