

(Specifier Note: The purpose of this guide specification is to assist the specifier in correctly specifying cold-formed metal deck framing products and execution. The specifier needs to edit the guide specifications to fit the needs of specific projects. Contact a Trex Product Representative to assist in appropriate product selections. Throughout the guide specification, there are Specifier Notes to assist in the editing of the file. Delete Specifier Notes upon completion of editing.

References have been made within the text of the specification to MasterFormat Section numbers and titles, specifier needs to coordinate these numbers and titles with sections included for the specific project. Brackets []; "AND/OR"; and "OR" have been used to indicate when a selection is required.

SECTION 05 42 16
COLD-FORMED METAL DECK FRAMING
Elevations™ Steel Deck Framing by Trex

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Cold-formed Metal Deck Framing including:
 - 1. Track/Ledgers.
 - 2. Joists.
 - 3. Box beams.
- B. Accessories: Metal hangers and fasteners.

(Specifier Note: DELETE; delegated design paragraph if deck structure is designed by the Design Professional for the project. Trex Company, Inc. has published design criteria and span tables for framing components on their website at www.trex.com or by contacting Trex directly at (800) 289-8739.)

- C. Delegated Design of deck assembly.

1.2 RELATED SECTIONS

- A. Section [03 30 00 – Cast-in-Place Concrete] [insert section number and title]: Concrete footings to support deck framing.

(Specifier Note: EDIT; select location of support posts for metal deck framing, if support posts are tubular steel they can be provided in either Section 05 12 00 – Structural Steel or Section 05 50 00 – Metal Fabrications, select appropriate location to meet project requirements.

- B. [Section [05 12 00 – Structural Steel] [05 50 00 – Metal Fabrications] [insert section number and title]: Posts for support of deck framing.]

[OR]

(Specifier Note: EDIT; select location of support posts for metal deck framing, typically support posts that remain un seen after deck is finish are located in Section 06 10 00 - Rough Carpentry, support posts that will be exposed to view after completion of deck are located in Section 06 20 00 - Finish Carpentry.)

- C. [Section 06 10 00 – Rough Carpentry: Posts for support of deck framing.]

[OR]

- D. [Section 06 20 00 – Finish Carpentry: Posts for support of deck framing.]

(Specifier Note: EDIT; include location of decking materials and railing materials. Sections listed below are suggested locations for Trex composite decking and railing systems.)

- E. Section [06 73 00 – Composite Decking] [insert section number and title]
- F. Section [06 80 00 – Composite Railings] [insert section number and title]

1.3 REFERENCES

- A. ASTM International
 - 1. ASTM A1003 – Standard Specification for Steel Sheet, Carbon Metallic and Nonmetallic Coated for Cold Formed Framing Members.
- B. National Green Building Standard (NGBS)

1.4 COORDINATION

- A. Coordinate blocking and support requirements for railing posts, refer to Section [06 80 00 – Composite Railings] [insert section number and title]
- B. Coordinate bracing of support posts, refer to Section [05 12 00 – Structural Steel] [05 50 00 – Metal Fabrications] [06 10 00 – Rough Carpentry] [06 20 00 – Finish Carpentry] [insert section number and title]

1.5 SUBMITTALS

(Specifier Note: DELETE Submittal Procedures paragraph when not required. Coordinate requirements with Division 01, Section 01 33 00 – Submittal Procedures.)

- A. Refer to Section [01 33 00 Submittal Procedures] [insert section number and title].
- B. Product Data: Submit manufacturer current technical literature for each type of product.

C. Shop Drawings:

1. Provide plans and details which include layout, spacing, and sizes of metal deck framing.
2. Include details showing anchorage to primary structure, bracing of deck framing, required blocking, and bridging.

(Specifier Note: DELETE; delegated design paragraph if deck structure is designed by the Design Professional for the project. Trex Company, Inc. has published design criteria and span tables for framing components on their website at www.trex.com or by contacting Trex directly at (800) 289-8739.)

D. Delegated-Design Submittal: For metal deck framing indicated provide analysis signed and sealed by the qualified professional engineer responsible for their preparation.

E. LEED Submittals:

1. Material and Resources (MR)

(Specifier Note: EDIT; Trex "Elevations" components are manufactured from steel that has a minimum of 25 percent recycled content.)

- a. Product Certificates for Credit MR 4: For products having recycled content, documentation indicating percentages by weight of postconsumer and preconsumer recycled content.

(Specifier Note: Verify ability to qualify for Credit MR 5 based on location of Trex "Elevations" manufacturing facility in relationship to Project Site.)

- b. Product Certificates for Credit MR 5: For products and materials required to comply with requirements for regionally manufactured materials. Include statement indicating cost, location of manufacturer, and distance to Project for each regionally manufactured material.

F. NGBS Submittals:

(Specifier Note: Verify ability to qualify for Practice 608.1 based on location of Trex "Elevations" manufacturing facility in relationship to Project Site.)

1. Practice 608 – Indigenous Materials

- a. Practice 608.1: Provide documentation indicating manufacturing location of indigenous materials that are extracted, processed, and manufactured within 500 miles of project site.

2. Practice 1001 – Building Owners' Manual for One- and Two-Family Dwellings

- a. Practice 1001.1(20): Provide documentation indicating how to maintain and care for material.

G. Quality Assurance Submittals

1. Manufacturer Instructions: Provide manufacturer's written instructions including proper material storage, material handling, installation sequence, and attachment methods.
2. Test Report: Submit ICC ES Report: ER-4943P indicating properties of deck framing materials.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Installer shall have a minimum of three (3) years experience in the installation of products listed in this section.

