INSTALLATION GUIDE

TrexElevations®
STEEL DECK FRAMING
Triple-coated steel offers consistency, durability and reliability that other materials can’t

Rot- and termite-proof steel lasts much longer than wood

Precision engineering ensures surfaces remain flat over time

Contains a minimum of 25% recycled steel and is a 100% renewable resource

Backed by the Trex® 25-Year Limited Residential Warranty
Installation Guide

In your hands, you’re holding everything you need to begin building with Trex Elevations® steel deck framing system. This step-by-step guide will show you how to create a beautiful outdoor living space that fits perfectly into your or your client’s lifestyle.

Trex® has been proven in the field. After almost twenty years of unparalleled performance, it offers warm, natural beauty and inviting comfort that no other product can match. Maybe that’s why Trex is asked for by more customers than any other brand in the business.

From time to time, Trex revises its installation instructions. To ensure you have the most up-to-date installation instructions, please visit trex.com.
TREX ELEVATIONS® INSTALLATION GUIDE

CONTENTS

SECTION ONE: General Information
General Questions and Answers ............................................. 5
Safety ................................................................................. 6
Tools, Fasteners, and Brackets ............................................. 6
Parts .................................................................................. 7

SECTION TWO: Preparation and Planning
Planning ................................................................................ 9
Code Compliance ................................................................. 9
Table E-50 Span Chart (Total Load 50 PSF) .......................... 12
Table E-75 Span Chart (Total Load 75 PSF) .......................... 14
Table E-100 Span Chart (Total Load 100 PSF) ..................... 16
Table E-200 Span Chart (Total Load 200 PSF) ..................... 18

SECTION THREE: Installation
Installing Piers, Posts, Track/Ledger, and Beams ................. 21
Installing Piers and Posts ..................................................... 21
Installing Track/Ledger .......................................................... 21
Installing Beams .................................................................. 22
  Option 1: Flush Beam Scenario ......................................... 22
  Option 2: Single Beam Notched Post Scenario ................. 22
  Option 3: Single Flush Post Beam Scenario ..................... 22
  Option 4: Double Drop Beam Scenario ............................ 23
Installing Rim Joists, Joists, Rim Plates, and Joist Blocking ..... 24
  Installing Rim Joists Assembly .......................................... 24
  Installing Inner Joists .......................................................... 24
  Option 1: Flush Beam Scenario ......................................... 25
  Option 2: Drop Beam Scenario ......................................... 25
Installing Rim Plate and Joist Blocking (Drop Beam Scenario Only) ............. 25
Installing Blocking .............................................................. 25
Installing Rail Posts ............................................................. 26
How to Install Deck Boards .................................................. 27
  Tips on Installing Deck Boards over Screws on Ledger/Front Plate ............................................. 27
  Installing Butt Seams .......................................................... 27
  Installing Angled Deck Boards in Corners ....................... 28
    Option 1: Traditional Face Screwing ............................... 28
    Option 2: With Trex Elevations Universal Hidden Fasteners ..................................................... 28
  Installing Start Clips and First Board ................................. 28
  Installing Universal Fasteners ........................................... 28
  Installing Second Board ..................................................... 29
How to Complete the Trex Elevations Framework .................. 29
How to Install Trex Elevations Stairs ................................. 30
How to Install Deck Boards and Fascia on Elevation Stairs ........ 36
  Tip on Installing Deck Boards over Screws on Stair Sections ..................................................... 36
Installing Deck Boards ....................................................... 37
Installing Risers ................................................................. 37
Fascia Installation Options .................................................. 37
Installing Fascia ................................................................. 37

SECTION FOUR: Detail Drawings
General Framing Detail – Nominal ......................................... 40
TYP. Ledger Connections ..................................................... 41
Flush Beam Attachment Scenario ........................................ 43
Joist Attachment – Sharing Flush Beam Scenario ................ 44
Dropped Beam Notched Post Attachment (Wood Post Only) .... 45
Double Dropped Box Beam Atop Post Attachment ................ 46
Deck Level Change Flush Beam Scenario ............................. 47
Deck Level Change Scenario ............................................... 48
Deck Level Change Ledger Attachment to Support Post ............ 49
Inside Rail Post Attachment at Rim Joist ................................ 50
Inside Rail Post Attachment at Corner ................................ 51
Inside Rail Post Attachment at Rim Plate ............................ 52
Stair Overview Diagram ..................................................... 53
Stair Post Support ............................................................ 54
Stair Box Assembly ............................................................ 55
Stair Stringer Assembly ...................................................... 56
Stair Railing Post Attachment ............................................. 57
Stair Center Stringer Assembly ........................................... 58
Wood Stair Attachment to Rim Plate of Rim Joist Cap .......... 59
Standard Blocking ............................................................ 60
Adjustable Blocking ........................................................... 61
Y – Bracing Post to Beam .................................................... 62
Border Plank Framing .......................................................... 63
Breaker Board Framing TYP. Single Break ............................ 64
Breaker Board Framing TYP. Double Break ........................... 65
General Framing Detail – Curved Front Track Rim Plate ............. 66
Joist Splice Over Dropped Beam .......................................... 67
General Framing Detail – Joist Perforations ........................... 68
Deck Framing Detail (Grounding) .......................................... 69
General Framing Detail – Trex Rain Escapes® Blocking Atop BM ..................................................... 70

SECTION FIVE: Maintenance
Maintenance ................................................................. 72

SECTION SIX: Warranty
Trex Elevations Limited Warranty ........................................ 74
Comparison Chart ......................................................... Inside Back Cover

NOTE: Construction methods are always improving. Please ensure you have the most up-to-date installation instructions by visiting: trex.com
GENERAL QUESTIONS AND ANSWERS

Why Trex Elevations®?
» **Strong** – Elevations provides for a larger deck space with fewer posts and beams for less obstructed views.
» **Stable** – Elevations won’t twist, warp or sag over time.
» **Long-lasting** – Elevations lasts longer than pressure-treated lumber, saving you the cost of fixing or replacing your deck.
» **Non-combustible** – Elevations is ideal for areas of high-density housing and frequent wildfires.
» **Eco-friendly** – Elevations contains a minimum of 25% recycled steel and is 100% recyclable.

How easy is Trex Elevations to build with?
Trex Elevations lays out quickly and easily. There are only three components: (1) Trex Elevations Track (Ledger), (2) Trex Elevations Joist, and (3) Trex Elevations Beam
» Each piece can be cut to fit and assembled just like wood.
» Features premium 12’ (3.66 m), 16’ (4.88 m), and 20’ (6.1 m) lengths for track and ledger. Lengths for joists range from 8’ (2.44 m) to 20’ (6.1 m) in 1’ (0.305 m) increments.
» Trex Elevations is assembled using hex head self-drilling screws and common angle brackets.
» Trex Elevations requires fewer tools (a circular saw, drill, and ferrous metal blades) compared to typical wood framing.

What tools are required?
Go to page 6 for a complete description of the tools, hardware, and connectors required for installing a Trex Elevations steel deck frame.

Are there color choices in Trex Elevations?
Trex Elevations steel deck framing is available in ONE unique color that is designed to provide a pleasing and subtle shadow effect under the deck, drawing visual attention to the detail elements of your deck.

What type of maintenance is required with Trex Elevations?
Trex Elevations is low maintenance when installed properly. The dual-coated finish protects the steel, insulating it from outdoor elements.

When the steel in Trex Elevations is exposed, in the case of an end cut or scratch, does it need to be painted?
Yes. Each steel component is galvanized and coated with a specially formulated exterior finish that is primed, painted, and baked on—exclusively engineered for the durability of Trex Elevations.

As a preventative, as well as an aesthetic measure, always paint exposed steel with Precision Color by Quest Industrial/Raabe® Brown Textured touch-up paint. (800-966-7580) ext. 5615

**Helpful Hint:** Do this after you have cut a large number of components in order to speed up the process.

Can scrap Trex Elevations cut-offs be recycled?
Trex Elevations components contain a minimum of 25% recycled steel and cut-offs are 100% recyclable.

Can Trex Elevations be used in high fire danger areas?
Trex Elevations components are non-combustible and qualify for extreme wild fire building codes under the Wild Land Urban Interface (WUI) building material requirements.

What is the proper method to store Elevations?
Elevations should be supported at a sufficient height to avoid full ground contact if at all possible. Heat and cold transfer to any steel product can sometimes damage lawn and vegetation.

Can Elevations components come into contact with soil or concrete when installed?
Trex Elevations is approved for contact with both soil and concrete.

What fasteners can I use to attach Trex Decking to Elevations framing?
Only use Trex Elevations approved fasteners when installing any decking product. Use of non-recommended decking fasteners could void warranty. Refer to Trex Elevations Required Fasteners on page 6 for details.

**WARNING**
Due to increased risk of corrosion, Trex Elevations® may not be installed (1) within 3000 ft. (914.4 m) of any body of salt water or (2) under the surface or within the splash zone of any body of fresh water. Any such installations shall void the Trex Limited Warranty.

**NOTE:** Grounding Trex Elevations
When required by local code officials, properly ground Trex Elevations. Refer to page 69 for more details.

Quest Industrial/Raabe® is a registered trademark of Quest Industrial/Raabe Corporation.
SAFETY

**WARNING**

When working on any construction project, you should wear protective clothing and safety equipment. Wear face shield, hearing protection, gloves, and long sleeves, particularly when cutting in confined spaces.

TOOLS

- Tape measure
- Permanent felt marker
- C-channel vice grips
- Circular saw
- Ferrous metal cutting blade
- Step drill bit
- Drill with adjustable clutch and torque with speed range of 0-2,500 max.
- Precision Color by Quest Industrial/Raabe® Brown Textured touch-up paint

FASTENERS AND BRACKETS

» Dual Hardness Self-Drilling Steel Framing Screw – refer to Trex Elevations® Required Fasteners, column A (shown below).

» Galvanized 16 Ga. “L” bracket (Simpson Strong-Tie® L70Z, LS70Z or IBC approved equivalent).


**NOTE:** For post to pier connections, refer to local building code official for proper installation methods.

Simpson Strong-Tie® is a registered trademark of Simpson Strong-Tie Company, Inc. Refer to www.strongtie.com for important installation and corrosion information.

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## TREX ELEVATIONS® REQUIRED FASTENERS

<table>
<thead>
<tr>
<th>Column A</th>
<th>Column B</th>
<th>Column C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metal-to-Metal</td>
<td>Decking to Metal – Face Attachment</td>
<td>Decking to Metal – Hidden Fasteners</td>
</tr>
<tr>
<td>Simpson Strong-Tie® XEQ34B1016</td>
<td>FastenMaster® Cortex Driller™*</td>
<td>Trex Elevations® Universal Hidden Fasteners</td>
</tr>
<tr>
<td>ITW Buildex Teks Select™ P/N 1076000 (10-16 x ¾&quot; [1.9 cm] HWH Teks 3)</td>
<td>Starborn® DeckFast® Metal 410 SS w/ Epoxy Coating</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Simpson Strong-Tie® Quik Drive DCSD238 (xxxx)</td>
<td></td>
</tr>
</tbody>
</table>

*After installing FastenMaster® Cortex Driller™ screws, gently tap Cortex plugs into place to cover screws.

