The FRP guardrail, handrail, and ladder systems offered by Fibergrate Composite Structures combine corrosion resistance, long life and a low maintenance design, making them superior to conventional metallic systems. These advanced systems are designed and manufactured with lightweight components that are easy to fabricate and install. Savings on labor and equipment often make the total installed cost of FRP railing systems comparable to that of steel. Combining lower installation costs with low maintenance and long life results in a significantly lower life cycle cost than that of its counterparts.

**DYNARAIL® GUARDRAIL**

The 1-3/4” x 1/8” pultruded square tube guardrail line includes everything needed to install OSHA- and IBC-compliant horizontal and inclined railing systems with either two or three rails. Fibergrate can also provide specialty picketed guardrail systems.

**DYNAROUND™ GUARDRAIL**

Fibergrate’s newest guardrail solution is composed of 1.9” O.D. pultruded tubes. This UV-coated system was designed as a more durable alternative to standard aluminum and steel round railings. DynaRound can be used in applications where safety and ergonomics are a major concern. Round rails eliminate the flat surfaces of square tube systems which can become a resting place for tools and other equipment, creating potentially hazardous situations for dropping/falling objects. The rounded railing and corners also eliminate sharp edges, providing a more comfortable grip for end-users. In addition, the overall appearance of the system is more aesthetically pleasing than the square tube alternative because all fasteners are hidden which provides a smooth, clean look. Fibergrate can also provide customized round guardrail systems.

**DYNARAIL® HANDRAIL**

The Dynarail handrail (grab rail) system can be added to a Dynarail (square tube) or DynaRound (round tube) guardrail or wall to meet code requirements.

**DYNARAIL® LADDERS**

The Dynarail ladder line includes ladders, standard walk-thrus and safety cages.

Dynarail and DynaRound components, including the railing, kickplate, and ladder rungs, are manufactured using the proven Fibergrate pultrusion process. In this process, continuous fiber rovings and mat as well as a synthetic veil are mechanically drawn through a resin bath and shaped through a series of forming guides, then pulled through a heated die.

**FIBERGRATE MARKETS**

- Architectural/Commercial
- Bridge & Highway
- Chemical
- Food & Beverage
- Manufacturing
- Metals & Mining
- Oil & Gas
- Power/Utilities
- Recreation
- Telecommunications
- Transportation
- Water & Wastewater
Why Use FRP?

- **Corrosion Resistant:** Dynarail® and DynaRound™ fiberglass railings and ladders are known for their ability to provide corrosion resistance in the harshest environments and chemical exposures.

- **Low Maintenance:** The corrosion resistant properties of Fibergrate’s FRP products reduce or eliminate the need for sandblasting, scraping and painting. Products are also easily cleaned with a high pressure washer.

- **Electrically & Thermally Non Conductive:** Fiberglass is electrically non conductive for safety and has low thermal conductivity which results in a more comfortable product when physical contact occurs.

- **Low Install Cost:** Due to ease of fabrication and lightweight, FRP guardrail and handrail systems eliminate the need for heavy lifting equipment. Components are also labeled with tags that correspond to engineering drawings to ensure time-efficient and accurate installation.

- **Fire Retardant:** Flame spread rating of 25 or less, as tested in accordance with ASTM E-84, and meets the self-extinguishing requirements of ASTM D-635.

- **Long Service Life:** Fiberglass products provide outstanding durability and corrosion resistance in demanding applications, therefore providing improved product life over traditional materials.

- **UV Protection:** UV inhibitors in the resin matrix, along with a synthetic surfacing veil, provide optimum protection from the effects of UV weathering. (Note: An optional UV coating is required for Dynarail railing and ladder system installations with intense UV exposure. The DynaRound system is UV coated.)

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**NSF® Standard 61-Certified FRP Products:**
Fibergrate is now able to offer NSF Standard 61-Certified Dynarail® FRP guardrail, handrail and ladder systems. These products complement the complete line of NSF Standard 61-Certified Fibergrate® molded gratings, Dynaform® fiberglass structural shapes, and Safe-T-Span® pultruded gratings assembled from NSF Standard 61-Certified FRP components. Molded gratings are available in all Fibergrate® molded grating mesh patterns and thicknesses, except 4’ x 12’ Micro-Mesh® panels.

