**FRP Stair Crossovers**

**Estimated Installation Time:** 2 Man Crew, 2 Hours

**ASSEMBLY INSTRUCTIONS**

<table>
<thead>
<tr>
<th>ITEM DESCRIPTION</th>
<th>PART NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>FRP Stair Crossover - 10” Clearance</td>
<td>866210.01</td>
</tr>
<tr>
<td>FRP Stair Crossover - 19-1/2” Clearance</td>
<td>866219.01</td>
</tr>
<tr>
<td>FRP Stair Crossover - 29” Clearance</td>
<td>866229.01</td>
</tr>
<tr>
<td>FRP Stair Crossover - 38-1/2” Clearance</td>
<td>866238.01</td>
</tr>
<tr>
<td>FRP Stair Crossover - 48” Clearance</td>
<td>866248.01</td>
</tr>
<tr>
<td>FRP Stair Crossover - 65” Clearance</td>
<td>866265.01</td>
</tr>
</tbody>
</table>

**STEP 1:**

**ATTACH STAIR ASSEMBLIES TO PLATFORM ASSEMBLY**

A) Slide channels of Stair Assembly inside of Splice Plates on Platform Assembly and line up the holes. Refer to Drawing B-03060 Rev 1 dated 2/23/17 for the exact configuration of the crossover. The illustration shown in these instructions may vary from the crossover you are assembling.

B) For the stair crossovers up to and including the 48 inch (1219 mm) clearance crossover (PN 866248.01): Install two each 1/2” x 2” hex head bolt assemblies (1/2” x 2” bolt, 2 each flat washers, and 1/2” nut) in the holes indicated. Use a flat washer under the bolt head and the nut. Torque the 1/2 inch nuts to 45 ft-lb (5.1 N-m). Leave the holes for the guardrail posts open until Step Three.

C) For the 65 inch (1651 mm) clearance stair crossovers (PN 866265.01): Install two each 5/8” x 2” hex head bolt assemblies (5/8” x 2” bolt, 2 each flat washers, and 5/8” nut) in the holes indicated. Use a flat washer under the bolt head and the nut. Torque the 5/8 inch nuts to 45 ft-lb (5.1 N-m). Leave the holes for the guardrail posts open until Step Three.

D) Repeat for second Stair Assembly.

**STEP 2:**

**ASSEMBLE HANDRAIL TO GUARDRAILS**

A) Attach the stainless steel handrail brackets to the 1-1/2 inch dia round handrail tubes using two #14 x 1 inch self-tapping screws per handrail bracket. The pilot holes for the screws are shop drilled into the handrail tubes. Be careful not to over-torque the screws to prevent stripping the holes. Note that you will be assembling a left hand and a right hand set of handrails for each stair.

B) Attach the handrail to the guardrail by following Details 702 and 703 in Drawing B-3060. The stainless steel handrail brackets connect to the 2-1/8 inch (54 mm) post and 1-3/4 inch (44.5 mm) rail with a 3/8” x 3” hex head bolt assembly, flat washer, and backer plate. Apply blue thread locking compound to the bolt threads prior to installing the nuts. Torque nuts until the assemblies are tightly clamped together.

C) The 90° elbow at the top and bottom of the handrail connects to the 1-3/4 inch (44.5 mm) square tube rail return by fitting it into the pre-drilled hole and securing it with a 1/4” x 2-1/2” round head bolt assembly. Install the round head bolt so that the nut is oriented toward the inside of the assembly. Refer to Detail 703. Apply blue thread locking compound to the bolt threads prior to installing the nut. Torque nuts until the assemblies are tightly clamped together.
Stair Crossover Assembly Instructions

STEP 3: INSTALL GUARDRAILS

A) For the stair crossovers up to and including the 48 inch (1219 mm) clearance crossover (PN 866248.01): Install each Guardrail Assembly to the Crossover by sandwiching the 2-1/8 inch x 3/16 inch (54 x 4.8 mm) Square Tube Post Spacers between the Guardrail Assembly and the Crossover and installing the 1/2 inch x 5-1/2 inch hex head bolt assemblies (1/2 inch x 5-1/2 inch bolt, 2 each flat washers, and 1/2” nut) in the holes indicated. Where the post falls on a splice plate, use the shorter spacer. The longer spacers are for the locations where the post is bolted directly to the web of the channel. Use a flat washer under the bolt head and the nut. Hold Post Spacers in alignment with the edges of the post while torquing the nuts. Torque the nuts to 45 ft-lb (5.1 N-m).

B) For the 65 inch (1651 mm) clearance stair crossovers (PN 866265.01): Follow the instructions above except use 1/2 inch x 6 inch hex head bolt assemblies (1/2 inch x 6 inch bolt, 2 each flat washers, and 1/2” nut) for installing the Guardrail Assemblies.