FastenMaster® Cortex Driller™ is a registered trademark of OMG, Inc.

DeckFast® is a registered trademark of Starborn Industries, Inc.

Teks Select™ are trademarks of ITW Buildex and Illinois Tool Works, Inc.
## Parts

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
<th>Item Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.25” x 8.15” (nominal) (3.175 cm x 20.7 cm) Trex Elevations® Track/Ledger</td>
<td>12’ (3.66 m) 16’ (4.88 m) 20’ (6.1 m)</td>
<td>CGQ0812ET01 CGQ0816ET01 CGQ0820ET01</td>
</tr>
<tr>
<td>1.615” x 8” (nominal) (4.1 cm x 20.3 cm) Trex Elevations Joist</td>
<td>8’ (2.44 m) 9’ (2.74 m) 10’ (3.05 m) 11’ (3.35 m) 12’ (3.66 m) 13’ (3.96 m) 14’ (4.27 m) 15’ (4.57 m) 16’ (4.88 m) 17’ (5.18 m) 18’ (5.49 m) 19’ (5.79 m) 20’ (6.1 m)</td>
<td>CGQ0808EJ01 CGQ0809EJ01 CGQ0810EJ01 CGQ0811EJ01 CGQ0812EJ01 CGQ0813EJ01 CGQ0814EJ01 CGQ0815EJ01 CGQ0816EJ01 CGQ0817EJ01 CGQ0818EJ01 CGQ0819EJ01 CGQ0820EJ01</td>
</tr>
<tr>
<td>2” x 8.15” (nominal) (5.08 cm x 20.7 cm) Trex Elevations Beam</td>
<td>12’ (3.66 m) 16’ (4.88 m) 20’ (6.1 m)</td>
<td>CGQ0812EB01 CGQ0816EB01 CGQ0820EB01</td>
</tr>
</tbody>
</table>

### Deck Support Post for Trex Elevations

As part of the Trex Elevations steel deck framing system, steel support posts prevent buckling and maintain an even perfection from the day they’re installed. These galvanized steel posts can either be painted or wrapped to complement the deck, rail, and home.

Refer to www.trexdeckpost.com for full details on installation of this product.

<table>
<thead>
<tr>
<th>ELEVATIONS PRODUCT WEIGHTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profile</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Joist</td>
</tr>
<tr>
<td>Track</td>
</tr>
<tr>
<td>Beam</td>
</tr>
</tbody>
</table>
PREPARATION AND PLANNING
**PLANNING**

**WARNING**

Trex Elevations® does not provide direction on making all types of connections. Specific details for critical connections not shown should be designed by a professional engineer and/or building code official.

**WARNING**

Build according to local building codes. Refer to section R505 of the 2006 or 2009 IRC for more information.

**WARNING**

Reference all decking, railing, and deck accessory manufacturers for required attachment and installation procedures regarding their products.

**WARNING**

The consumer or contractor should take all necessary steps to ensure the safety of everyone involved in the project, including, but not limited to: wearing the appropriate safety equipment (i.e. eye, ear, and body protection).

**WARNING**

Due to increased risk of corrosion, Trex Elevations® may not be installed (1) within 3000 ft. (914.4 m) of any body of salt water or (2) under the surface or within the splash zone of any body of fresh water. Any such installations shall void the Trex Limited Warranty.

In order to build a deck with Trex Elevations® components, it is necessary to determine the adequate joist span and beam span of your deck from the illustrations shown on page 11. It is also necessary to determine if a cantilever (i.e. overhang) is desired (or required) to attain the desired deck depth. Determine whether a drop beam or flush beam scenario will be used and determine the required information for local building plan approval.

Choose the Trex Elevations span chart (refer to pages 12-19) that fits within the building code requirements by locating the live, dead, and total load in the Uniform Deck Loads chart. If you do not know the local code requirements, contact your local building code department for assistance.

**NOTE:** Not all span charts are shown. For a full listing of span charts for Elevations refer to www.trex.com, which include spans for 125 PSF total load and 150 PSF total load.

**TREX ELEVATIONS CODE COMPLIANCE**

www.trex.com  www.ati-es.com
**Parts of a Deck**

*Please refer to illustrations on page 11.*

A. **Joist Spacing:** Refer to the decking manufacturers instructions to determine allowable joist spacing (i.e. 12” [30.5 cm] or 16” [40.6 cm] O.C.). Even if 16” (40.6 cm) spacing is acceptable, 12” (30.5 cm) spacing could be chosen to achieve a greater joist span.

B. **Maximum Joist Span:** The maximum distance the joist can span from track to support beam or support beam to support beam when joists are spaced on either 12” (30.5 cm) or 16” (40.6 cm).

C. **Overall Length:** The overall desired depth (feet) of the deck cannot exceed the distance determined in step (B) without a support beam & cantilever (D).

D. **Cantilever:** The overhanging of joists beyond the support beam and/or beams overhanging beyond the support post. If the desired depth of the deck is greater than the maximum joist span (B) a cantilever (D) is needed to obtain the overall size of the deck. The cantilever can be changed according to customer preference as long as it is less than the maximum cantilever noted on the Trex Elevations® span charts.

Deck depth____ – maximum joist span (B)____ = cantilever (D)____.

E. **Beam Span (distance between support posts):** The distance between support posts. Based on the joist span (B) and the cantilever (D), determine the maximum beam span (E) between support posts (F).

F. **Support Posts:** Based on the maximum beam span (E) determine the number of support posts (F) by dividing the desired width of the deck by the beam span (E), round this number up and add 1.

Desired deck width____ / beam span (E)____ = support posts (rounded up) + 1 = total # of posts.

---

**Example: Desired deck is 16’ D (4.88 m) x 20’ W (6.1 m)**

1. Local building code requires a minimum dead load of 10 psf, live load of 40 psf, and total load of 50 psf. Refer to Table E-50 on page 12.

2. The decking manufacturer requires a maximum 16” (40.6 cm) O.C. spacing for joists.

3. Joist span cannot exceed 13’ (3.96 m).

4. Desired deck size is 16’ D (4.88 m) x 20’ W (6.1 m).

5. A minimum cantilever of 3’ (.91 m) is required because the overall depth (16’ [4.88 m]) is greater than 13’ (3.96 m).
   - Based on the above information, the cantilever can be between 3’ (.91 m) and 4’ (1.22 m) depending on customer preference. For this example, a 3’ (.91 m) cantilever will be used.
   - 16’ (4.88 m) depth of deck – 3’ (.91 m) cantilever = 13’ (3.96 m) joist span

6. Locate the 13’ (3.96 m) joist span and 3’ (.91 m) cantilever and trace over to 11’ 5” (3.48 m) beam span.

20’ (6.1 m) deck width/11’ 5” (346.8 cm)
max. beam span = 1.73 support posts

- 1.73 rounds up to 2
- 2 + 1 = 3 support posts (spaced equally or as desired so as not to exceed 11’ 5” [3.48 m])

---

**MAXIMUM ALLOWABLE BOX BEAM CANTILEVER**

<table>
<thead>
<tr>
<th></th>
<th>SBB</th>
<th>Stiffeners</th>
<th>DBB</th>
<th>Stiffeners</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-50</td>
<td>2’-8” (81.3 cm)</td>
<td>1</td>
<td>3’-11” (119.4 cm)</td>
<td>0</td>
</tr>
<tr>
<td>E-75</td>
<td>2’-7” (78.7 cm)</td>
<td>1</td>
<td>3’-9” (114.3 cm)</td>
<td>0</td>
</tr>
<tr>
<td>E-100</td>
<td>2’-6” (76.2 cm)</td>
<td>1</td>
<td>3’-7” (109.2 cm)</td>
<td>0</td>
</tr>
<tr>
<td>E-125</td>
<td>2’-5” (73.7 cm)</td>
<td>1</td>
<td>3’-7” (109.2 cm)</td>
<td>0</td>
</tr>
<tr>
<td>E-150</td>
<td>2’-5” (73.7 cm)</td>
<td>1</td>
<td>3’-7” (109.2 cm)</td>
<td>0</td>
</tr>
<tr>
<td>E-200</td>
<td>2’-5” (73.7 cm)</td>
<td>1</td>
<td>3’-6” (106.7 cm)</td>
<td>0</td>
</tr>
<tr>
<td>MAX.</td>
<td>2’-5” (73.7 cm)</td>
<td>1</td>
<td>3’-6” (106.7 cm)</td>
<td>0</td>
</tr>
</tbody>
</table>

SBB = Single Box Beam  DBB = Double Box Beam

Stiffeners = Full depth web stiffeners, at least 0.067” (0.2 cm) thick, must be through-fastened to the box beam web at each post to develop the full web crippling capacity.
## TREX ELEVATIONS® SPAN CHART
### TABLE E-50  RESIDENTIAL

**Table Instructions:** Enter the table with a joist span and cantilever length, then read the maximum allowable box beam span.

### 50 PSF TOTAL LOAD

#### JOIST SPAN LIMITS (FEET/CENTIMETERS)

<table>
<thead>
<tr>
<th>12” JOIST SPACING O.C.</th>
<th>16” JOIST SPACING O.C.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Maximum Joist Span (Ledger to Box Beam)</strong></td>
<td><strong>Maximum Joist Span (Ledger to Box Beam)</strong></td>
</tr>
<tr>
<td>15’- 0”</td>
<td>13’- 0”</td>
</tr>
<tr>
<td>457.2 cm</td>
<td>396.2 cm</td>
</tr>
<tr>
<td><strong>Maximum Cantilever Length</strong></td>
<td><strong>Maximum Cantilever Length</strong></td>
</tr>
<tr>
<td>4’- 0”</td>
<td>4’- 0”</td>
</tr>
<tr>
<td>121.9 cm</td>
<td>121.9 cm</td>
</tr>
</tbody>
</table>

(Single Trex 1-5/8” [4.1 cm] Joist)

#### MAXIMUM BOX BEAM SPAN (SINGLE BOX BEAM BETWEEN POSTS)

<table>
<thead>
<tr>
<th>JOIST SPAN – LEDGER TO BOX BEAM (FEET/CENTIMETERS)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cantilever Length (feet/centimeters)</strong></td>
</tr>
<tr>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>0’- 0”</td>
</tr>
<tr>
<td>30.5</td>
</tr>
<tr>
<td>1’- 0”</td>
</tr>
<tr>
<td>30.5</td>
</tr>
<tr>
<td>2’- 0”</td>
</tr>
<tr>
<td>76.2</td>
</tr>
<tr>
<td>3’- 0”</td>
</tr>
<tr>
<td>106.7</td>
</tr>
<tr>
<td>4’- 0”</td>
</tr>
</tbody>
</table>

(Otherwise TL =1.2DL+1.6LL+0.5SL.

2. Loads used to produce the tables above are as follows: DL =10psf, LL =40psf, SL =0psf.

3. Deflection limits for joists... Section R505, Steel Floor Framing. Joists - Live load deflection is limited to L/480, total deflection is limited to... Section R505, Steel Floor Framing. Joists - Live load deflection is limited to L/480, total deflection is limited to... Section R505, Steel Floor Framing. Joists - Live load deflection is limited to L/480, total deflection is limited to... Section R505, Steel Floor Framing. Joists - Live load deflection is limited to L/480, total deflection is limited to...