**Heavy Metal Safe:**
The EPA, OSHA and other regulatory agencies created to protect our lives and our natural resources have increased legislation to control heavy metals such as lead, chrome, cadmium and other metals in all products where exposure is a health threat. Fibergrate Composite Structures Inc. supports this strengthened legislation and has, for more than 20 years, voluntarily tested for heavy metals in our products and minimized or eliminated heavy metals from our products.

**Resin Systems**
- **ISOFR**
  Isophthalic polyester resin formulation with a low flame spread rating of 25 or less designed for applications where there is moderate exposure to corrosive elements.

- **VEFR**
  Vinyl ester resin system with a flame spread of 25 or less for dependable resistance to both acidic and alkaline environments.

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- **Modular Dynarail Guardrail System** ............ P. 6-7
- **DynaRound Post Installation Methods** .......... P. 8-9
- **Modular DynaRound Guardrail System** ....... P. 10-11
- **Modular Handrail Systems** ....................... P. 12
  *(Dynarail & DynaRound)*
- **Dynarail FRP Ladder Systems** ................. P. 13-15
Dynarail® Post Installation Methods

See page 7 for part numbers. For installation conditions not shown, contact Fibergrate.
All details are for posts spaced 6’ max on centers to meet a F.O.S. of 2.0 under OSHA and IBC loads, unless noted otherwise.

**DRAWING A** - POST TO FRP OR STEEL CHANNEL

- 2-1/8" x 3/16" SQ. TUBE POST
- 1/2"Ø x 3-1/2" Lg.
- BOLT ASSEMBLY
- 3-1/4" MIN.
- 1-1/2"

**DRAWING B** - POST TO STEEL PLATE ON STEEL BEAM

- 2-1/8" x 3/16" SQ. TUBE POST
- 1/2"Ø BOLT ASSEMBLY
- WELD (2 PLCS.)
- 3-1/4" MIN.
- 1-1/2"

**DRAWING C** - POST TO FRP OR STEEL BEAM OR CHANNEL WITH FRP SPACERS

- 2-1/8" x 3/16" SQ. TUBE POST
- 1/2"Ø BOLT ASSEMBLY
- WF, I or CH BEAM
- STEEL ANGLE
- 3-1/4" MIN.
- 1-1/2"

**DRAWING D** - POST TO STEEL ANGLE ON FRP OR STEEL BEAM

- 2-1/8" x 3/16" SQ. TUBE POST
- 1/2"Ø BOLT ASSEMBLY
- WF OR I BEAM
- STEEL ANGLE
- 3-1/4" MIN.
- 1-1/2"

**DRAWING E** - REMOVABLE POST TO FRP OR STEEL BEAM

- 1-3/4" x 1/4" SQ TUBE
- 6"x6" x 5/8" THICK FRP PLATE
Dynarail® Post Installation Methods

See page 7 for part numbers. For installation conditions not shown, contact Fibergrate. All details are for posts spaced 6’ max on centers to meet a F.O.S. of 2.0 under OSHA and IBC loads, unless noted otherwise.

**DRAWING F - SIDE-MOUNTED POST**

**DRAWING G - EMBEDDED POST**

**DRAWING H - TOP MOUNT STAINLESS STEEL STANCHION BASE**

5’-6” max on center post spacing for IBC to meet a F.O.S. of 2.0

**DRAWING I - TOP MOUNT FRP STANCHION BASE**

4’ max on center post spacing for IBC to meet a F.O.S. of 2.0

---

**MAX PULLOUT FORCE ON EACH CONCRETE ANCHOR BOLT**

<table>
<thead>
<tr>
<th></th>
<th>Drawing F</th>
<th>Drawing H</th>
<th>Drawing I</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSHA (200 lb)</td>
<td>2129 lbf</td>
<td>1292 lbf</td>
<td>2100 lbf</td>
</tr>
<tr>
<td>IBC (50 lb/ft)</td>
<td>3193 lbf</td>
<td>1777 lbf</td>
<td>2100 lbf</td>
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</table>
Dynarail® Modular Guardrail System

