

382 3/4"

353 7/8"

155 1/4"

341 7/8"

75x75x10 ANGLE

75x75x10 ANGLE

EXISTING STEEL CHANNEL SECTION REMOVED

200x100x10 I-BEAM

WOOD BAFFLE

WOOD BAFFLE

17 5/8"

200x100x10 I-BEAM

**C H E M P O S I T E<sup>®</sup> T-DECK<sup>™</sup>**

250x250x12 I-BEAM

SLOPE @ 1.0% MIN.

200x100x10 I-BEAM

SLOPE @ 1.0% MIN.

250x250x12 I-BEAM

EXISTING STEEL CHANNEL SECTION REMOVED

200x100x10 I-BEAM

200x100x10 I-BEAM

WOOD BAFFLE

75x75x10 ANGLE

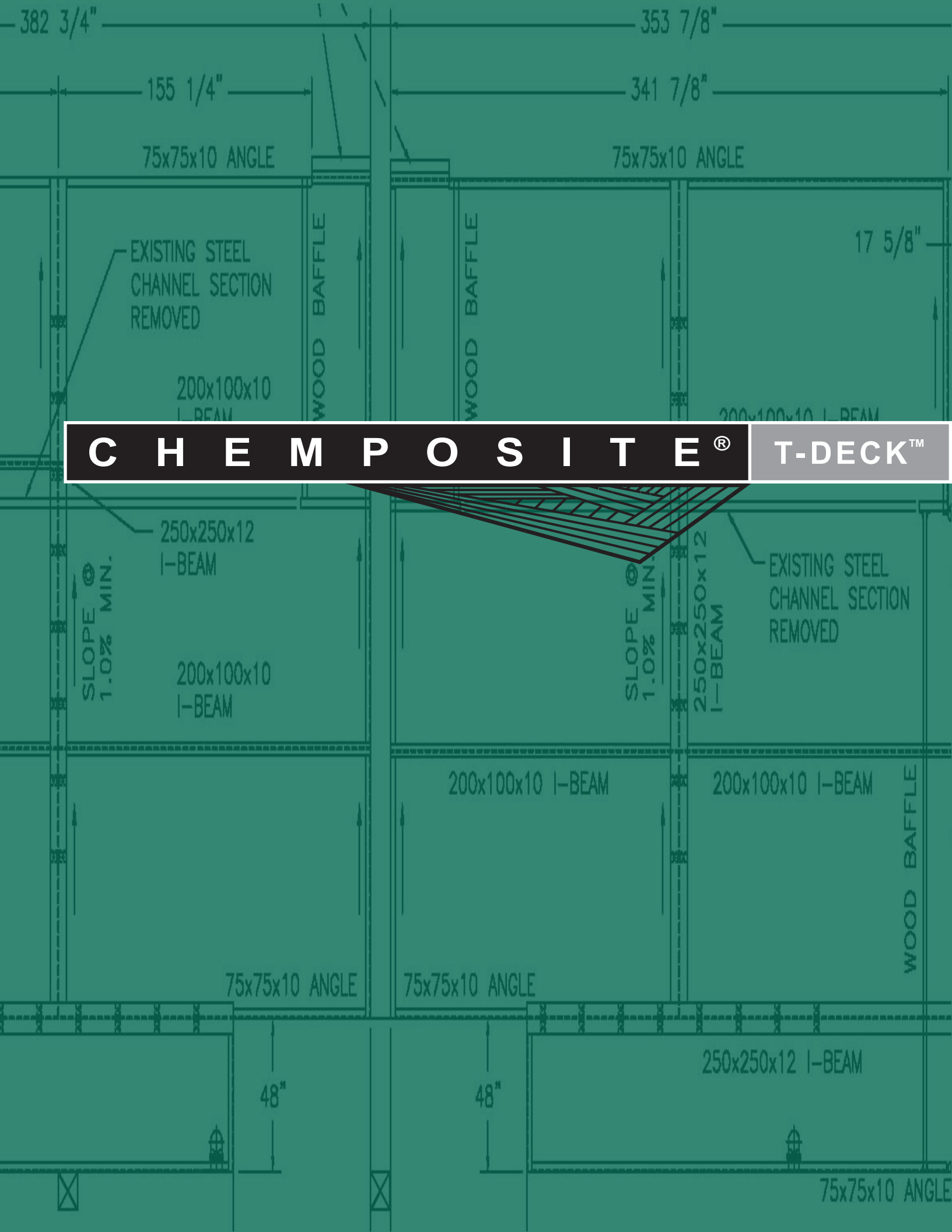
75x75x10 ANGLE

250x250x12 I-BEAM

48"