4. Grey areas in tables indicate instances where the joists do not backspan twice the cantilever distance or where the joists do not backspan twice the cantilever distance or where the joists do not backspan twice the cantilever distance or where the joists do not backspan twice the cantilever distance or where...
**MAXIMUM BOX BEAM SPAN (DOUBLE BOX BEAM BETWEEN POSTS)**

<table>
<thead>
<tr>
<th>Cantilever Length (feet/centimeters)</th>
<th>0'-0&quot;</th>
<th>1'-0&quot;</th>
<th>2'-0&quot;</th>
<th>3'-0&quot;</th>
<th>4'-0&quot;</th>
<th>5'-0&quot;</th>
<th>6'-0&quot;</th>
<th>7'-0&quot;</th>
<th>8'-0&quot;</th>
<th>9'-0&quot;</th>
<th>10'-0&quot;</th>
<th>11'-0&quot;</th>
<th>12'-0&quot;</th>
<th>13'-0&quot;</th>
<th>14'-0&quot;</th>
<th>15'-0&quot;</th>
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<tr>
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<td>0'-0&quot;</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>0'-6&quot; 15.2</td>
<td>N/A</td>
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<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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</tr>
<tr>
<td>1'-0&quot; 30.5</td>
<td>N/A</td>
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</tr>
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</tr>
<tr>
<td>4'-0&quot; 121.9</td>
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<td>N/A</td>
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</tr>
</tbody>
</table>

**NOTES:**

1. All loads and load combinations are determined using ASCE 7-05. DL=Dead Load, LL=Live Load, SL=Snow Load. When LL<SL, the total load (TL) is 1.2DL+1.6SL+0.5LL, otherwise TL=1.2DL+1.6LL+0.5SL.

2. Loads used to produce the tables above are as follows: DL=10psf, LL=40psf, SL=0psf.

3. Deflection limits for joists are determined using IBC-2009 Section R505, Steel Floor Framing. Joists - Live load deflection is limited to L/480, total deflection is limited to L/240, where L is the span length. Box Beams - Live load deflection is limited to L/360, total deflection is limited to L/240, where L is the span length.

4. Grey areas in tables indicate instances where the joists do not backspan twice the cantilever distance or where the maximum joist span is exceeded.

5. Grey areas are established based on 12 in. O.C. joist capacity.

6. A partial list of section properties for each member is provided in the Trex Elevations Deck Framing/Inspection Details Table.

7. Joist and box beam capacity are determined with AISI-S100-07 (LRFD).

8. Joist yield stress is assumed as 33ksi.

9. Box beam yield stress is assumed as 50ksi.

10. If a box beam is supported by more than two posts, then its span selected above should be multiplied by 0.85 for a single box beam and 0.90 for a double box beam.

11. If a box beam is provided as an intermediate joist support, then its span selected above or modified by Note 10 should be multiplied by 0.60 for a "dropped" box beam and 0.70 for a "flush" box beam.

12. This span chart should not be used for decks located in a hurricane zone (minimum load of 125 psf should be considered in hurricane zones).
### JOIST SPAN LIMITS (FEET/CENTIMETERS)

<table>
<thead>
<tr>
<th>JOIST SPAN LIMITS</th>
<th>12&quot; JOIST SPACING O.C.</th>
<th>16&quot; JOIST SPACING O.C.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Joist Span (Ledge to Box Beam)</td>
<td>14'-0&quot; (426.7 cm)</td>
<td>12'-0&quot; (365.8 cm)</td>
</tr>
<tr>
<td>Maximum Cantilever Length</td>
<td>4'-0&quot; (121.9 cm)</td>
<td>4'-0&quot; (121.9 cm)</td>
</tr>
</tbody>
</table>

(Single Trex 1-5/8" [4.1 cm] Joist)

### MAXIMUM BOX BEAM SPAN (SINGLE BOX BEAM BETWEEN POSTS)

<table>
<thead>
<tr>
<th>JOIST SPAN – LEDGER TO BOX BEAM (FEET/CENTIMETERS)</th>
<th>0' - 0&quot;</th>
<th>1' - 0&quot;</th>
<th>2' - 0&quot;</th>
<th>3' - 0&quot;</th>
<th>4' - 0&quot;</th>
<th>5' - 0&quot;</th>
<th>6' - 0&quot;</th>
<th>7' - 0&quot;</th>
<th>8' - 0&quot;</th>
<th>9' - 0&quot;</th>
<th>10' - 0&quot;</th>
<th>11' - 0&quot;</th>
<th>12' - 0&quot;</th>
<th>13' - 0&quot;</th>
<th>14' - 0&quot;</th>
<th>15' - 0&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>0' - 0&quot;</td>
<td>N/A</td>
<td>N/A</td>
<td>27'-8&quot;</td>
<td>21'-11&quot;</td>
<td>19'-2&quot;</td>
<td>17'-5&quot;</td>
<td>16'-2&quot;</td>
<td>15'-3&quot;</td>
<td>14'-5&quot;</td>
<td>13'-4&quot;</td>
<td>12'-10&quot;</td>
<td>11'-9&quot;</td>
<td>11'-6&quot;</td>
<td>11'-3&quot;</td>
<td>10'-9&quot;</td>
<td>10'-6&quot;</td>
</tr>
<tr>
<td>0' - 6&quot;</td>
<td>N/A</td>
<td>N/A</td>
<td>21'-11&quot;</td>
<td>19'-2&quot;</td>
<td>17'-5&quot;</td>
<td>16'-2&quot;</td>
<td>15'-3&quot;</td>
<td>14'-5&quot;</td>
<td>13'-4&quot;</td>
<td>12'-10&quot;</td>
<td>11'-9&quot;</td>
<td>11'-6&quot;</td>
<td>11'-3&quot;</td>
<td>10'-9&quot;</td>
<td>10'-6&quot;</td>
<td>N/A</td>
</tr>
<tr>
<td>1' - 0&quot;</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>17'-5&quot;</td>
<td>16'-2&quot;</td>
<td>15'-3&quot;</td>
<td>14'-5&quot;</td>
<td>13'-4&quot;</td>
<td>12'-10&quot;</td>
<td>11'-9&quot;</td>
<td>11'-6&quot;</td>
<td>11'-3&quot;</td>
<td>10'-9&quot;</td>
<td>10'-6&quot;</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>1' - 6&quot;</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>15'-3&quot;</td>
<td>14'-5&quot;</td>
<td>13'-4&quot;</td>
<td>12'-10&quot;</td>
<td>11'-9&quot;</td>
<td>11'-6&quot;</td>
<td>11'-3&quot;</td>
<td>10'-9&quot;</td>
<td>10'-6&quot;</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2' - 0&quot;</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>13'-10&quot;</td>
<td>13'-4&quot;</td>
<td>12'-10&quot;</td>
<td>11'-9&quot;</td>
<td>11'-6&quot;</td>
<td>11'-3&quot;</td>
<td>10'-9&quot;</td>
<td>10'-6&quot;</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2' - 6&quot;</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>12'-10&quot;</td>
<td>12'-5&quot;</td>
<td>12'-1&quot;</td>
<td>11'-9&quot;</td>
<td>11'-6&quot;</td>
<td>11'-3&quot;</td>
<td>10'-9&quot;</td>
<td>10'-6&quot;</td>
<td>N/A</td>
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</tr>
<tr>
<td>3' - 0&quot;</td>
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<td>N/A</td>
<td>N/A</td>
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<td>11'-9&quot;</td>
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<td>10'-9&quot;</td>
<td>10'-6&quot;</td>
<td>N/A</td>
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<tr>
<td>3' - 6&quot;</td>
<td>N/A</td>
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<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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<td>11'-6&quot;</td>
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<td>10'-6&quot;</td>
<td>N/A</td>
<td>N/A</td>
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</tr>
<tr>
<td>4' - 0&quot;</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>11'-9&quot;</td>
<td>11'-6&quot;</td>
<td>10'-9&quot;</td>
<td>10'-6&quot;</td>
<td>N/A</td>
<td>N/A</td>
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</tr>
</tbody>
</table>

(continued in the next table)

### Notes:
2. Loads used to produce the tables above are as follows: DL = 10 psf, LL = 40 psf, SL = 25 psf.
3. Deflection limits for joists are determined using IBC-2009 Section R505, Steel Floor Framing. Joists - Live load deflection is limited to L/480, total deflection is limited to 0.70 for a “flush” box beam.
4. This span chart should not be used for decks located in a hurricane zone (minimum load of 125 psf should be considered in hurricane zones).
<table>
<thead>
<tr>
<th>Cantilever Length (feet/centimeters)</th>
<th>0' - 0&quot; 0.0</th>
<th>1' - 0&quot; 30.5</th>
<th>2' - 0&quot; 61.0</th>
<th>3' - 0&quot; 91.4</th>
<th>4' - 0&quot; 121.9</th>
<th>5' - 0&quot; 152.4</th>
<th>6' - 0&quot; 182.9</th>
<th>7' - 0&quot; 213.4</th>
<th>8' - 0&quot; 243.8</th>
<th>9' - 0&quot; 274.3</th>
<th>10' - 0&quot; 304.8</th>
<th>11' - 0&quot; 335.3</th>
<th>12' - 0&quot; 365.8</th>
<th>13' - 0&quot; 396.2</th>
<th>14' - 0&quot; 426.7</th>
<th>15' - 0&quot; 457.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>0' - 0&quot; 0.0</td>
<td>N/A</td>
<td>34' - 10&quot; 1062.1</td>
<td>27' - 8&quot; 843.0</td>
<td>24' - 2&quot; 736.4</td>
<td>21' - 11&quot; 669.1</td>
<td>20' - 5&quot; 621.1</td>
<td>19' - 2&quot; 584.5</td>
<td>18' - 3&quot; 555.2</td>
<td>17' - 5&quot; 531.0</td>
<td>16' - 9&quot; 510.6</td>
<td>16' - 2&quot; 493.0</td>
<td>15' - 8&quot; 475.7</td>
<td>15' - 3&quot; 463.9</td>
<td>14' - 10&quot; 440.7</td>
<td>14' - 5&quot; 422.6</td>
<td>N/A</td>
</tr>
<tr>
<td>0' - 6&quot; 15.2</td>
<td>N/A</td>
<td>27' - 8&quot; 843.0</td>
<td>24' - 2&quot; 736.4</td>
<td>21' - 11&quot; 669.1</td>
<td>20' - 5&quot; 621.1</td>
<td>19' - 2&quot; 584.5</td>
<td>18' - 3&quot; 555.2</td>
<td>17' - 5&quot; 531.0</td>
<td>16' - 9&quot; 510.6</td>
<td>16' - 2&quot; 493.0</td>
<td>15' - 8&quot; 475.7</td>
<td>15' - 3&quot; 463.9</td>
<td>14' - 10&quot; 440.7</td>
<td>14' - 5&quot; 422.6</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>1' - 0&quot; 30.5</td>
<td>N/A</td>
<td>21' - 11&quot; 669.1</td>
<td>20' - 5&quot; 621.1</td>
<td>19' - 2&quot; 584.5</td>
<td>18' - 3&quot; 555.2</td>
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<td>14' - 5&quot; 422.6</td>
<td>13' - 10&quot; 421.5</td>
<td>13' - 7&quot; 413.0</td>
<td>13' - 4&quot; 405.2</td>
<td>N/A</td>
</tr>
<tr>
<td>1' - 6&quot; 45.7</td>
<td>N/A</td>
<td>21' - 11&quot; 669.1</td>
<td>20' - 5&quot; 621.1</td>
<td>19' - 2&quot; 584.5</td>
<td>18' - 3&quot; 555.2</td>
<td>17' - 5&quot; 531.0</td>
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<td>13' - 7&quot; 413.0</td>
<td>13' - 4&quot; 405.2</td>
<td>N/A</td>
</tr>
<tr>
<td>2' - 0&quot; 61.0</td>
<td>N/A</td>
<td>N/A</td>
<td>19' - 2&quot; 584.5</td>
<td>18' - 3&quot; 555.2</td>
<td>17' - 5&quot; 531.0</td>
<td>16' - 9&quot; 510.6</td>
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<td>13' - 10&quot; 421.5</td>
<td>13' - 7&quot; 413.0</td>
<td>13' - 4&quot; 405.2</td>
<td>N/A</td>
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</tr>
<tr>
<td>2' - 6&quot; 76.2</td>
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<td>N/A</td>
<td>N/A</td>
<td>19' - 2&quot; 584.5</td>
<td>18' - 3&quot; 555.2</td>
<td>17' - 5&quot; 531.0</td>
<td>16' - 9&quot; 510.6</td>
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<td>13' - 4&quot; 405.2</td>
<td>N/A</td>
</tr>
<tr>
<td>3' - 0&quot; 91.4</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>19' - 2&quot; 584.5</td>
<td>18' - 3&quot; 555.2</td>
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<td>13' - 7&quot; 413.0</td>
<td>13' - 4&quot; 405.2</td>
</tr>
<tr>
<td>3' - 6&quot; 106.7</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>19' - 2&quot; 584.5</td>
<td>18' - 3&quot; 555.2</td>
<td>17' - 5&quot; 531.0</td>
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<tr>
<td>4' - 0&quot; 121.9</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>19' - 2&quot; 584.5</td>
<td>18' - 3&quot; 555.2</td>
<td>17' - 5&quot; 531.0</td>
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<td>13' - 10&quot; 421.5</td>
<td>13' - 7&quot; 413.0</td>
<td>13' - 4&quot; 405.2</td>
</tr>
</tbody>
</table>