Both horizontal and inclined posts and rails are permanently joined using rivets and an epoxy compound. Dynarail modular rails can be set at any angle to the post, from 39° to 180°, using supplied cover plates. Straight splice kits are equally easy to incorporate, joined by either a riveted connection or a nut and bolt assembly. Dynarail modular posts are designed for conventional side-mounting, and kits are also available for installation of either top-mount stanchion bases or removable concrete-embedded bases.
<table>
<thead>
<tr>
<th>PART #</th>
<th>DESCRIPTION</th>
<th>NOTE: All part numbers listed are ISOFR and are NON-UV coated items unless otherwise noted.</th>
</tr>
</thead>
<tbody>
<tr>
<td>511000</td>
<td>Post Kit (Inclined Rail)</td>
<td>1 ea. Post 2-1/8” x 3/16” x 45° High Sq. Tube</td>
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<tr>
<td></td>
<td></td>
<td>4 ea. Cover Plates 2-1/8” x 3-1/4”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 ea. Rivets 18-8 SS</td>
</tr>
<tr>
<td>513000</td>
<td>Post Kit (Horizontal Rail) Side Mount</td>
<td>1 ea. Post 2-1/8” x 3/16” x 50-1/4” High Sq. Tube (Undrilled)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 ea. Rivets 1/8” x 3/8” 18-8 SS</td>
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<tr>
<td></td>
<td></td>
<td>1 ea. #10 x 1” Hex Washer Head Self Tap Screw</td>
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<tr>
<td>517000</td>
<td>Post Kit (Horizontal Rail) Removable Concrete Embedded</td>
<td>1 ea. Post 2-1/8” x 3/16” x 41-1/2” High</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 ea. 1-3/4” Sq. Bar Extension 5” Long</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 ea. Sleeve 2-1/8” x 3/16” x 6” Sq. Tube (Ships Loose)</td>
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<tr>
<td></td>
<td></td>
<td>4 ea. Rivets 18-8 SS</td>
</tr>
<tr>
<td>518000</td>
<td>Post Kit (Horizontal Rail) Top Mount (SS Base)</td>
<td>1 ea. #10 x 1” Hex Washer Head Self Tap Screw</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 ea. Post 2-1/8” x 3/16” x 41-1/4” High</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 ea. Stanchion Base 316 SS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 ea. Bolts 1/2” x 3” and Nuts 316 SS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 ea. Rivets 18-8 SS</td>
</tr>
<tr>
<td>518200</td>
<td>Post Kit (Horizontal Rail) Top Mount (FRP Base)</td>
<td>1 ea. #10 x 1” Hex Washer Head Self Tap Screw</td>
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<td></td>
<td></td>
<td>1 ea. Post 2-1/8” x 3/16” x 40-3/4” High</td>
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<tr>
<td></td>
<td></td>
<td>1 ea. Stanchion Base FRP</td>
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<td></td>
<td></td>
<td>1 ea. 1/4” Sq. Tube Kickplate Spacer</td>
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<tr>
<td></td>
<td></td>
<td>4 ea. Rivets 18-8 SS</td>
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<tr>
<td>510500</td>
<td>Kickplate</td>
<td>9/16” Deep x 4” High x 1/8” Thick x 24’ Long</td>
</tr>
<tr>
<td>516601</td>
<td>Kickplate Splice Kit (VEFR)</td>
<td>1 ea. Splice 1-3/4” x 4” x 3/16”</td>
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<td></td>
<td></td>
<td>2 ea. 1/4” x 1” x Socket Round Head Bolts, Nuts and Washers</td>
</tr>
<tr>
<td>516701</td>
<td>Kickplate Splice Kit 90° (VEFR)</td>
<td>1 ea. Splice 2-1/8” x 1-1/8” x 3/16”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 ea. 1/4” x 1” x Socket Round Head Bolts, Nuts and Washers</td>
</tr>
<tr>
<td>516510</td>
<td>Adjustable Splice Kit</td>
<td>2 ea. Adjustable Rail Splices</td>
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<tr>
<td></td>
<td></td>
<td>8 ea. Rivets 18-8 SS</td>
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<tr>
<td>516400</td>
<td>90° Fixed Splice Kit</td>
<td>2 ea. Fixed 90° Rail Splices</td>
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<tr>
<td></td>
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<td>8 ea. Rivets 18-8 SS</td>
</tr>
<tr>
<td>516100</td>
<td>In-Line Splice Kit</td>
<td>1 ea. Splice 1-1/2” Sq. Tube</td>
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<tr>
<td></td>
<td></td>
<td>4 ea. Rivets 18-8 SS</td>
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<tr>
<td>510200</td>
<td>Rail</td>
<td>1-3/4” x 1/8” x 24’ Long Yellow Square Tube</td>
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<tr>
<td>792611</td>
<td>Adjustable Rail Splice</td>
<td>1 ea. Adjustable from 39° to 180°</td>
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<tr>
<td>792620</td>
<td>90° Rail Splice</td>
<td>1 ea. Fixed 90° Railing Connector</td>
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<td>519105</td>
<td>In-Line Rail Splice</td>
<td>In-Line Splice Square 9-7/8”</td>
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<tr>
<td>519170</td>
<td>End Cap</td>
<td>End Cap for 1-3/4” Sq. Tube Guardrail</td>
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<tr>
<td>510100</td>
<td>Spacer Material</td>
<td>21’ of 2-1/8” x 3/16” Yellow Square Tube</td>
</tr>
</tbody>
</table>