48"

75x75x10 ANGLE



## CHEMPOSITE FIBERGLASS T-DECK™

Incorporating Chemposite's fiberglass pultruded panels and structural support members, our fiberglass T-Deck™ is designed for safe flooring and cover systems. Chemposite's Interlocking Panel System is produced in a single pultrusion manufacturing process and conforms to BS4592: Part 4: 1992. The excellent structural and chemical characteristics of Chemposite T-Deck™ make fiberglass products the material of choice for industrial and commercial applications.

Chemposite T-Deck™ systems are perfect for demanding environments in numerous industries:

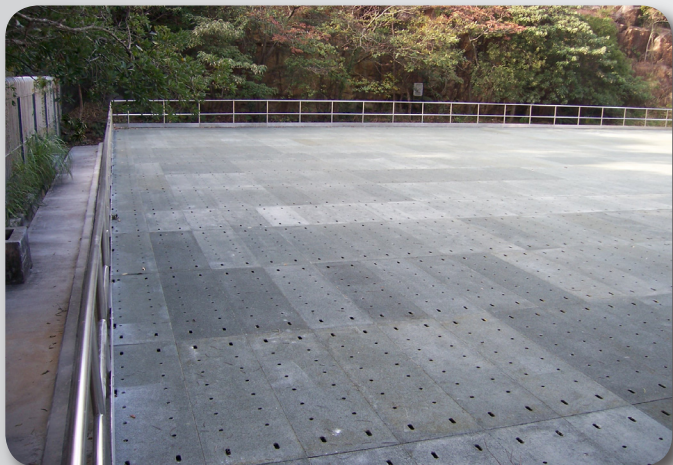
- o Chemical
- o Pulp and Paper
- o Mining
- o Electronic and Electrical
- o Metal Plating
- o Transportation
- o Food and Beverage
- o Textile
- o Wastewater Treatment
- o Marine
- o Oil and Gas
- o Pharmaceutical



## APPLICATIONS

Chemposite T-Deck™ systems are the solution wherever systems are subject to corrosion, rapid deterioration, and constant maintenance problems.

The characteristics of resin and glass composite technology and advanced manufacturing techniques used in the production process make FRP T-Deck™ products ideal for a wide range of applications:



- o Flooring
- o Stairs and Platforms
- o Ramps and Walkways
- o Bridges
- o Equipment Covers
- o Tank Covers
- o Trench Covers

## STANDARD FEATURES

### Corrosion Resistant

The superior corrosion resistance of Chemposite T-Deck™ makes it the product of choice for architects and engineers. Premium grade polyester and vinylester resin systems are used to resist a wide range of caustic, acidic, and other corrosive chemicals.

### High Strength to Weight Ratio

The integral one-piece pultruded I-beam and sheet construction provides tremendous strength by distributing loads evenly. The T-Deck™ weighs only one-third as much as welded steel flooring of equivalent strength. The average T-Deck™ panel weighs only 19 kg/m<sup>2</sup> and can easily be handled by one person. The flexibility of fiberglass also allows for load absorption and shock that would otherwise permanently deform metal flooring.

### Non-Conductive

The non-conductive property of fiberglass products is ideal for work platforms, flooring, and fencing in electrically hazardous areas. Acting as an insulator, fiberglass greatly reduces the risk of electrical shock for workers. Chemposite T-Deck™ has low thermal conductivity and is non-sparking and nonmagnetic - essential for installations where hydrogen or other combustible gases are present.

### Interlocking & Easy Installation

The interlocking design provides a continuous, solid surface. Moreover, the lightweight flooring is easy to handle and install. By easily attaching to the support framework using an interlocking system, this simple assembly method eliminates differential deflection at the edges of the panels. T-Deck™ systems can be installed by a two-man team, and without the use of lifting equipment.