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5. Grey areas are established based on 12 in. O.C. joist capacity.
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**TREX ELEVATIONS® SPAN CHART**

**TABLE E-100  RESIDENTIAL**

**100 PSF TOTAL LOAD**

Table Instructions: Enter the table with a joist span and cantilever length, then read the maximum allowable box beam span.

<table>
<thead>
<tr>
<th>JOIST SPAN LIMITS (FEET/CENTIMETERS)</th>
<th>12&quot; JOIST SPACING O.C.</th>
<th>16&quot; JOIST SPACING O.C.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Joist Span (Ledger to Box Beam)</td>
<td>12’- 0”</td>
<td>11’- 0”</td>
</tr>
<tr>
<td>Maximum Cantilever Length</td>
<td>4’- 0”</td>
<td>3’- 0”</td>
</tr>
</tbody>
</table>

(Single Trex 1-5/8” [4.1 cm] Joist)

**MAXIMUM BOX BEAM SPAN (SINGLE BOX BEAM BETWEEN POSTS)**

<table>
<thead>
<tr>
<th>JOIST SPAN – LEDGER TO BOX BEAM (FEET/CENTIMETERS)</th>
<th>0’- 0”</th>
<th>1’- 0”</th>
<th>2’- 0”</th>
<th>3’- 0”</th>
<th>4’- 0”</th>
<th>5’- 0”</th>
<th>6’- 0”</th>
<th>7’- 0”</th>
<th>8’- 0”</th>
<th>9’- 0”</th>
<th>10’- 0”</th>
<th>11’- 0”</th>
<th>12’- 0”</th>
<th>13’- 0”</th>
<th>14’- 0”</th>
<th>15’- 0”</th>
</tr>
</thead>
<tbody>
<tr>
<td>0’- 0” 0.0</td>
<td>N/A</td>
<td>25’- 2” 765.9</td>
<td>19’- 1” 607.9</td>
<td>17’- 5” 531.0</td>
<td>15’- 10” 482.5</td>
<td>14’- 8” 447.9</td>
<td>13’- 10” 421.5</td>
<td>12’- 7” 382.9</td>
<td>12’- 1” 368.2</td>
<td>11’- 8” 355.5</td>
<td>11’- 4” 344.4</td>
<td>11’- 0” 334.5</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>0’- 6” 15.2</td>
<td>N/A</td>
<td>19’- 1” 607.9</td>
<td>17’- 5” 531.0</td>
<td>15’- 10” 482.5</td>
<td>14’- 8” 447.9</td>
<td>13’- 10” 421.5</td>
<td>12’- 7” 382.9</td>
<td>12’- 1” 368.2</td>
<td>11’- 8” 355.5</td>
<td>11’- 4” 344.4</td>
<td>11’- 0” 334.5</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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<td></td>
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<tr>
<td>1’- 0” 30.5</td>
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<td>12’- 7” 382.9</td>
<td>12’- 1” 368.2</td>
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<td>11’- 4” 344.4</td>
<td>11’- 0” 334.5</td>
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<tr>
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<td>13’- 10” 421.5</td>
<td>13’- 2” 400.43</td>
<td>12’- 7” 382.9</td>
<td>12’- 1” 368.2</td>
<td>11’- 8” 355.5</td>
<td>11’- 4” 344.4</td>
<td>11’- 0” 334.5</td>
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<td>N/A</td>
<td>N/A</td>
<td>12’- 7” 382.9</td>
<td>12’- 1” 368.2</td>
<td>11’- 8” 355.5</td>
<td>11’- 4” 344.4</td>
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<td>11’- 0” 334.5</td>
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<td>10’- 5” 317.8</td>
<td>10’- 2” 310.5</td>
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<tr>
<td>3’- 0” 91.4</td>
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<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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<td>10’- 8” 325.7</td>
<td>10’- 5” 317.8</td>
<td>10’- 2” 310.5</td>
<td>N/A</td>
<td>N/A</td>
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<td>N/A</td>
</tr>
<tr>
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<td>N/A</td>
<td>N/A</td>
<td>10’- 5” 317.8</td>
<td>10’- 2” 310.5</td>
<td>9’- 7” 292.1</td>
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</tr>
<tr>
<td>4’- 0” 121.9</td>
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<td>N/A</td>
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<td>N/A</td>
<td>N/A</td>
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<td>9’- 11” 301.1</td>
<td>9’- 7” 292.1</td>
<td>N/A</td>
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## MAXIMUM BOX BEAM SPAN (DOUBLE BOX BEAM BETWEEN POSTS)

### JOIST SPAN – LEDGER TO BOX BEAM (FEET/CENTIMETERS)

<table>
<thead>
<tr>
<th>Cantilever Length (feet/centimeters)</th>
<th>0' - 6&quot;</th>
<th>1' - 0&quot;</th>
<th>2' - 0&quot;</th>
<th>3' - 0&quot;</th>
<th>4' - 0&quot;</th>
<th>5' - 0&quot;</th>
<th>6' - 0&quot;</th>
<th>7' - 0&quot;</th>
<th>8' - 0&quot;</th>
<th>9' - 0&quot;</th>
<th>10' - 0&quot;</th>
<th>11' - 0&quot;</th>
<th>12' - 0&quot;</th>
<th>13' - 0&quot;</th>
<th>14' - 0&quot;</th>
<th>15' - 0&quot;</th>
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<td>0' - 0&quot; 0.0</td>
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<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>0' - 6&quot; 15.2</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>1' - 0&quot; 30.5</td>
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<td>N/A</td>
<td>N/A</td>
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</tr>
<tr>
<td>1' - 6&quot; 45.7</td>
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<td>N/A</td>
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<td>N/A</td>
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<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2' - 0&quot; 61.0</td>
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<td>N/A</td>
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<td>N/A</td>
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<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2' - 6&quot; 76.2</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>3' - 0&quot; 91.4</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>3' - 6&quot; 106.7</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>4' - 0&quot; 121.9</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### NOTES:

1. All loads and load combinations are determined using ASCE 7-05. DL = Dead Load, LL = Live Load, SL = Snow Load. When LL < SL, the total load (TL) is 1.2DL + 1.6LL + 0.5LL, otherwise TL = 1.2DL + 1.6LL + 0.5LL.
2. Loads used to produce the tables above are as follows: DL = 10 psf, LL = 40 psf, SL = 50 psf.
3. Deflection limits for joists are determined using IBC:2009 Section R505, Steel Floor Framing. Joists - Live load deflection is limited to L/480, total deflection is limited to L/240, where L is the span length. Box Beams - Live load deflection is limited to L/360, total deflection is limited to L/240, where L is the span length.
4. Grey areas in tables indicate instances where the joists do not backspan twice the cantilever distance or where the maximum joist span is exceeded.
5. Grey areas are established based on 12 in. O.C. joist capacity.
6. A partial list of section properties for each member is provided in the Trex Elevations Deck Framing/Inspection Details Table.
7. Joist and box beam capacity are determined with AISI-S100-07 (LRFD).
8. Joist yield stress is assumed as 33 ksi.
9. Box beam yield stress is assumed as 50 ksi.
10. If a box beam is supported by more than two posts, then its span selected above should be multiplied by 0.85 for a single box beam and 0.90 for a double box beam.
11. If a box beam is provided as an intermediate joist support, then its span selected above or modified by Note 10 should be multiplied by 0.60 for a "dropped" box beam and 0.70 for a "flush" box beam.
12. This span chart should not be used for decks located in a hurricane zone (minimum load of 125 psf should be considered in hurricane zones).
Table Instructions: Enter the table with a joist span and cantilever length, then read the maximum allowable box beam span.