Bonding material should be ordered with each shipment of railing material. Order 1 kit (# 549100) for every 15 posts.

SI Conversions:    inch = 25.4 mm   1 foot = .305 m   1 mm = .0394 inches   1 meter = 3.28 feet
DynaRound™ Post Installation Methods

All details are for posts spaced 4’ max on centers to meet a F.O.S. of 2.0 under OSHA and IBC loads, unless noted otherwise.

**DRAWING A - POST TO FRP OR STEEL CHANNEL**

- 1 1/2" Ø 316 S.S. BOLT ASSEMBLY
- 1.90" Ø ROUND TUBE POST
- 4" KICKPLATE
- 8 1/2" LG. SOLID STIFFENER

**DRAWING B - POST TO STEEL PLATE ON STEEL BEAM**

- 1 1/2" Ø 316 S.S. BOLT ASSEMBLY
- 1.90" Ø ROUND TUBE POST
- 4" KICKPLATE
- 8 1/2" LG. SOLID STIFFENER

**DRAWING C - POST TO FRP OR STEEL BEAM OR CHANNEL WITH FRP SPACERS**

- 1/2" Ø 316 S.S. BOLT ASSEMBLY
- 1.90" Ø ROUND TUBE POST
- 4" KICKPLATE
- FRP COLLAR WITH 1.9" Ø ROUND TUBE SPACER
- 8 1/2" LG. SOLID STIFFENER

**DRAWING D - POST TO STEEL ANGLE ON FRP OR STEEL BEAM**

- 1/2" Ø 316 S.S. BOLT ASSEMBLY
- 1.90" Ø ROUND TUBE POST
- 4" KICKPLATE
- 8 1/2" LG. SOLID STIFFENER

**DRAWING E - REMOVABLE POST TO FRP OR STEEL BEAM**

- 1 1/2" Ø 316 S.S. BOLT ASSEMBLY
- 1.90" Ø ROUND TUBE POST
- 4" KICKPLATE
- 8 1/2" LG. SOLID STIFFENER
- 1/2" Ø 316 S.S. BOLT ASSEMBLY
- 1 3/4"x1/4" SQUARE TUBE SPACERS
- 6"x6"x5/8" THICK FRP PLATE
DynaRound™ Post Installation Methods

All details are for posts spaced 4’ max on centers to meet a F.O.S. of 2.0 under OSHA and IBC loads, unless noted otherwise.