### Maintenance Free & UV Resistant

Rust-free Chemposite T-Deck™ systems ensure long life and low maintenance. Ultraviolet inhibitor additives, ideal for outdoor applications, prevent deterioration and degradation from the sun.

### Attractive Appearance

The uniform colour and flush-mounted system, visible over the walkway and cover area, add a clean and friendly appearance to any environment.



## OPTIONAL FEATURES

### Fire Retardant

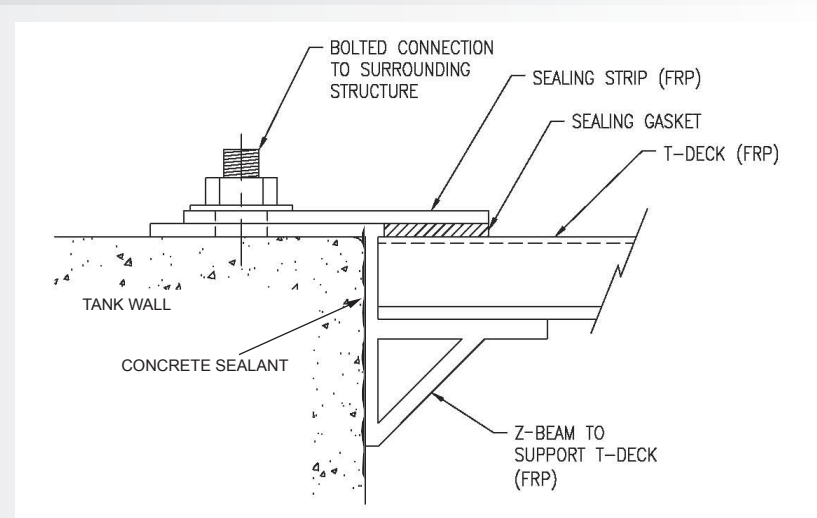
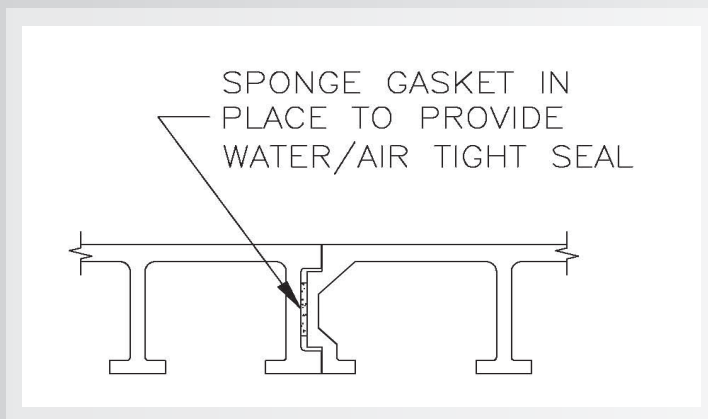
Tested in accordance to the ASTM E-84 Tunnel Test Method, a Class 1 Flame Spread Rating of 25 or less was achieved for our standard flooring and cover products.

### Slip Resistant

Silica sand is added to the flooring surface to provide a durable, non-slip surface for traction and safety. A 10%-20% evenly located perforation on the panel surface (optional) will eliminate the condensation of any liquid or rainwater.

### Air Seal

To further prevent the escape of poisonous or odorous gas into the environment, a sealing gasket along the interlocking tongue and groove interface can be attached between each panel. A Z-Beam™ support can also be installed around the perimeter of any tanks or equipment to allow a gas tight seal at the panel ends and permit installation while the tank is in operation. Furthermore, the Z-Beam™ can accommodate any irregularities along the mounting surface and the sealing strip can provide a gas tight seal to the equipment or tank.



## MATERIAL COMPOSITION OF CHEMPOSITE T- DECK™

T-Deck™ is fabricated using the latest pultrusion technology. A custom die consisting of a flat top surface with integral I-beams and interlocking sides is used to form a one-piece panel. Once the panel is extruded, a silica sand non-slip surface can be added for traction and safety. The pultrusion process utilizes high fibre content, resulting in an exceptionally strong and lightweight product that can be cut and drilled using standard woodworking tools.