### JOIST SPAN LIMITS (FEET/CENTIMETERS)

<table>
<thead>
<tr>
<th>12&quot; JOIST SPACING O.C.</th>
<th>16&quot; JOIST SPACING O.C.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Joist Span (Ledger to Box Beam)</td>
<td>8' - 0&quot;</td>
</tr>
<tr>
<td>Maximum Cantilever Length</td>
<td>1' - 0&quot;</td>
</tr>
</tbody>
</table>

(Single Trex 1-5/8" [4.1 cm] Joist)

### MAXIMUM BOX BEAM SPAN (SINGLE BOX BEAM BETWEEN POSTS)

<table>
<thead>
<tr>
<th>JOIST SPAN – LEDGER TO BOX BEAM (FEET/CENTIMETERS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0' - 0&quot; 0.0</td>
</tr>
<tr>
<td>0' - 6&quot; 15.2</td>
</tr>
<tr>
<td>1' - 0&quot; 30.5</td>
</tr>
<tr>
<td>1' - 6&quot; 45.7</td>
</tr>
<tr>
<td>2' - 0&quot; 61.0</td>
</tr>
<tr>
<td>2' - 6&quot; 76.2</td>
</tr>
<tr>
<td>3' - 0&quot; 91.4</td>
</tr>
<tr>
<td>3' - 6&quot; 106.7</td>
</tr>
<tr>
<td>4' - 0&quot; 121.9</td>
</tr>
</tbody>
</table>
## Maximum Box Beam Span (Double Box Beam Between Posts)

<table>
<thead>
<tr>
<th>Cantilever (feet/centimeters)</th>
<th>0'-0&quot; 0.0</th>
<th>1'-0&quot; 30.5</th>
<th>2'-0&quot; 61.0</th>
<th>3'-0&quot; 91.4</th>
<th>4'-0&quot; 121.9</th>
<th>5'-0&quot; 152.4</th>
<th>6'-0&quot; 182.9</th>
<th>7'-0&quot; 213.4</th>
<th>8'-0&quot; 243.8</th>
<th>9'-0&quot; 274.3</th>
<th>10'-0&quot; 304.8</th>
<th>11'-0&quot; 335.3</th>
<th>12'-0&quot; 365.8</th>
<th>13'-0&quot; 396.2</th>
<th>14'-0&quot; 426.7</th>
<th>15'-0&quot; 457.2</th>
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<tbody>
<tr>
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<td>N/A</td>
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<td>N/A</td>
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<td>N/A</td>
<td>N/A</td>
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</tr>
<tr>
<td>1'-0&quot; 30.5</td>
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<td>N/A</td>
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<tr>
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<tr>
<td>2'-6&quot; 76.2</td>
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<td>N/A</td>
</tr>
<tr>
<td>3'-0&quot; 91.4</td>
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</tr>
<tr>
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<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>4'-0&quot; 121.9</td>
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<td>N/A</td>
</tr>
</tbody>
</table>

**Notes:**

1. All loads and load combinations are determined using ASCE 7-05. DL = Dead Load, LL = Live Load, SL = Snow Load. When LL < SL, the total load (TL) is 1.2DL + 1.6SL + 0.5LL, otherwise TL = 1.2DL + 1.6LL + 0.5SL.
2. Loads used to produce the tables above are as follows: DL = 10psf, LL = 40psf, SL = 150psf.
3. Deflection limits for joists are determined using IBC-2009 Section R505, Steel Floor Framing. Joists - Live load deflection is limited to L/480, total deflection is limited to L/240, where L is the span length. Box Beams - Live load deflection is limited to L/360, total deflection is limited to L/240, where L is the span length.
4. Grey areas in tables indicate instances where the joists do not backspan twice the cantilever distance or where the maximum joist span is exceeded.
5. Grey areas are established based on 12 in. O.C. joist capacity.
6. A partial list of section properties for each member is provided in the TREX Elevations Deck Framing / Inspection Details Table.
7. Joist and box beam capacity are determined with AISI-S100-07 (LRFD).
8. Joist yield stress is assumed as 33ksi.
9. Box beam yield stress is assumed as 50ksi.
10. If a box beam is supported by more than two posts, then its span selected above should be multiplied by 0.85 for a single box beam and 0.90 for a double box beam.
11. If a box beam is provided as an intermediate joist support, then its span selected above or modified by Note 10 should be multiplied by 0.60 for a “dropped” box beam and 0.70 for a “flush” box beam.
INSTALLING PIERS, POSTS, TRACK/LEDGER, AND BEAMS

PARTS

Installing Piers and Posts
1. Install the post as required by local code. Check with your local building code inspector for requirements.

Installing Track/Ledger
2. Before installing the track, mark the track where each joist will be positioned. Joist spacing requirements are determined by local building codes and decking manufacturer and are not to exceed 16” (40.6 cm) on center. Pre-drill the holes for lag bolts using a step bit repetitively while the track is on sawhorses.

NOTE: See pages 41-42 for fastener type and placement details.

3. Spray each drilled hole and ends of track with Precision Color by Quest Industrial/Raabe® Brown Textured touch-up paint.

4. Secure track to the structure using approved methods of attachment. Consult a structural engineer or local building code official for proper water management details.

TOOLS NEEDED

NOTES:
» See page 6 for detailed description of required fasteners and brackets.
» For bracket to wood post attachments use approved 16d nails for AC4 and AC6 brackets and 10d nails for LPC4 and LPC6 brackets, per ASTM F1667 standards.

Required metal-to-metal fastener

Bolts and nuts

Track/Ledger

Lag screws

16 Ga. post brackets

16 Ga. angle brackets

Posts

7-1/4" (18.4 cm)
circular saw (with ferrous metal cutting blade)

Precision Color by Quest Industrial/Raabe® Brown Textured touch-up paint

Tape measure

Drill with adjustable clutch and torque with speed range of 0-2,500 max.

Permanent felt marker

Step drill bit

C-channel vice grips

C-Channel vice grips

7-1/4" (18.4 cm) circular saw (with ferrous metal cutting blade)

Precision Color by Quest Industrial/Raabe® Brown Textured touch-up paint
Installing Beams

**NOTE:** Paint all ends of beams and track/ledger plates with Precision Color by Quest Industrial/Raabe® Brown Textured touch-up paint.

**Option 1:**
Flush Beam Scenario – 4x4 or 6x6

4a. Attach 16 Ga. angle brackets (L70Z or LS70Z) using required fasteners to beam where joists will be joined. Use C-channel vice grips to clamp brackets in place. See Required Fasteners chart on page 6, column A, for approved metal-to-metal fasteners for attaching brackets to beam.

**NOTE:** Flush beam applications may be used in the design from 50 total PSF up to a total of 95 PSF. Greater review loads will require beam to be dropped.

4b. Attach beam to post using recommended 16 Ga. post bracket (AC4CZ or AC6CZ) with required fasteners. See Required Fasteners chart on page 6, column A, for approved metal-to-metal fasteners for attaching brackets to beam.

**Option 2:**
Single Beam Notched Post Scenario – 6x6 post

4c. Attach beam to each notched 6x6 post using two 1/2” (1.3 cm) bolts, washers, and nuts. See detail on page 45. Using a drop beam requires a track to be used as a front plate to secure joist ends.

**Option 3:**
Single Flush Post Beam Scenario – 4x4 or 6x6 post

4d. Attach beam to post using recommended 16 Ga. post brackets (AC4CZ and LPC4Z) shown, and required fasteners. See Required Fasteners chart on page 6, column A, for approved metal-to-metal fasteners for attaching brackets to beam.
Option 4:
Double Drop Beam Scenario – 6x6 Post

4e. Couple two beams using 1/2” (1.3 cm) carriage bolt, staggered at 24” (61 cm) O.C. (leaving room for bracket attachment). Bolts need to installed 1” - 2” (2.5 cm - 5.1 cm) from top and 1” - 2” (2.5 cm - 5.1 cm) from bottom of beam.

4f. Attach double beam to each post using recommended 16 Ga. post brackets (AC6CZ and LPC6Z), and required fasteners. See Required Fasteners chart on page 6, column A, for approved metal-to-metal fasteners for attaching brackets to beam.

(Optional)
End Cap Attachment

NOTE: Paint end cap with Precision Color by Quest Industrial/Raabe® Brown Textured touch-up paint.

5. Secure cap with exterior grade metal adhesive and/or #10 x 3/4” (1.9 cm) self-tapping screws.
INSTALLING RIM JOISTS, JOISTS, RIM PLATES, AND JOIST BLOCKING

**PARTS**
- Tracks/Ledgers
- Joists
- 16 Ga. angle brackets
- Required metal-to-metal fastener

**NOTE:** See page 6 for detailed description of required fasteners and brackets.

**TOOLS NEEDED**
- Tape measure
- C-channel vice grips
- Drill with adjustable clutch and torque with speed range of 0-2,500 max.
- Precision Color by Quest Industrial/Raabe® Brown Textured touch-up paint

**NOTE:** Paint all ends of rim joists, joists, front plates, and blocking with Precision Color by Quest Industrial/Raabe® Brown Textured touch-up paint.

Installing Rim Joists Assembly

1. Slide the joist within the flanges of the track and rest the outer end on the support post or beam. Fasten joist to track using required fasteners. See Required Fasteners chart on page 6, column A. Fasten through the track flange into the joist on top and bottom.

2. Fasten joist to track with recommended 16 Ga. angle bracket (L70Z or LS70Z) using required fasteners. See Required Fasteners chart on page 6, column A. Use C-channel vice grips to help secure the angled bracket.

3. Notch outer rim track to allow for fit over end of ledger. Attach outer rim track with metal-to-metal screws (see Required Fasteners chart on page 6, column A) every 12” (30.5 cm) top and bottom.

**NOTE:** In a dropped beam application when installing joists, it is recommended to alternate the “C” pattern of the joist profile. This will place the webs of the joists together for ease of installing blocking. See page 25.

Installing Inner Joists

4. Position joist within track flange, spaced according to approved joist spacing.

5. Fasten top and bottom of joist and track. Screw joist to track from above and below with required fasteners. See Required Fasteners chart on page 6, column A.
6. Attach joist to track with recommended 16 Ga. angle bracket (L70Z or LS70Z) using required fasteners. See Required Fasteners chart on page 6, column A. Repeat Steps 3-5 for remaining joists.

Option 1: Flush Beam Scenario
7a. Fasten joist to beam using recommended 16 Ga. angle brackets already attached.

Option 2: Drop Beam Scenario
7b. Rest joist on dropped beam. Attach using required fasteners through bottom of joist and into top of beam. See Required Fasteners chart on page 6, column A.

Installing Rim Plate and Joist Blocking
(Drop Beam Scenario Only)

8. Position track as a rim plate. Fit existing joists within the flanges of the track.

9. Attach track to joists by screwing track to joists in the corners on the top and bottom using required fasteners. See Required Fasteners chart on page 6, column A.

Installing Blocking

10a. For joist spans greater than 8’ (2.49 m), blocking is required midspan in every bay.

10b. Cut joist blocking pieces to fit within the bays of the two outer most joists and between bays above dropped beams design. Attach recommended 16 Ga. angle brackets (L70Z or LS70Z), using required fasteners. See Required Fasteners chart on page 6, column A. Attach blocking to drop beam with #10 x 3/4” (1.9 cm) self-tapping screws.
Installing Posts:

There are three code approved methods for attachment of rail posts. You must refer to the critical connections section, rail post installation scenarios for details on how this is done. See pages 50-52.