**DRAWING F - SIDE MOUNT POST TO CONCRETE**
- 1.90" Ø ROUND TUBE POST
- 4" KICKPLATE
- 8 1/2" LG. SOLID STIFFENER
- 1/2" Ø ADHESIVE ANCHOR

**DRAWING G - REMOVABLE EMBEDDED POST IN CONCRETE**
- 1.90" Ø ROUND TUBE POST
- 4" KICKPLATE
- 11 1/4" LG. SOLID STIFFENER
- 6" LG. 1.9" Ø SLEEVE EMBEDDED IN CONCRETE

**DRAWING H - FIXED EMBEDDED POST IN CONCRETE**
- 1.90" Ø ROUND TUBE POST
- 4" KICKPLATE
- 8 1/2" LG. SOLID STIFFENER
- 3/4" Ø x 2 3/4" LG. ROD
- 3/4" Ø x 2 3/4" THICK PLATE

**DRAWING I - TOP MOUNTED STAINLESS STEEL STANCHION BASE**
- 1.90" Ø ROUND TUBE POST
- 4" KICKPLATE
- 1/2" Ø ADHESIVE ANCHOR
- 3 1/2" LG. SOLID STIFFENER
- 1/2" Ø 316 S.S. BOLT ASSEMBLY
- 316 S.S. STANCHION BASE

**DRAWING J - TOP MOUNTED FRP STANCHION BASE**
- 1.90" Ø ROUND TUBE POST
- 4" KICKPLATE
- 10" POURED POST STIFFENER
- ROUND TUBE SPACER
- 4" x 6" x 3/4" THICK FRP BASE PLATE
- 4" x 6" x 3/4" ROUND TUBE SPACER
DynaRound™ Modular Guardrail System

The DynaRound modular railing system is offered as UV coated for maximum weather resistance. Straight and adjustable rail splice kits are easy to incorporate, installed with riveted + bonded connections. Rail to post connections use saddle connectors with hidden bolts for the cleanest installation possible. Specially designed saddles and connectors minimize the number of miter cuts required to make a gap free installation easy. *Inclined guardrail assemblies need to be shop fabricated.*

![Diagram of DynaRound Modular Guardrail System](image)

**Cross Sections of Rail to Post Connections**

- **END POST CONNECTOR KIT**
  - PN#503115.1
- **POST TO MID-RAIL CONNECTOR KIT**
  - PN#503114.1
- **POST TO TOP RAIL CONNECTOR KIT**
  - PN#503113.1

**Part Numbers**

- **PN #5001010**
  - 1.9” O.D. x 1.5” I.D., 20’ LG ROUND TUBE RAIL
- **PN #7926120**
  - SADDLE CONNECTOR
- **PN #5052310**
  - OPEN SADDLE
- **PN #506100**
  - IN-LINE RAIL SPLICE KIT
- **PN #5082010**
  - POST KIT-EMBED TO CONCRETE
- **PN #7926150**
  - END CAP
- **PN #5031100**
  - 90˚ Fixed Rail Splice Kit
- **PN #503113.1**
  - CROSS SECTION
- **PN #503114.1**
  - POST TO MID-RAIL CONNECTOR KIT
- **PN #503115.1**
  - END POST CONNECTOR KIT
- **PN #5030010**
  - POST KIT-
  - SIDE-MOUNTED
- **PN #5030010**
  - POST KIT-
  - STAINLESS STEEL STANCHION BASE
- **PN #5030010**
  - POST KIT-
  - FRP STANCHION BASE
- **PN #5105100**
  - KICKPLATE SPLICE KIT
### PART #

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<thead>
<tr>
<th>PART #</th>
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<td>5030010</td>
<td>Post Kit Side Mount</td>
</tr>
<tr>
<td>5070010</td>
<td>Post Kit Removable Embed to Concrete</td>
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<td>5082010</td>
<td>Post Kit Top Mount w/ FRP Stanchion Base</td>
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<tr>
<td>5080010</td>
<td>Post Kit (SS Base)</td>
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<td>505100*</td>
<td>Kickplate</td>
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<td>516601.1*</td>
<td>Kickplate Splice Kit</td>
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<td>516701.1*</td>
<td>Kickplate Splice Kit 90°</td>
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<td>End Post Connector Kit</td>
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<td>503114.1</td>
<td>Post to Mid Rail Connector Kit</td>
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<td>503113.1</td>
<td>Post to Top Rail Connector Kit</td>
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<td>Handrail Bracket to Post Kit (1-1/2° Finger Clearance)</td>
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<tr>
<td>503117.1</td>
<td>Handrail Bracket to Post Kit (2-1/4° Finger Clearance)</td>
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<td>Adjustable Splice Kit</td>
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<td>506100</td>
<td>In-Line Splice Kit</td>
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<td>5001010</td>
<td>Rail</td>
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<td>Spacer (1-1/2° F.C.)</td>
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<td>Open Saddle</td>
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<tr>
<td>792610</td>
<td>Riv. Nut Install Tool</td>
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#### PN #516701.1