### Resin Matrix

DESCRIPTION	TYPE		
	P	FR	CR
RESIN	Polyester	Polyester	Vinylester
FILLER	Yes	Yes	No
CORROSION RESISTANCE	Good	Good	Excellent
FLAME SPREAD RATING	40	25	70

#### P = Polyester

- o Standard Polyester Resin
- o Medium resistance to corrosion
- o High impact and fatigue resistance
- o Excellent electrical and thermal insulating properties
- o For general use in industrial plant applications

#### FR = Fire Retardant

- o Fire retardant brominated polyester resin
- o Designed for high fire hazard areas where a Class 1 Flame Spread Rating of 25 or less is required
- o Outstanding chemical resistance & strength, high impact & fatigue resistance
- o Excellent electrical and thermal insulating properties
- o Lower flame spread rating than standard polyester resin

#### CR = Corrosion Resistant

- o Premium Epoxy Vinylester Resin
- o Excellent corrosion resistance
- o High impact and fatigue resistance
- o Excellent electrical and thermal insulating properties
- o For installations subject to submersion in corrosive chemicals

### Fiberglass

Premium E-glass fiber is used in the manufacturing process. E-glass has excellent strength, corrosion resistance, and dielectric properties.

### Surface Coating

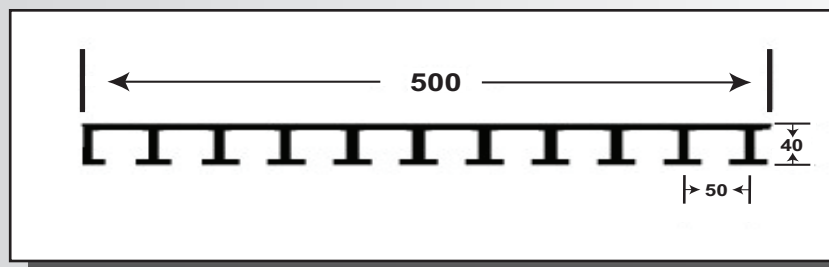
A color gelcoat with UV-inhibitor is added to the exterior surface coating to provide protection against ultraviolet degradation as well as a clean, attractive appearance.

## PANEL DESCRIPTION

- **Panel Size:** 500 mm wide x 2 M long
- **Panel Thickness:** 40mm
- **Weight:** 19kg/m<sup>2</sup>
- **Standard Color:** Dark Green, Grey
- **Options & Customization:** Special cut sizes and custom colours are available to meet specific application requirements.



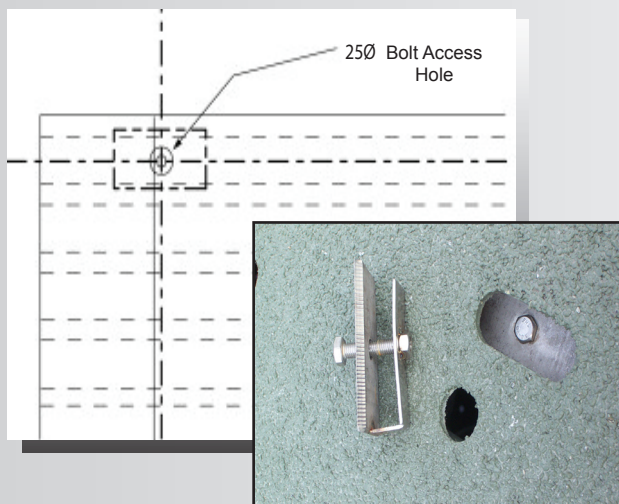
Panel  
Diagram:



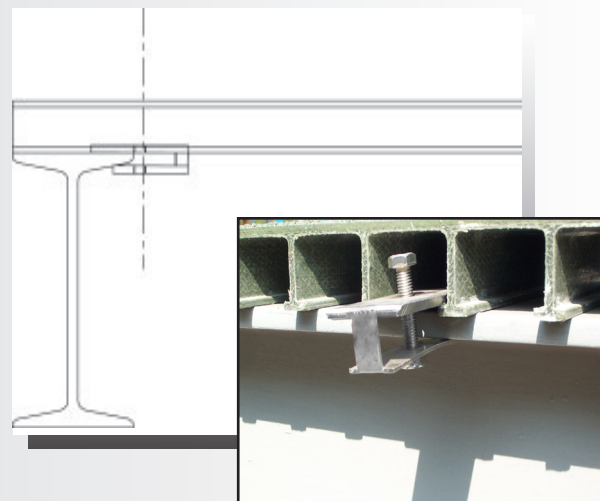
## ATTACHMENT DETAIL

- Each panel is fixed securely to the support framework with a minimum of four fixing u-clips. The U-clip is GRADE A4 Class 80 Stainless Steel and comply with BS6105 unless otherwise specified.
- The panel will withstand an uplift force of 5.23 kN/m<sup>2</sup>