**NOTE:** See page 6 for detailed description of required fasteners and brackets.

**TREX RAILING SPAN CHART**

<table>
<thead>
<tr>
<th></th>
<th>Maximum Railing Span for all Applications (on center of posts)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transcend Railing</td>
<td>96&quot; (244 cm)</td>
</tr>
<tr>
<td>Designer Railing/ Traditional Railing</td>
<td>72&quot; (183 cm)</td>
</tr>
</tbody>
</table>

**NOTE:** Railing heights can only be at 36" (91.4 cm)
HOW TO INSTALL DECK BOARDS

PARTS

Fastenmaster® Cortex Driller™

Starborn® DeckFast® metal screws

Simpson Strong-Tie® Quik Drive DCSD238

Trex Elevations® start clip

Trex Elevations® universal hidden fasteners

TOOLS NEEDED

Paddle drill bit

Tape measure

Drill with adjustable clutch and torque with speed range of 0-2,500 max. or impact driver

WARNING

DO NOT walk or stand on top of Trex Elevations® joists prior to installing deck boards.

Tips on Installing Deck Board over Screws on Ledger/Front Plate

Tip 1:

1. Place deck boards in proper location over end joist fasteners. Use a rubber mallet on top of deck board in order to mark underside of decking where screws may have caused the deck board to stick up.

2. Flip board over so that bottom of board faces up and shows strike marks from the screws. Using a paddle drill bit, carefully drill holes to the depth of the fastener heads in the joist. Flip board over so that drilled holes fit over joist fasteners, and fasten board per instructions.

Tip 2:

Cut out groove (1-1/2” [3.8 cm] wide x 1/4” [0.6 cm] height) on underside of decking to allow for clearance of screws.

NOTE: Reference decking manufacturer installation instructions for more details in regards to proper gapping, etc.

Installing Butt Seams

» Install sister blocking along joists where end seams of boards will butt.

» Place additional hidden fastener on the adjacent board over the joist and blocking where the seams meet.

» Place the first board of the seam in place and secure with hidden fastener.

» Butt end of second board with proper gapping to first and secure with hidden fastener.
HOW TO INSTALL DECK BOARDS/CONTINUED

Installing Angled Deck Boards in Corners
Install Trex Hideaway® fasteners 1/2” (1.3 cm) off center to keep fastener screws in middle of joists.

Option 1:
Traditional Face Screwing

NOTE: When using the Fastenmaster® Cortex Driller™* or DeckFast® Metal** fasteners, pre-drilling may be required.

Option 2:
Trex Elevations® Universal Hidden Fasteners

Installing Start Clips and First Board

NOTE: Maximum spacing of deck boards using Trex Hideaway® system is 16” (40.6 cm) on center. Fasteners provide 1/4” (0.6 cm) gap when installed correctly.

2a. Install start clips on edge of track board, centered on each joist. Secure clips with screws.

2b. Push grooved edge of deck board into start clips.

Important: First board MUST be straight and well secured in order to establish a finished appearance for the remainder of the deck.

Installing Universal Fasteners

2c. Insert fastener into grooved edge of deck board. Align screw hole in fastener with center of joist.

2d. It is suggested that in order to keep the fastener straight and secure cut a piece of scrap groove board and use this as an aid to help hold the hidden fastener down before screwing this in. This will help make sure the fastener stays fully straight for remaining boards to be attached.

*Fastenmaster® Cortex Driller™ is a trademark of OMG, Inc.
**DeckFast® is registered trademark of Starborn Industries, Inc.
2e. Hold the scrap board in place and align screw hole in fastener with center of joist. Secure fastener and continue along the length of the board at every joist with fasteners.

**NOTE:** For special patterns such as picture framing for decking, refer to Detail Drawings Section, Framing Scenarios. See pages 63-65.

**Installing Second Board**

3. Slide second board into place, making sure fasteners fit into groove. Install the next universal fastener on the other side of the second board in the same manner as Steps 2c through 2e.
HOW TO INSTALL TREX ELEVATIONS® STAIRS

TOOLSTOOLS NEEDED

- Tracks/Ledgers
- Joists
- Stair Strap (ST22)
- #10 x 3/4” Frame screw

- Permanent marker
- Jigsaw
- Drill with adjustable clutch and torque with speed range of 0-2,500 max. or impact driver
- Carpenter square
- Tape measure
- Precision Color by Quest Industrial/Raabe® Brown Textured touch-up paint
- Circular saw (with ferrous metal cutting blade)

**PARTS**

Installing Trex Elevations® Stairs

1. Determine rise and run of desired stairway.

2. Using Elevations track, layout stairs on flat side of track. Starting at top, mark plumb cut and work downward with small marks at end of each run. When final step has been reached, mark bottom with two marks across track. Measure up from these two marks the thickness of decking on step.

   Example: Trex Transcend 1”, measure up 1” (2.5 cm) and draw line completely through track. This is flush cut.

3. Cut plumb and flush marks. This will be the stringer track of outside stringer. Repeat process for opposite side. Make sure stringers are positioned opposite each other and that they fit left and right.

4. Use stringer track as template to mark a piece of the Elevations joist. Cut plumb and flush marks.

   This will be stringer joist of stringer and complete box stringer. Repeat for opposite side.

**STAIR SUPPORT POSTS**

<table>
<thead>
<tr>
<th>Width</th>
<th>Max Height</th>
<th>Mid-stringer required</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 - 6 ft (91 - 182 cm)</td>
<td>9 ft (274 cm)</td>
<td>Yes (16 rises)*</td>
</tr>
<tr>
<td>6 - 8 ft (182 - 243 cm)</td>
<td>7 ft (213 cm)</td>
<td>No (12 rises)*</td>
</tr>
<tr>
<td>8 - 18 ft (243 - 549 cm)</td>
<td>5 ft (152 cm)</td>
<td>No (9 rises)*</td>
</tr>
</tbody>
</table>

* Fastener spacing along the width of the stairs is 12 in. (30.5 cm). If the stairs are 7 ft. (213 cm) (12 rises) or taller, 8 in. (20.3 cm) fastener spacing is required.

* Applies to wood stair system as well.
5. Determine width of stairway. Stringers will sit on outside of box, add 3-1/2" (8.9 cm) to the overall width (take this into account).

6. Using Elevations track, measure from one end length of run of stairs minus 1/8" (0.3 cm). At the point of this measurement, mark a bird’s beak at a 47° angle on top and bottom flange of track. This is stair box perimeter track.

Example: If run is 10-1/2" (26.7 cm), measure 10-3/8" (26.4 cm) and mark top and bottom of track.

7. From center point of birds beak, measure width of stairway. Mark another bird’s beak on top and bottom of stair box perimeter track.

8. From center point of second bird’s beak, measure length of run of stairs minus 1/8" (0.3 cm). This measurement will be the end of stair box. Cut track at that mark.

9. With a jigsaw, cut out four bird’s beaks marked on top and bottom flanges of stair box perimeter track.

10. Hold piece of track vertical and place a foot on inside of track. Apply pressure downward to bend track at a 90° angle at bird’s beak cut out location. Flip track over and repeat.

11. Determine how many stair boxes are needed. Repeat Steps 6 – 10 to construct total number of boxes.

12. Using joist material, cut joist the width of stair box minus 1/8" (0.3 cm). Two of these joists will be needed for every stair box.

13. Using joist material, cut a joist the width of stair box minus 20" (50.8 cm). One of these joists will be needed for every stair box.
14. Put one full length center stair box joist and one short stair box blocking joist together (back to back). Put joists equal at center point of each joist and flush with top. One assembly will be needed per stair box. Use a #10 x 3/4” (1.9 cm) frame screw every 16” (40.6 cm) O.C. to attach stair box blocking joist to stair box joist. A minimum of four screws must be used.

15. Determine attachment of stairs to deck frame. Mark sides of stair location. Mark down from frame the amount of rise determined for stairway.

16. Install longer rear stair box joist, with top of joist flush to line drawn for rise, against frame. Use a #10 x 3/4” (1.9 cm) frame screw through joist and into frame every 12” (30.5 cm) along stair box joist.

17. Measure width of decking minus 1/4” (0.6 cm) from the end of stair box (do this on both sides of box).

18. Using doubled up stair box joist assembly, install assembly into stair box. Install joist with center of doubled stair box joist assembly at mark on each side of stair box. Drill a #10 x 3/4” (1.9 cm) frame screw through top flange of stair box into stair box joist. Repeat on both sides, top and bottom.

19. Repeat this step for all stair boxes.

20. Install top stair box to frame of deck. Push stair box assembly over rear stair box joist attached to deck frame. When stair box is tight against frame drill a #10 x 3/4” (1.9 cm) frame screw through top of stair box flange into joist. Repeat screws on sides, top, and bottom.
Stairs Connecting to the Rim Joist Assembly from the Side

21. Secure one post midspan of stair section at back side of rim joist assembly using one AC4 or AC6. Fill all bracket holes.

NOTE: Deck boards are not shown for clarity.

Stairs Connecting to the Flush Beam

22. Secure one post midspan of stair section at back side of flush beam using one AC4 or AC6. Fill all bracket holes.

NOTE: Deck boards are not shown for clarity.

Stairs Connecting to the Cantilever Rim Plate

23. Within 6" left or right of stair stringers, fill bay cavity section at rim plate where each post will be placed using joist as blocking and fasten with 2 - #10 x 3/4" self-tapping screws both top and bottom of rim plate flange. Using one AC4 or AC6 secure both posts at bay blocking. Fill all bracket holes.

NOTE: Deck boards are not shown for clarity.

24. Install stringer track (cut in Step 3) to top stair box. Starting with one side of stairway, put track portion of stringer up against side of stair box. Install the point of stringer track flush with top of stair box. Using a level, make sure stair box is level front to back. Drill a #10 x 3/4" (1.9 cm) frame screw through the outside of stringer into stair box. Drill a total of four screws in an "L" pattern through stringer.
25. Install a stair box joist to first stair box as done in Step 16. Repeat this step and Steps 20 and 24 to bottom of stairway.

**Option 26a:**
No Landing Set (stairway goes to ground)

26a. Install bottom stair box as shown in Step 20 and dig ground out around box. Stringers need to set on footing or pad.

**Option 26b-f:**
Hard Surface Landing (stairway goes to hard surface)

26b. Measure height of bottom rise. Rip cut stair box, center stair box joist assembly, and rear stair box joist to height of bottom rise.

26c. Attach fall off to inside of stair box with #10 x 3/4" (1.9 cm) frame screw every 12" (30.5 cm) O.C.

23d. Install ripped center stair joist assembly into stair box (see Step 18).

26e. Install ripped rear stair joist to last step using a #10 x 3/4" (1.9 cm) frame screw through joist every 12" (30.5 cm).

26f. Install stair box to last ripped rear stair joist. When stair box is tight against frame drill a #10 x 3/4" (1.9 cm) frame screw through top of stair box flange into joist. Repeat screw on side top.
27. Install stringer joist into stringer track on both sides of stairway.

28. With stringer joist tight, screw top and bottom flange every 12” (30.5 cm) O.C. with a #10 x 3/4” (1.9 cm) frame screw. Do this on both sides of stairway.

29. Attach stair strap (ST22) to back side of frame where it lines up with stair stringer. Use #10 x 3/4” (1.9 cm) frame screws, filling every hole in strap.
HOW TO INSTALL DECK BOARDS AND FASCIA ON ELEVATIONS STAIRS

PARTS

Fastenmaster® Cortex Driller™
Simpson Strong-Tie® Quik Drive DCSD238

Starborn® DeckFast® metal screws

NOTES:
» Use of hidden fasteners is not recommended for Trex Elevations® stair installations, thus use square edge boards for proper installation.
» Stair treads built with Trex® meet requirements by major building codes. Consult your local municipality for specific requirements and what your area will allow.