90° KICKPLATE SPLICE KIT

#### PN #516601.1

KICKPLATE SPLICE KIT

#### PN #503113.1

Handrail Bracket to Post Kit |

#### PN #503114.1

1-1/2° FINGER CLEARANCE

#### PN #503116.1

Handrail Bracket to Post Kit |

#### PN #503117.1

2-1/4° FINGER CLEARANCE

#### PN #5083310

1-1/2° FINGER CLEARANCE

#### PN #5083320

2-1/4° FINGER CLEARANCE

#### PN #794509

(BRACKET ONLY)

**NOTE:** All part numbers listed are VEFR; those containing exposed material are UV coated items.

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**SI Conversions:**
- inch = 25.4 mm
- 1 foot = .305 m
- 1 mm = .0394 inches
- 1 meter = 3.28 feet

---

Bonding material should be ordered with each shipment of railing material.

Order 1 kit (#549100) for every 15 posts.

*Kickplate Assembly PN is the UV coated VEFR counterpart to the PN used for the square tube system.*
Modular Dynarail® Handrail Systems

For those projects that require a handrail (or grab rail) system to meet code requirements, Fibergrate’s Dynarail Handrail system can be used with both Dynarail and DynaRound guardrail systems. Please see below for details and part numbers. If you require further assistance, call us or visit our website.

<table>
<thead>
<tr>
<th>PART#</th>
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<tbody>
<tr>
<td>162728</td>
<td>Rail used as Handrail 1-1/2&quot; x 1/4&quot; x 20' Long Yellow Round Tube</td>
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<tr>
<td>792650</td>
<td>Fixed 90° Handrail Connector</td>
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<td>792640</td>
<td>Adjustable Handrail Connector 1 ea. Adjustable from 39° to 180°</td>
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<tr>
<td>522090</td>
<td>Handrail Splice - 1&quot; ø FRP Round Rod</td>
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<tr>
<td>792660</td>
<td>Handrail End Cap</td>
</tr>
<tr>
<td>794510</td>
<td>SS Handrail Bracket (1-1/2&quot; Finger Clearance)</td>
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<td>794511</td>
<td>SS Handrail Bracket (2-1/4&quot; Finger Clearance)</td>
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<tr>
<td>794515</td>
<td>SS Backer Plate</td>
</tr>
<tr>
<td>756670</td>
<td>1 ea. #10 x 1&quot; Hex Head Self Tap Screw</td>
</tr>
</tbody>
</table>

Bonding material (1 Kit - PN#549100) should be ordered with each shipment of handrail material.

SI Conversions: inch = 25.4 mm    1 foot = .305 m
1 mm = .0394 inches    1 meter = 3.28 feet

For DynaRound - see pg. 11
Dynarail FRP Safety Ladders

The innovative Dynarail® fiberglass reinforced plastic (FRP) safety ladder and cage system meets or exceeds OSHA requirements. Dynarail cage components are shipped in compact kit form - not large, bulky units prone to damage. The safety cage is ready for field assembly with predrilled hoops for fast and easy attachment to the ladder and vertical safety bars.

Ladders are stocked in standard heights of 8’, 10’, 12’, 14’, 16’, 18’, 20’ and 24’ and are available in taller heights using splice kits. Ladders may be ordered with or without safety cage kits.

Safety features are built-in from the ground up. Special clip angles have been developed to securely anchor the ladder. Intermediate stand-off brackets laterally stabilize the ladder to the supporting structure on 6’ centers. Ladder rungs include heavily serrated flutes for slip resistant footholds.

Technical Data (Except where noted, all materials are yellow vinyl ester, fire retardant - VEFR)

LADDER:
- Maximum length without splice: 24’-0”
- Clear inside width (inside rail to rail): 18”
- Outside width (outside rail to rail): 21-1/2”
- Rung Spacing (center to center): 12”
- Weight per foot (approximately): 3.0 lbs.