### PLAN VIEW



### ELEVATION VIEW



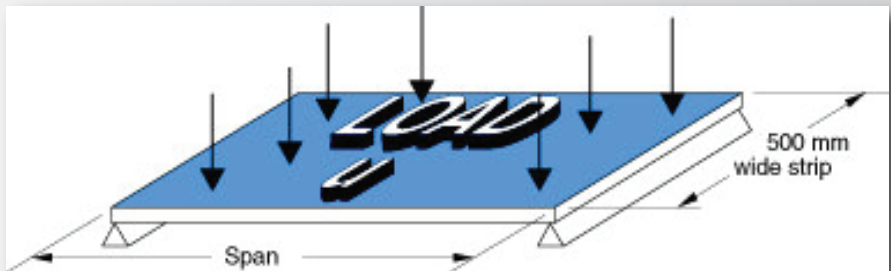
## PHYSICAL PROPERTIES OF CHEMPOSITE T-DECK™



Property (coupon values)	Unit	55 - 60 % Glass Reinforced Parts	
		Longitudinal	Transverse
Tensile Strength	psi	37,500	10,000
Tensile Modulus	psi x 10 <sup>6</sup>	3.0	1.0
Flexural Strength	psi	37,500	14,000
Flexural Modulus	psi x 10 <sup>6</sup>	2.0	1.0
Izod Impact	ft.lb./in.	30	5
Compressive Strength	psi	37,500	20,000
Compressive Modulus	psi x 10 <sup>6</sup>	2.5	1.2
Barcol Hardness	-	45	45
Shear Strength	psi	7,000	6,000
Density	lbs./in. <sup>3</sup>	0.058 - 0.062	-
Specific Gravity	-	1.61 - 1.75	-
Coefficient of Thermal Exp.	in./in./°C	5.2 x 10 <sup>-6</sup>	-
Water Absorption	Max %	0.5	-

## UNIFORM LOAD

A 500 mm wide strip of flooring is supported at both ends and spanned at various distances from 1000 mm to 2000 mm. The load is then applied uniformly over the flooring. The flooring holds uniform loads from 1 kN/m<sup>2</sup> to 5 kN/m<sup>2</sup>.



## DEFLECTION TABLE

Load "U" (kN/m <sup>2</sup> )	Span (mm)					
	1000	1200	1400	1600	1800	2000
1.0	0	0	1	2	3	4
1.5	0	1	2	3	4	6
2.0	1	1	2	3	6	8
2.5	1	1	3	4	7	12
3.0	1	2	3	5	8	14
3.5	1	2	4	6	11	15
4.0	1	2	4	7	12	18
4.5	1	2	5	8	13	20
5.0	1	3	6	9	14	22

## Installation of Chemposite T-Deck™ Panel System

### Verification of Tools and Materials

1. Verify all components supplied by Chemposite are in good condition and are easily accessible.
2. Collect all required tools for installation, such as drills, drill bits, wrenches, etc.

### Prepare Area and Materials

3. Install anchor studs in the concrete structure surrounding the area to be covered. The location, size and depth of the anchor stud must be determined by a qualified structural engineer.
4. Prepare Z-Beam™ and Sealing Strips for installation by match marking the anchor stud locations on the Z-Beam™ and predrilling holes. The holes should be as close fitting around the studs as possible, while still allowing adequate clearance for handling and removal. The Sealing Strips will be used later to hold down the T-Deck™.

### Install Z-Beam™

5. Apply a bead of silicone caulking or other suitable industrial sealant along the edge of the concrete surface. This will prevent leakage of gases behind the Z-Beam™ due to the irregularity in the concrete surface.
6. Before the caulking has set, mount the Z-Beam™ on the anchor studs using nuts to hold it down. The Z-Beam™ should be firmly seated flat on the concrete surface and properly set into the caulking or sealant beneath.
7. Continue installation around the perimeter of the area by repeating steps 5 and 6.
8. Allow the caulking to cure according to the manufacturer's instructions before continuing.