TOOLS NEEDED

Tip on Installing Deck Board over Screws on Stair Sections

1. Place deck boards in proper location over end joist fasteners. Use a rubber mallet on top of deck board in order to mark underside of decking where screws may have caused the deck board to stick up.

Deck Board Installation Options

1. Install the deck boards as required by local code. Check with your local building code inspector for requirements.

2. Flip board over so that bottom of board faces up and shows strike marks from the screws. Using a paddle drill bit, carefully drill holes to the depth of the fastener heads in the joist. Flip board over so that drilled holes fit over joist fasteners, and fasten board per instructions.
1. Fasten deck boards by screwing recommended decking with metal fasteners through the decking into the stair framing. Two fasteners are required every 16" (40.6 cm). See Required Fasteners chart on page 6, column B.

2. Fasten deck boards by screwing recommended decking with metal fasteners through the decking into the stair framing. Two fasteners are required every 16" (40.6 cm). See Required Fasteners chart on page 6, column B.

3. Fasten riser boards by screwing recommended decking with metal fasteners through the decking into the stair framing. Two fasteners are required every 16" (40.6 cm). See Required Fasteners chart on page 6, column B.

4. Install the fascia in one of two ways. If deck boards are overhanging, fasten fascia from above. If deck boards are flush with fascia, fasten fascia from the side.

5a. Fasten fascia boards to deck boards from above and side as shown. Three fasteners are required every 16" (40.6 cm) for fascia into stringer and two are required per each deck board stair tread into fascia. See Required Fasteners chart on page 6, column B.
5b. Fasten fascia boards to deck boards from the side as shown. Three fasteners are required every 16” (40.6 cm) for fascia into stringer and two are required to attach fascia into each deck board. See Required Fasteners chart on page 6, column B.

6. Fasten second fascia board (two 1x8 fascia boards are needed in most cases, as one fascia board will not cover stringers) to stair framing by screwing recommended decking with metal fasteners into the stair framing. Number of screws used would depend on width of fascia, if full 1x8 is used, three screws would be required. See Required Fasteners chart on page 6, column B.
DETAILED DRAWINGS
GENERAL FRAMING DETAIL – NOMINAL

Trex Elevations® beam

8.15” (20.7 cm)

Trex Elevations track

1.615” (4.1 cm)

Trex Elevations joist

0.56” (1.4 cm)

WARNING

When building with Trex Elevations®, always wear protective gear and refer to your local building codes for approved methods of construction.
**TYP. LEDGER CONNECTIONS**

**WARNING**
When building with Trex Elevations® always wear protective gear and refer to your local building codes for approved methods of construction.

Concrete foundation wall

Composite fascia 1” x 8” (2.5 cm x 20.3 cm) nominal

Attach ledger track. See Trex Elevations® ledger chart on page 41 for size, quantity, and lag screw spacing

L70Z or equivalent TYP.

Trex Elevations joist

Trex Elevations track ledger

Wedge anchor

LEDGER TRACK ATTACHMENT TO FOUNDATION WALL

Existing wall

Existing subfloor

Rim timber

Siding

Flashing TYP.

Washer

L70Z or equivalent TYP.

Trex Elevations joist

Trex Elevations track ledger

LEDGER TRACK ATTACHMENT TO STRUCTURAL FRAMING OR FLOOR BOX TIMBER
When building with Trex Elevations® always wear protective gear and refer to your local building codes for approved methods of construction.
**WARNING**

When building with Trex Elevations® always wear protective gear and refer to your local building codes for approved methods of construction.

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**FLUSH BEAM ATTACHMENT SCENARIO**

- Secure Trex Elevations® joist to Trex Elevations beam using L70Z or equivalent and attaching with Teks Select™ or XEQ #10 x 3/4” (1.9 cm) self-drilling fastener TYP.

- Deck boards

- Trex Elevations box beam –
  - Flush beam scenario

- Teks Select or XEQ #10 x 3/4” (1.9 cm) self-drilling fastener TYP.

- AC4Z or AC6Z or equivalent post cap

- PT. 6” x 6” (15.2 cm x 15.2 cm) or 4” x 4” (10.2 cm x 10.2 cm) or Trex Elevations deck support post
  - 3-1/2” x 3-1/2” (8.9 cm x 8.9 cm) or
  - 5-1/2” x 5-1/2” (14 cm x 14 cm)

---

**FLUSH BEAM ATTACHMENT SCENARIO**

- Secure Trex Elevations® joist to Trex Elevations beam using L70Z or equivalent and attaching with Teks Select™ or XEQ #10 x 3/4” (1.9 cm) self-drilling fastener TYP.

- Deck boards

- Trex Elevations box beam –
  - Flush beam scenario

- Teks Select or XEQ #10 x 3/4” (1.9 cm) self-drilling fastener TYP.

- AC4Z or AC6Z or equivalent post cap

- PT. 6” x 6” (15.2 cm x 15.2 cm) or 4” x 4” (10.2 cm x 10.2 cm) or Trex Elevations deck support post
  - 3-1/2” x 3-1/2” (8.9 cm x 8.9 cm) or
  - 5-1/2” x 5-1/2” (14 cm x 14 cm)
JOIST ATTACHMENT – SHARING FLUSH BEAM SCENARIO

WARNING
When building with Trex Elevations® always wear protective gear and refer to your local building codes for approved methods of construction.
WARNING

When building with Trex Elevations® always wear protective gear and refer to your local building codes for approved methods of construction.

Trex Elevations joist attachment to dropped beam

Trex Elevations track rim plate secure using Teks Select® or XEQ #10 x 3/4” (1.9 cm) self-drilling fastener TYP. (1) at each joist above all dropped beams.

Cantilever per plan

Top surface of beam

Trex Elevations joist rafter block

Teks Select or XEQ #10 x 3/4” (1.9 cm) self-drilling fastener TYP.

Deck boards

Fascia

Block joist over beam every other bay. Use Trex Elevations joist for blocking, L70Z or equivalent or integrated flange.

Box beam – Dropped scenario

Fascia

PT 6 x 6 required (DO NOT notch Trex Elevations deck support post)

Notch 2” x 8” (5.1 cm x 20.3 cm) from 6” x 6” (15.2 cm x 15.2 cm) timber post

Beam to notched timber column with steel through bolts (2) 1/2” x 8” (1.3 cm x 20.3 cm)
When building with Trex Elevations® always wear protective gear and refer to your local building codes for approved methods of construction.

WARNING

Trex Elevations® track rim plate. Secure using TekSelect™ or XEQ #10 x 3/4” (1.9 cm) self-drilling fastener top and bottom of track thru joist.

Trex Elevations joist railing block

Deck boards

Trex Elevations joist block over beam every other bay. Use Trex Elevations joist for blocking, L70Z or equivalent or integrated flange.

Teks Select or XEQ #10 x 3/4” (1.9 cm) self-drilling fastener TYP.

AC6Z or equivalent post cap

Double box beam – Dropped scenario

(1) 1/2” x 5” (1.3 cm x 12.7 cm) carriage bolt @24” (61 cm) O.C. along beam span staggered pattern

LPC6Z or equivalent

PT. 6 X 6 required or Trex Elevations deck support post 5-1/2” x 5-1/2” (14 cm x 14 cm)

WARNING

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**WARNING**

When building with Trex Elevations®, always wear protective gear and refer to your local building codes for approved methods of construction.
INSIDE RAIL POST ATTACHMENT AT RIM PLATE

WARNING
When building with Trex Elevations® always wear protective gear and refer to your local building codes for approved methods of construction.
When building with Trex Elevations® always wear protective gear and refer to your local building codes for approved methods of construction.
STAIR SUPPORT POSTS

<table>
<thead>
<tr>
<th>Width</th>
<th>3 - 6 ft (91 - 182 cm)</th>
<th>6 - 8 ft (182 - 243 cm)</th>
<th>8 - 18 ft (243 - 549 cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max height</td>
<td>9 ft (274 cm) (16 rises)*</td>
<td>7 ft (213 cm) (12 rises)*</td>
<td>5 ft (152 cm) (9 rises)*</td>
</tr>
<tr>
<td>Mid stringer required</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Stairs connected to rim joist assembly at the side</td>
<td>One post needed at the mid-span of the stairs load. (Figure 1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stairs connected to the flush box beam</td>
<td>One post needed at the middle of each span taking the stairs load. (Figure 2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stairs connected to the cantilever track of the deck</td>
<td>One post needed under the end of each stringer including mid stringer if used. (Figure 3)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Fastener spacing along the width of the stairs is 12 in. If the stairs are 7 ft (12 rises) or taller, 8 in. fastener spacing is required.

* Applies to wood stair system as well.

---

**WARNING**

When building with Trex Elevations® always wear protective gear and refer to your local building codes for approved methods of construction.
STAIR BOX ASSEMBLY

WARNING
When building with Trex Elevations®, always wear protective gear and refer to your local building codes for approved methods of construction.

TABLE A

<table>
<thead>
<tr>
<th>BULL NOSE</th>
<th># of Deck Boards</th>
<th>No Fascia</th>
<th>With Fascia</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>10-3/8&quot; (26.4 cm)</td>
<td>9-5/8&quot; (24.4 cm)</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>15-3/8&quot; (39.1 cm)</td>
<td>16-1/8&quot; (41 cm)</td>
</tr>
</tbody>
</table>

- Cut relief as required to achieve desired bend angle
- Use jigsaw to cut notch
- Bend as required
- Cut notch 47° for 90° bend
- Side panel
- Stair box perimeter track
- Rear stair box joist
- Center stair box joist
- Stair box blocking joist
- Teks Select™ or XEQ #10 x 3/4” (1.9 cm) self-drilling fastener TYP.
- See TABLE A
WARNING

When building with Trex Elevations® always wear protective gear and refer to your local building codes for approved methods of construction.
STAIR RAILING POST ATTACHMENT

When building with Trex Elevations® always wear protective gear and refer to your local building codes for approved methods of construction.
When building with Trex Elevations®, always wear protective gear and refer to your local building codes for approved methods of construction.
WARNING

When building with Trex Elevations® always wear protective gear and refer to your local building codes for approved methods of construction.
When building with Trex Elevations® always wear protective gear and refer to your local building codes for approved methods of construction.
ADJUSTABLE BLOCKING OPTION

MID-SPAN BLOCKING
Mid-span blocking required on joist spans greater than 8’ in every bay.

ABOVE BEAM BLOCKING

SECTION A-A
Adjustable Mid-Span Blocking

SECTION B-B
Beam Blocking

WARNING
When building with Trex Elevations® always wear protective gear and refer to your local building codes for approved methods of construction.
Y - BRACING POST TO BEAM

WARNING
When building with Trex Elevations® always wear protective gear and refer to your local building codes for approved methods of construction.
**WARNING**

When building with Trex Elevations® always wear protective gear and refer to your local building codes for approved methods of construction.
When building with Trex Elevations® always wear protective gear and refer to your local building codes for approved methods of construction.