C) Repeat for all six Guardrail Assemblies.

D) For the 10 inch (254 mm) clearance stair crossover (PN 866210.01): Connect the vertical portion of each horizontal and inclined Guardrail Assembly to each other using two each 1/4” x 4-1/2” hex head bolt assemblies (1/4” x 1-1/2” bolt, 2 each flat washers, and 1/4” nut) in the factory drilled holes. Apply blue thread locking compound to the bolt threads prior to installing the nuts. Torque nuts until the assemblies are approximately 1/4” (6 mm) from each other. It will not be possible pull the two assemblies tightly together.

STEP 4: ANCHOR STAIR CROSSOVER

A) Prior to use, the Stair Crossover must be anchored to the supporting surface to prevent tipping. Anchor holes are 9/16 inch (14.3 mm) diameter and located at the bottom of the stair in four locations (see illustration on page 3). Anchoring hardware is not included.

B) Concrete Floors: Anchor Stair Crossover to concrete floors using 4 each 1/2” diameter expansion or adhesive concrete anchors. A minimum embedment of 2-1/2” is required.

C) Wood Floors: Anchor Stair Crossover to wooden floors with four each 1/2” x 3” lag bolts.

D) For other support conditions, contact a qualified engineer to develop adequate anchoring details. For installations on roofs or other areas where the supporting surface cannot be penetrated by fasteners, install the Roof Plate Kit by following Step Five below.

STEP 5: OPTIONAL ROOF PLATE KIT

A) Remove the four 3” x 3” x 3/8” x 6” long angles at the bottom of the stairs by removing the two factory installed 3/8” x 1-1/2” hex head bolts at each angle. Retain the bolts; discard the angles.

B) Attach the four 3” x 3” x 3/8” x 6” long angles supplied with the kit to the 1-4” x 4-9” x 1/2” thick FRP plate using the 3/8” x 1-1/2” long flat head bolts supplied with the kit. Note the orientation of the angles. Torque the bolts to 30 lb-ft (3.9 N-m).

C) Attach this assembly to the bottom of the stair using the 3/8” x 1-1/2” removed in step 2. Torque the bolts to 30 ft-lb (3.9 N-m).

D) Before placing the finished crossover onto the roof surface, protect the roof from abrasion following the roof manufacturer’s recommendations. Add ballast as required to the locations indicated in Drawing B-03060.
Part No. 866210.01
FRP Crossover Stair
10" Clearance, 45° Stringer
Weight = 200Lbs
Part No. 866219.01
FRP Crossover Stair
19 1/2" Clearance, 45° Stringer
Weight = 240Lbs
Part No. 866229.01
FRP Crossover Stair
29" Clearance, 45° Stringer
Weight = 266Lbs

FRP Crossover Stair Assembly Instructions

Material List:

1000000 A 1 Platform Assembly
1000000 B 2 Stair Assembly
1000000 C 2 Horizontal Sq. Tube Guardrail Assembly
1000000 D 2 Inclined Sq. Tube Guardrail Assembly
1000000 E 2 Inclined Sq. Tube Guardrail Assembly
1000000 F 16 2 1/8"x3/16" Sq. Tube Post Spacer (1 15/16" Lg.)
1000000 G 8 2 1/8"x3/16" Sq. Tube Post Spacer (1 7/16" Lg.)
1000000 H 2 1 1/2" Dia. Round Tube Handrail
1000000 I 2 1 1/2" Dia. Round Tube Handrail
1000000 J 8 S.S. Handrail Bracket
1000000 K 8 2" x 1 3/4" x 14 GA. 316 S.S. Plate
1000000 L 16 #14 x 1" Lg. S.S. Self Tap Screw
1000000 N 8 3/8" Dia. x 3" Lg. Hex Head Bolt Assembly
1000000 O 24 1/2" Dia. x 5 1/2" Lg. 316 S.S. Bolt Assy.
1000000 P 8 1/2" Dia. x 2" Lg. 316 S.S. Bolt Assy.
1000000 Q 1 FRP Crossover Stair Assembly Instructions
Part No. 866238.01
FRP Crossover Stair
38 1/2" Clearance, 45° Stringer
Weight = 320Lbs
Part No. 866248.01
FRP Crossover Stair
48" Clearance, 45° Stringer
Weight = 374Lbs
Part No. 866165.01
FRP Crossover Stair
65" Clearance, 45° Stringer
Weight = 447Lbs
FRP Crossover Stair
Additional Details

Part No. 865300
FRP Crossover Stair
OPTIONAL BASE PLATE
Weight = 35Lbs
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 and 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 & Ladders
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 railing 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.