CAGE:
- **Product**
  - **Standard Hoop Kit (PN 448200)**
  - **Bottom Hoop Kit (PN 448000)**
  - **Hoop Brackets** (Included with hoop kits)
  - **Vertical I-Bars** (PN 446211 - 10 ft; PN 446210 - 20 ft)
  - **Bottom Wall Mount Bracket Kit* (PN 448400 ISOFR Dk Gray, PN 448401 VEFR Beige)**
  - **Wall Mount Bracket Kit* (PN 448500 ISOFR Dk Gray, PN 448501 VEFR Beige)**
  - **Floor Mount Clip Kit* (PN 448700 ISOFR Dk Gray, PN 448701 VEFR Beige)**
- **Description**
  - 27” from center line of ladder rung to inside of hoop
  - 3" wide x 1/4" thick hand layup
  - Predrilled holes *(with necessary bolt assemblies)*
  - 31” from center line of ladder rung to inside of hoop
  - 3" wide x 1/4" thick hand layup
  - Predrilled holes *(with necessary bolt assemblies)*
  - 1/4" thick, “U” shaped hand layup
  - Predrilled holes *(with necessary bolt assemblies)*
  - I-Bar, 1-1/2" deep x 5/8" flange x 1/8" thick
  - 2-3/16" x 8" x 3/8” angle, 18” long
  - Two per set *(with necessary bolt assemblies)*
  - 2-3/16" x 8" x 3/8” angle, 6” long
  - 7” from wall to center of rung
  - Two per set *(with necessary bolt assemblies)*
  - 4" x 4" x 3/8” angle, 2-3/4” long
  - Two per set *(with necessary bolt assemblies)*

*NOTE: Wall mount brackets and floor mount clips are predrilled with 9/16” diameter holes for 1/2” diameter anchor bolts only. Anchor bolts not included.*
Dynarail® Ladder System Data

**Dynarail® Hoop Data**

<table>
<thead>
<tr>
<th>Hoop Kit</th>
<th>PART NUMBER</th>
<th>A (in)</th>
<th>B (in)</th>
<th>C (in)</th>
<th>D (in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bottom</td>
<td>448000</td>
<td>35</td>
<td>16</td>
<td>3</td>
<td>8.5</td>
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<tr>
<td>Standard</td>
<td>448200</td>
<td>27</td>
<td>16</td>
<td>3</td>
<td>4.5</td>
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</tbody>
</table>

**Component Selection Guide**

**Dynarail® FRP Safety Ladders**

**Cage Assembly Components**

<table>
<thead>
<tr>
<th>Cage Height</th>
<th>Hoops Required</th>
<th>Vertical I-Bars Required</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Standard Hoop Kit PN 444800</td>
<td>Bottom Hoop Kit PN 444800</td>
</tr>
<tr>
<td>3' 0&quot;</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>3' 6&quot; to 4' 0&quot;</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>4' 7-1/2&quot;</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>4' 7-1/2&quot; to 5' 3&quot;</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>5' 6&quot;</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>6' 0&quot; to 6' 6&quot;</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>7' 0&quot;</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>7' 6&quot;</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>8' 6&quot; to 8' 10-1/4&quot;</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>8' 10-1/4&quot; to 10' 0&quot;</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>10' 6&quot; to 13' 1&quot;</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>13' 1&quot;</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>13' 6&quot; to 14'</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>14' 6&quot; to 17' 3-3/4&quot;</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>17' 3-3/4&quot; to 20' 0&quot;</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>20' 0&quot;</td>
<td>5</td>
<td>0</td>
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<tr>
<td>20' 6&quot; to 21' 7/12&quot;</td>
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<tr>
<td>21' 7/12&quot; to 22' 6&quot;</td>
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<td>1</td>
</tr>
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<td>23' 0&quot; to 24' 0&quot;</td>
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<td>1</td>
</tr>
<tr>
<td>24' 6&quot; to 25' 10-1/2&quot;</td>
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<td>1</td>
</tr>
<tr>
<td>25' 10-1/2&quot; to 26' 6&quot;</td>
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<td>1</td>
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**Ladder Mounting Accessories**