### Install T-Deck™

9. Begin laying T-Deck™ panels between opposing Z-Beams™ or any support structures. If necessary, trim the ends of the T-Deck™ to fit closely into the available space.
10. Place a strip of low-density sponge gasket around the outer edge of the T-Deck™, where it meet the Z-Beam™. This gasket will prevent leakage from escaping between the T-Deck™ and the Z-Beam™.



## Install Sealing Strip

11. Undo a portion of the nuts fastening down the Z-Beam™., but only those required to install a single segment of the Sealing Strip should be removed at one time. The sealing strips are provided in short segments no longer than 25% of the length of the Z-Beam™ pieces. Ensure no load is placed on the T-Deck™ during this operation as movement and deflection may disturb the caulking seal between the Z-Beam™ and the concrete below.
12. Place the Sealing Strip onto the anchor studs covering the gasket and T-Deck™ surface, then replace and tighten the nuts, clamping down the entire assembly.
13. Continue around the perimeter of the area, installing sealing strips sequentially until all T-Deck™ panels are secured and sealed to the surrounding concrete.
14. Once Sealing Strips have been installed around the entire perimeter, review the installation. Ensure all work has been properly done, all interfaces are properly sealed, and all fasteners are adequately tightened.



## CHEMICAL RESISTANCE CHART

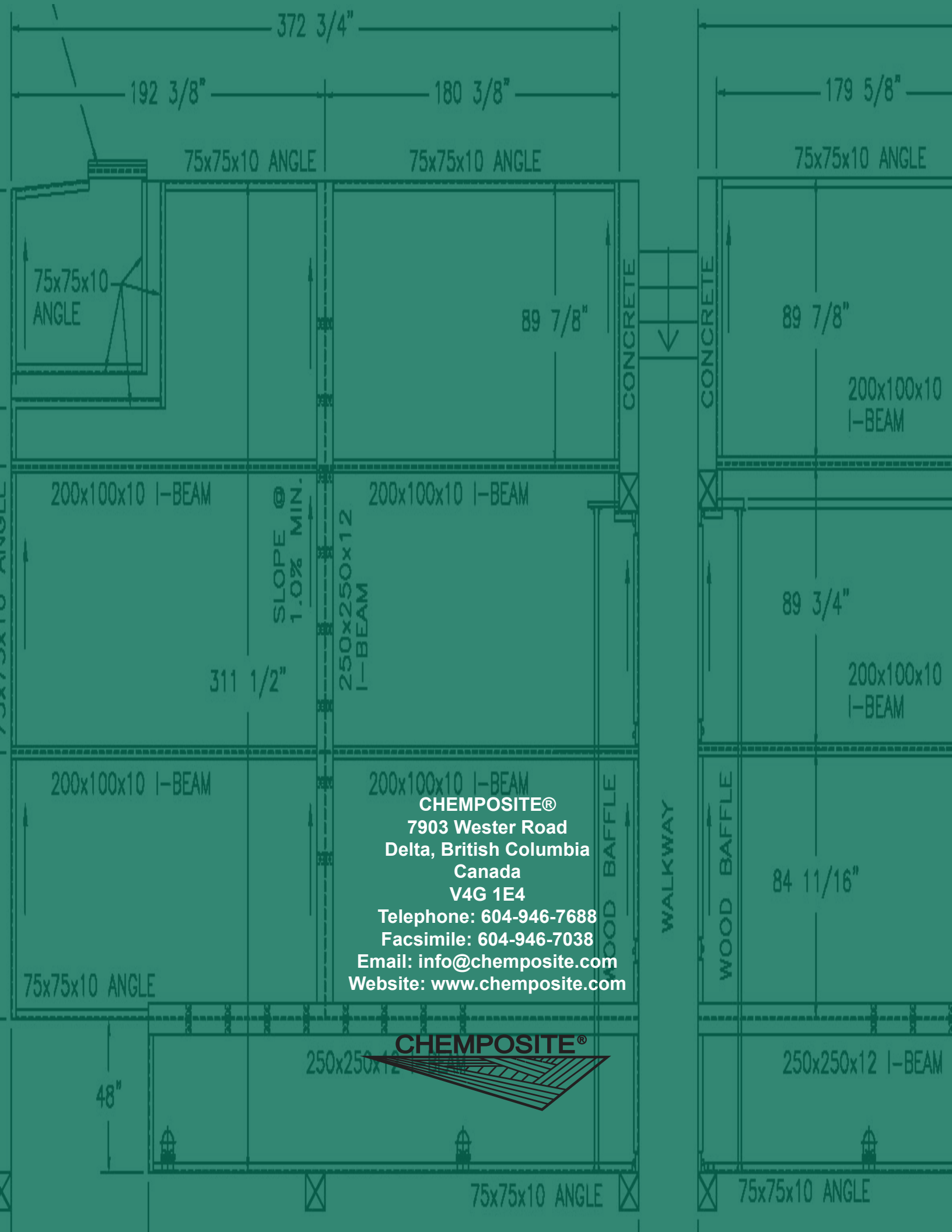
CHEMICAL ENVIRONMENT	TYPE CR	Maximum Recommended Temperature		TYPE P/FR	Maximum Recommended Temperature	
		Concentration %	°F		°C	Concentration %
	Acetic Acid	50	180	82	50	150
Acid Cleaner (31% Hydrochloric Acid)	-	180	82	-	-	-
Aluminum Hydroxide	100	180	82	20	150	65