1.7 DELIVERY, STORAGE AND HANDLING

(Specifier Note: DELETE Product Requirement paragraph when not required. Coordinate requirements with Division 01, Section 01 60 00 – Product Requirements.)

- A. Refer to Section [01 60 00 Product Requirements] [insert section number and title].
- B. Deliver framing materials and components in manufacturer's original, unopened, undamaged packaging with identification labels intact.
- C. Store materials on dry, level, firm, and clean surface. Elevate material at one end to allow moisture run-off, cover and ventilate to allow air to circulate and moisture to escape.

1.8 WARRANTY

(Specifier Note: Limited warranty is transferable only in residential applications between property owners, one transfer within a 5 year period.)

(Specifier Note: Limited warranty is void if framing materials are installed within 3,000 feet of any body of salt water, or installed under the surface or within the splash zone of any body of fresh water.)

(Specifier Note: Warranty requires periodic inspections of framing members for corrosion and maintenance of finishes.

A. Limited Warranty:

1. Standard form in which manufacturer agrees that under normal use and service conditions steel deck framing components shall be free from material defects in workmanship and materials and will not become structurally unfit. Structurally unfit shall be defined as corrosion causing a perforation on the component.

(Specifier Note: Warranty period for residential applications are 25 years; commercial applications are 10 years. Residential applications are defined by the manufacturer as individual residences, commercial applications are defined as any application other than on an individual residence.)

2. Warranty Period: [25] [10] years.

PART 2 - PRODUCTS

2.1 MANUFACTURER

- A. Trex® Company, Inc.; (800-289-8739) (www.trex.com); 160 Exeter Drive; Winchester, Virginia 22603.

(Specifier Note: DELETE or COORDINATE Substitutions paragraph if substitutions, are addressed in Division 01, Section 01 25 00 – Substitution Procedures.)

- B. Substitutions:

1. [Not Permitted.]
- [OR]
2. [Requests for substitutions will be considered in accordance with provisions of [Section 01 60 00 – Product Requirements] [insert section number and title].]

2.2 COLD-FORMED STEEL DECK FRAMING

(Specifier Note: Recycled content of deck framing material could contribute to LEED Credit MR 4 depending on the extent of the deck framing. Delete Recycle paragraph if not pursuing LEED Credit MR 4.)

- A. Recycled content of deck framing material shall have a minimum postconsumer and preconsumer recycled content of 25 percent.
- B. Steel Sheet: ASTM A1003; structural grade, hot-dipped galvanized coating G60 meeting requirements for corrosion protection.
 1. 1-5/8 inch wide deck joist:
 - a. Grade: 33; Class 1.
 - b. Thickness: 0.0451 inch (18 gauge).
 - c. Height: 8 inches.
 2. 2 inch wide deck joist:
 - a. Grade 50, Class 3.
 - b. Thickness: 0.0713 inch (14 gauge).
 - c. Height: 8 inches.

3. Track or ledger: Grade 50, Class 3.
 - a. Grade 50, Class 3.
 - b. Thickness: 0.0713 inch (14 gauge).
 - c. Height: 8-1/4 inches.
4. **[Single] [and] [Double]** Box beams: Grade 50, Class 3.
 - a. Grade 50, Class 3.
 - b. Thickness: 0.0713 inch (14 gauge).
 - c. Height: 8-3/4 inches.

C. Finish: Baked polyester/ceramic blend coating.

2.3 ACCESSORIES

- A. Brackets: Galvanized steel, type as recommended by manufacturer.
- B. Bolts, nuts, and screws: Galvanized steel, type as recommended by manufacturer.

(Specifier Note: In locations where potential electric shock hazards exist, properly ground metal deck framing.)

C. Grounding Rod:

1. Length: 6 feet.
2. Accessories: #6 solid copper wire with grounding clamp.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that concrete footings are in the proper location per shop drawings and that the concrete has cured a minimum of 7 days.

3.2 PREPARATION

- A. Prepare posts to accept box beam, as detailed on shop drawings.

(Specifier Note: DELETE; angle bracket installation on box beam if joists cantilever over the top of box beam.)

- B. Install angle brackets on box beam at joist spacing indicated on shop drawings prior to installing box beam on support posts.

3.3 INSTALLATION

- A. Attach ledger to primary structure using fasteners at spacing indicated on approved shop drawings.
- B. Attach box beam to support posts using [post brackets] [or] [thru-bolts].
- C. Lay-out joists at spacing indicated on approved shop drawings.
 - 1. Attach to beam and ledger with angle brackets.

(Specifier Note: DELETE; blocking installation between joists if joists are framed directly into box beam.)

- 2. Provide blocking between joists in locations indicated on approved shop drawings.
 - 3. Attach front track (rim joist) at each joist, top and bottom.
 - 4. Provide blocking between joists to support railing posts as shown on approved shop drawings, coordinate post sizes with Section [06 80 00 – Composite Railings] [insert section number and title]
- D. [Install grounding rod and wire where indicated on shop drawings].

3.4 CLEANING AND PROTECTION

- A. Remove scrap material from site and legally dispose of off site.
- B. Touch-up tracks, joists and box beams scratched during framing with manufacturer approved touch-up paint. Prepare metal and apply touch-up paint per manufacturer's instructions.

END OF SECTION

DISCLAIMER:

Trex Company, Inc. Guide Specifications have been written as an aid to the professionally qualified Specifier and Design Professional. The use of this Guideline Specification requires the sole professional judgment and expertise of the qualified Specifier and Design Professional to adapt the information to the specific needs for the Building Owner and the Project, to coordinate with their Construction Document Process, and to meet all the applicable building codes, regulations and laws.