<table>
<thead>
<tr>
<th>Ladder Height</th>
<th>Floor Mount Kits Required PN 448700 ISOFR PN 448701 VEFR</th>
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</thead>
<tbody>
<tr>
<td>0&quot; to 6&quot;</td>
<td>1 1</td>
</tr>
<tr>
<td>6&quot; to 12&quot;</td>
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</tr>
<tr>
<td>12&quot; to 18&quot;</td>
<td>1 1</td>
</tr>
<tr>
<td>18&quot; to 24&quot;</td>
<td>1 1</td>
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<td>24&quot; to 30&quot;</td>
<td>1 1</td>
</tr>
<tr>
<td>30&quot; to 36&quot;</td>
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**Ladder and Accessories**

<table>
<thead>
<tr>
<th>Ladders (&quot;A&quot; dimension = stock length)</th>
<th>Length*</th>
<th>Part Number</th>
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<tbody>
<tr>
<td>6'</td>
<td>444506</td>
<td></td>
</tr>
<tr>
<td>10'</td>
<td>444510</td>
<td></td>
</tr>
<tr>
<td>12'</td>
<td>444512</td>
<td></td>
</tr>
<tr>
<td>14'</td>
<td>444514</td>
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<tr>
<td>16'</td>
<td>444516</td>
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<tr>
<td>18'</td>
<td>444518</td>
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</tr>
<tr>
<td>20'</td>
<td>444520</td>
<td></td>
</tr>
<tr>
<td>24'</td>
<td>444524</td>
<td></td>
</tr>
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**Accessories**

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ladder Rail Splice Kit</td>
<td>448600</td>
</tr>
<tr>
<td>24&quot; Wide Walk-thru Kit</td>
<td>448901</td>
</tr>
</tbody>
</table>

*Note: Top rung step-off must be even with upper walking surface*
Dynarail® FRP Safety Ladders

Assembly & Mounting Details

Ladder Splice Kit
PN 448600

Standard Wall Mount Kit
PN 448501 VEFR BEIGE

Bottom Wall Mount Kit
PN 448401 VEFR BEIGE

Floor Mount Kit
PN 448701 VEFR BEIGE

Ladder

Ladder with 24" Walk-thru

Ladder with Walk-thru and Rail Connections to Floor

Ladder with Walk-thru and Connections to Rail
Fibergrate Products & Services

**Fibergrate® Molded Grating**
Fibergrate® molded gratings are designed to provide the ultimate in reliable performance, even in the most demanding conditions. Fibergrate offers the widest selection in the market with multiple resins and more than twenty grating configurations available in many panel sizes and surfaces.

**Safe-T-Span® Pultruded Industrial & Pedestrian Gratings**
Combining corrosion resistance, long-life and low maintenance, Safe-T-Span® provides unidirectional strength for industrial and pedestrian pultruded grating applications.

**Dynaform® Structural Shapes**
Fibergrate offers a wide range of standard Dynaform® pultruded structural profiles for industrial and commercial use, including I-beams, wide flange beams, round and square tubes, bars, rods, channels, leg angles and plate.

**Dynarail® & DynaRound™ Guardrail, Handrail & Ladder**
Easily assembled from durable components or engineered and prefabricated to your specifications, Dynarail® square tube and DynaRound™ round tube railing systems and Dynarail safety ladder systems meet or exceed OSHA and strict building code requirements for safety and design.

**Custom Composite Solutions**
Combining Fibergrate's design, manufacturing and fabrication services allows Fibergrate to offer custom composite solutions to meet our client’s specific requirements. Either through unique pultruded profiles or custom open molding, Fibergrate can help bring your vision to reality.

**Design & Fabrication Services**
Combining engineering expertise with an understanding of fiberglass applications, Fibergrate provides turnkey design and fabrication of fiberglass structures, including platforms, catwalks, stairways, railings and equipment support structures.

**Worldwide Sales & Distribution Network**
Whether a customer requires a platform in a mine in South Africa to grating on an oil rig in the North Sea, or walkways in a Wisconsin cheese plant to railings at a water treatment facility in Brazil; Fibergrate has sales and service locations throughout the world to meet the needs and exceed the expectations of any customer.