Aluminum Nitrate	100	180	82	Saturated	160	71
Ammonia	Gas	100	38	Gas	90	32
Ammonium Chloride	All	210	99	Saturated	180	82
Ammonium Hydroxide	5	180	82	5	NR	NR
Ammonium Nitrate	All	210	99	Saturated	160	71
Ammonium Sulfate	All	210	99	Saturated	170	77
Benzene	100	NR	NR	100	LS:90	LS:32
Benzoic Acid	Saturated	210	99	Saturated	170	77
Bisulfite in Scrubber	Gases	180	82	Gases	NR	NR
Black Liquor (Pulp Mill)	All	180	82	All	NR	NR
BLEACHES						
Calcium Hypochlorite	All	180	82	Saturated	120	49
Chlorine Dioxide Wet	Saturated	200	93	-	NR	NR
Hydrogen Peroxide/Caustic	-	185	85	-	NR	NR
Sodium Hypochlorite	5 <sup>1</sup> / <sub>4</sub> - 10	180	82	5 <sup>1</sup> / <sub>4</sub>	120	49
Brine	All	210	99	-	NR	NR
Calcium Carbonate	All	180	82	Saturated	160	71
Calcium Hydroxide	100	210	99	25	160	71
Calcium Hypochlorite	All	180	82	Saturated	120	49
Calcium Nitrate	All	210	99	Saturated	180	82
Chlorine Dioxide	All	200	93	-	NR	NR
Chlorine Dry Gas	100	210	99	100	180	82
Chlorine Water	Saturated	200	93	Saturated	LS:125	LS:52
Chlorination Washer, Hoods & Vent Systems	-	180	82	-	-	-
Chromic Acid	10	150	65	10	NR	NR
Citric Acid	All	210	99	Saturated	180	82
Copper Chloride	All	210	99	Saturated	180	82
Copper Cyanide	All	210	99	Saturated	90	32
Diesel Fuel	100	180	82	100	175	80
Ethanol	50	100	38	50	90	32
Ethylene Glycol	All	210	99	All	180	82
Ferric Chloride	All	210	99	Saturated	180	82
Ferric Sulfate	All	210	99	Saturated	180	82
Ferrous Chloride	All	210	99	Saturated	180	82
Ferrous Nitrate	All	210	99	Saturated	160	71
Flue Gas Wet	All	180	82	-	-	-
Formaldehyde	All	150	65	25	150	65
Fuel Oil	100	180	82	-	-	-
Gasoline, Leaded	100	180	82	-	-	-
Gasoline, No Lead, No Methanol	100	120	49	-	-	-
Glucose	100	210	99	100	180	82
Glycerine	100	210	99	100	180	82
Hydrobromic Acid	48	150	65	48	160	71