**WARNING**

*NOTE: Drill 1/4" (0.6 cm) holes 1' (.3048 m) on centers for enhanced drainage along centerline of breaker cap.*
BREAKER BOARD FRAMING TYP. DOUBLE BREAK

WARNING
When building with Trex Elevations® always wear protective gear and refer to your local building codes for approved methods of construction.

NOTE: Drill 1/4" (0.6 cm) holes 1' (.3048 m) on centers for enhanced drainage along centerline of break cap.
GENERAL FRAMING DETAIL – CURVED FRONT TRACK RIM PLATE

Trex Elevations® joist

Relief cut. See Relief Cut Schedule below.

Trex Elevations track rim plate

WARNING
When building with Trex Elevations® always wear protective gear and refer to your local building codes for approved methods of construction.

RELIEF CUT SCHEDULE
TREX ELEVATIONS TRACK TOP AND BOTTOM FLANGE

<table>
<thead>
<tr>
<th>RADIUS</th>
<th>RADIUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>3’ - 0” to 5’ - 11” (91.4 cm to 180.3 cm)</td>
<td>2” (5.1 cm)</td>
</tr>
<tr>
<td>5’ - 11” to 8’ - 11” (180.3 cm to 271.8 cm)</td>
<td>4” (10.2 cm)</td>
</tr>
<tr>
<td>8’ - 11” to 11’ - 11” (271.8 cm to 363.2 cm)</td>
<td>6” (15.2 cm)</td>
</tr>
<tr>
<td>11’ - 11” to 14’ - 11” (363.2 cm to 454.0 cm)</td>
<td>8” (20.3 cm)</td>
</tr>
<tr>
<td>14’ - 11” and above (454.0 cm and above)</td>
<td>10” (25.4 cm)</td>
</tr>
</tbody>
</table>
JOIST SPLICE OVER DROPPED BEAM

Warning

When building with Trex Elevations®, always wear protective gear and refer to your local building codes for approved methods of construction.
GENERAL FRAMING DETAIL – JOIST PERFORATIONS

WARNING
When building with Trex Elevations® always wear protective gear and refer to your local building codes for approved methods of construction.
Deck with Steel Post

- #6 Solid copper wire (ground to post)
- 6’ (1.83 m) Grounding rod
- Steel post
- Grounding clamp

Deck with Wood Post

- #6 Solid copper wire (ground to Trex Elevations® frame)
- 6’ (1.83 m) Grounding rod
- Wood post
- Grounding clamp

**WARNING**

When building with Trex Elevations® always wear protective gear and refer to your local building codes for approved methods of construction.
When building with Trex Elevations®, always wear protective gear and refer to your local building codes for approved methods of construction.
MAINTENANCE
TREX ELEVATIONS® MAINTENANCE

Corrosion is a naturally occurring phenomenon. However, with proper corrosion management, the life of Trex Elevations components can be extended well beyond the warranty period.

Observation
During construction, inspect all components for exposed steel, and cover the exposed area with Trex-approved touch-up paint in accordance with the Trex Product and Installation Guide. Covering exposed area with Trex-approved touch-up paint, such as Precision Color by Quest Industrial/Raabe® Brown Textured, blends the blemishes into the same unique color of the components.

First Maintenance
First maintenance is defined as the physical inspection of components in search of corrosion. Atmospheric and environmental conditions can affect the longevity of Trex Elevations. Densities of air borne pollutants in certain atmospheres require adjustments in the maintenance and inspection schedules.

You should conduct first maintenance within 6 years (for residential) or 4 years (for commercial) after installation. If corrosion is identified, immediately begin corrosion management practices.

Inspection Schedule
After first maintenance, Trex Elevations components must be inspected for structural integrity every 2 to 5 years (residential) or 2 years (commercial). Integrity is inspected by tapping along the surface area of the components with a metal tool such as a screwdriver. If flaking of the exterior coat occurs or discrepancies of sound are heard, immediately begin corrosion management practices.

Corrosion Management
Sand any affected areas to twice the size of the corroded area with 80 grit sand paper. Reapply Trex-approved touch-up paint to the sanded area.

Cleaning Deck
Using cleaning recommendation per www.trex.com will not harm Trex Elevations. Be sure to rinse thoroughly on decking and framing.

De-icing
Use a non-saline based de-icing agent. Rinse off when first practical.

Quest Industrial/Raabe® is a registered trademark of Raabe Corporation.
WARRANTY
TREX ELEVATIONS® LIMITED WARRANTY

Trex Company, Inc. (“Trex”) warrants to the original purchaser (“Purchaser”) that, for the period of time set forth in the following sentence, under normal use and service conditions, Trex Elevations® steel deck framing components shall be free from material defects in workmanship and materials and will not become structurally unfit, which is defined as corrosion causing a perforation of the component. The term of such warranty shall be twenty-five (25) years from the date of original purchase for a residential application, and ten (10) years from the date of original purchase for a commercial application. If a defect occurs within the warranty period, Purchaser shall notify Trex in writing and, upon confirmation by an authorized Trex representative of the defect, Trex’s sole responsibility shall be, at its option, to either replace the defective item or refund the portion of the purchase price paid by Purchaser for such defective item (not including the cost of its initial installation).

For purposes of this warranty, a “residential application” shall refer to an installation of the Product on an individual residence, and a “commercial application” shall refer to any installation of the Product other than on an individual residence.

Salt Water Applications: Trex Elevations® may not be installed within 3,000 feet of any body of salt water due to increased risk of corrosion. Any such installation shall void this limited warranty.

Other Water Applications: Trex Elevations® may not be installed under the surface or within the splash zone of any body of fresh water due to increased risk of corrosion. Any such installation shall void this limited warranty.

THIS LIMITED WARRANTY SHALL NOT COVER AND TREX SHALL NOT BE RESPONSIBLE FOR COSTS AND EXPENSES INCURRED WITH RESPECT TO THE REMOVAL OF DEFECTIVE TREX PRODUCTS OR THE INSTALLATION OF REPLACEMENT MATERIALS, INCLUDING BUT NOT LIMITED TO LABOR AND FREIGHT.

With respect to a residential application, this warranty may be transferred one (1) time, within the five (5) year period beginning from the date of original purchase by the Purchaser, to a subsequent buyer of the property upon which the Trex products were originally installed. With respect to a commercial application, this warranty is freely transferable to subsequent buyers of the property upon which the Trex products were originally installed.

To make a claim under this limited warranty, Purchaser, or the transferee, shall send to Trex, within the warranty period referred to above, a description of the claimed defect and proof of purchase, to the following address:

Trex Company, Inc.
Customer Relations
160 Exeter Drive
Winchester, VA 22603-8605

Trex does not warrant against and is not responsible for any condition attributable to: (1) defects caused by improper installation or decay caused by fasteners; (2) use of Trex products beyond normal use or service conditions, or in an application not recommended by Trex’s guidelines and local building codes; (3) corrosion caused by factors other than environmental or atmospheric processes; (4) failure to strictly abide by Trex Elevations® standard maintenance practices, as described below; (5) movement, distortion, collapse or settling of the ground; (6) any act of God (such as flooding, hurricane, earthquake, lightning, etc.); (7) improper handling, storage, abuse or neglect of Trex Elevations® products by Purchaser, the transferee or third parties; or (8) ordinary wear and tear.

No person or entity is authorized by Trex to make and Trex shall not be bound by any statement or representation as to the quality or performance of Trex products other than as contained in this warranty. This warranty may not be altered or amended except in a written instrument signed by Trex and Purchaser.

UNDER NO CIRCUMSTANCES WILL TREX BE LIABLE FOR SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES, WHETHER SUCH DAMAGES ARE SOUGHT IN CONTRACT, IN TORT (INCLUDING BUT NOT LIMITED TO NEGLIGENCE AND STRICT LIABILITY) OR OTHERWISE, AND TREX’S LIABILITY WITH RESPECT TO DEFECTIVE TREX ELEVATIONS® PRODUCTS SHALL IN NO EVENT EXCEED THE REPLACEMENT OF SUCH PRODUCTS OR REFUND OF THE PURCHASE PRICE, AS DESCRIBED ABOVE.

Some States or Provinces do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights that vary from State to State or Province to Province.
Trex Elevations® Maintenance Requirements:

1. **Observation:** During construction, inspect all components for exposed steel, and cover the exposed area with Trex approved touch up paint in accordance with the Trex Product and Installation Guide. (Trex does not warrant touch up paint due to application variability.) Covering exposed areas with Trex approved touch up paint blends the blemishes into the same unique color of the components.

2. **First Maintenance:** Defined as the physical inspection of components in search of corrosion. Atmospheric and environmental conditions can affect the longevity of Trex Elevations®. Densities of air borne pollutants in certain atmospheres require adjustments in the maintenance and inspection schedules. You should conduct first maintenance within six (6) years after installation for a residential application and four (4) years after installation for a commercial application. If corrosion is identified, immediately begin corrosion management practices.

3. **Inspection Schedule:** After first maintenance, Trex Elevations® components must be inspected for structural integrity every two (2) to five (5) years for a residential application and every two (2) years for a commercial application. Integrity is inspected by tapping along the surface area of the components with a metal tool such as a screwdriver. If flaking of the exterior coat occurs or discrepancies of sound are heard, immediately begin corrosion management practices.

4. **Corrosion Management:** Sand any affected areas to twice the size of the corroded area with 80 grit sand paper. Reapply Trex approved touch up paint to the sanded area.

This warranty shall only be applicable and enforceable in the United States of America, Canada and Mexico.

Copyright © 2013 Trex Company, Inc.
When planning any outdoor structure, it's important to ensure that its substructure can guarantee safety and continued beauty through decades of outdoor conditions. Where other deck framing systems may seem sturdy and supportive, only Elevations can stand the test of time without shifting, splitting, warping, rotting or rusting. Review the following comparisons and see how Elevations rises above the competition.

### Durability

<table>
<thead>
<tr>
<th>Feature</th>
<th>Trex Elevations®</th>
<th>Interior-Grade Steel Framing</th>
<th>Pressure-Treated Lumber Framing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warranty</td>
<td>25-Year</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Designed for exterior use</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Triple-coated steel</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Non-combustible</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Termite proof</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
</tbody>
</table>

### Value

<table>
<thead>
<tr>
<th>Feature</th>
<th>Trex Elevations®</th>
<th>Interior-Grade Steel Framing</th>
<th>Pressure-Treated Lumber Framing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material cost</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Installation manual</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>National code listing for exterior use</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
</tbody>
</table>

### Aesthetics

<table>
<thead>
<tr>
<th>Feature</th>
<th>Trex Elevations®</th>
<th>Interior-Grade Steel Framing</th>
<th>Pressure-Treated Lumber Framing</th>
</tr>
</thead>
<tbody>
<tr>
<td>No rotting, warping, splitting</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Superior flatness</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>System solution (decks, railings, support posts, stairs, etc.)</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
</tbody>
</table>

Due to increased risk of corrosion, Trex Elevations® may not be installed (1) within 3,000 ft. (914.4 m) of any body of salt water or (2) under the surface or within the splash zone of any body of fresh water. Any such installations shall void the Trex Limited Warranty.