NR = Not Recommended — = Data Not Available LS = Limited Service

## CHEMICAL RESISTANCE CHART

CHEMICAL ENVIRONMENT	TYPE CR	Maximum Recommended Temperature		TYPE P/FR	Maximum Recommended Temperature	
	Concentration %	°F	°C	Concentration %	°F	°C
Hydrochloric Acid	37	150	65	36	125	52
Hydrogen Peroxide	30	150	65	5	150	65
Lactic Acid	All	210	99	All	160	71
Lithium Chloride	Saturated	210	99	Saturated	160	71
Magnesium Bisulfite	All	180	82	All	-	-
Magnesium Chloride	All	210	99	Saturated	180	82
Magnesium Sulfate	All	210	99	Saturated	180	82
Nickel Chloride	All	210	99	Saturated	180	82
Nickel Sulfate	All	210	99	Saturated	180	82
Nitric Acid	20	120	49	10	90	32
Ozone	-	140	60	3	-	-
Paper Mill Effluent	-	180	82	-	-	-
Phosphoric Acid	100	210	99	85	160	71
Potassium Aluminum Sulfate	All	210	99	Saturated	180	82
Potassium Bicarbonate	50	180	82	Saturated	140	60
Potassium Chloride	All	210	99	All	180	82
Potassium Nitrate	All	210	99	All	180	82
Potassium Sulfate	All	210	99	All	180	82
Propylene Glycol	All	210	99	All	170	77
Sea Water	-	210	99	100	180	82
Sodium Acetate	All	210	99	100	150	65
Sodium Bicarbonate	Saturated	180	82	Saturated	140	60
Sodium Bisulfate	All	210	99	All	180	82
Sodium Bromide	All	210	99	All	180	82
Sodium Chlorate	50	210	99	90	130	54
Sodium Cyanide	All	210	99	Saturated	100	38
Sodium Fluoride	All	180	82	All	-	-
Sodium Hydroxide	25	180	82	25	NR	NR
Sodium Hydroxide	50	210	99	50	NR	NR
Sodium Hypochlorite	5 <sup>1</sup> / <sub>4</sub> - 18	180	82	5 <sup>1</sup> / <sub>4</sub>	120	49
Sodium Hypochlorite 5% NaOH Scrubbing CL <sub>2</sub> , CL <sub>02</sub>	5 <sup>1</sup> / <sub>4</sub> - 18	180	82	-	-	-
Sodium Nitrate	All	210	99	Saturated	180	82
Sodium Sulfate	All	210	99	All	175	80
Sugar Cane, Liquor & Sweetwater	All	180	82	All	-	-
Sugar / Sucrose	All	210	99	60	90	32
Sulfur Chloride	Fumes	200	94	100	NR	NR
Sulfur Dioxide (Dry or Wet)	-	210	99	100	180	82
Sulfur Dioxide Burner, Wet Gas	-	210	99	-	NR	NR
Sulfuric Acid	50	210	99	50	150	65
Sulfuric Acid	75 - 80	100	38	75	NR	NR
Uranium Extraction	-	180	82	-	-	-
Vinegar	100	210	99	100	180	82
Water, Steam Condensate	100	180	82	100	160	71
White Liquor (Pulp Mill)	-	180	82	-	-	-
Zinc Nitrate	All	210	99	Saturated	180	82
Zinc Sulfate	All	210	99	All	180	82

The chemical resistance chart data is for general information purposes only. Resin manufacturers have provided test data which indicates that each specific resin can withstand the corrosion conditions listed in this chart. Chemposite Inc., believes the data to be accurate and true, but no guarantee is expressed or implied as to specific performance. Testing for specific chemical and corrosion environments is recommended. Our responsibility for claims arising from breach of warranty, negligence or otherwise, is limited to the purchase price of the material sold by Chemposite Inc.



372 3/4"

192 3/8"

180 3/8"

179 5/8"

75x75x10 ANGLE

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89 7/8"

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200x100x10 I-BEAM

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SLOPE @ 1.0% MIN.

200x100x10 I-BEAM

250x250x12 I-BEAM

311 1/2"

89 3/4"

200x100x10 I-BEAM

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Website: [www.chemposite.com](http://www.chemposite.com)

75x75x10 ANGLE

WOOD BAFFLE

WALKWAY

WOOD BAFFLE

84 11/16"

48"



250x250x12 I-BEAM

250x250x12 I-BEAM

75x75x10 ANGLE

75x75x10 ANGLE