



# Listing and Technical Evaluation Report™

A Duly Authenticated Report from an Approved Agency

Report No: 2408-104



Issue Date: June 12, 2025

Revision Date: October 1, 2025

Subject to Renewal: July 1, 2026

Trex<sup>®</sup> Company, Inc. – Trex Enhance™ Steel Railing

**Trade Secret Report Holder:** 

Trex® Company, Inc.

Phone: 800-289-8739 Website: www.trex.com

**CSI Designations:** 

DIVISION: 05 00 00 - METALS

Section: 05 52 00 - Metal Railings Section: 05 73 00 - Decorative Metal Railings

#### 1 Innovative Product Evaluated<sup>1</sup>

1.1 Trex Enhance Steel Rail

# 2 Product Description and Materials

2.1 The innovative product evaluated in this report is shown in **Figure 1** and is described in **Table 1**.

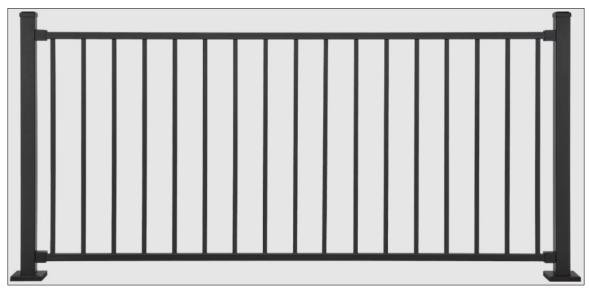


Figure 1. Trex Enhance Steel Rail





Table 1. Approved Railing System

Product	Description Allowable	Maximum Allowable	Railing Assembly Infill	Railing Assembly Total Dimensions		Applications
110000		Dimensions		Heights	Lengths	
Trex Enhance Steel Rail	Steel railing assembly	42" height and 96" span between posts	0.630" x 0.630" Square Steel Balusters	36" and 42"	72" and 96"	Horizontal
SI: 1 in = 25.4 mm						

**Table 2**. Approved Posts for use with the Trex Enhance Steel Rail System

Product	Approved Railing System	Maximum Railing Height	Post Cross-Section Dimensions	Base Plate Dimensions	Maximum Allowable Post Spacing
Trex Enhance 2" Steel Post	Trex Enhance Steel Rail	42"	2" x 2" x 0.101"	4" x 4" x 0.306"	96" between posts
Trex Enhance 3" Steel Post		42	3" x 3" x 0.083"	5.5" x 5.5" x 0.310"	96" between posts
SI: 1 in = 25.4 mm					

- 2.1.1 Trex Enhance Steel Rail is a guardrail system consisting of extruded coated steel posts, rails, square balusters, and coated steel brackets.
- 2.1.2 Trex Enhance Steel Posts, the pre-assembled rail/baluster panels, and brackets are available in charcoal black powder-coat.
- 2.1.3 Trex Enhance Steel Post is welded to the Steel Base Plate
- 2.1.4 Trex Enhance Steel Posts are available in two options: with and without pre-installed brackets.
- 2.1.5 Trex Enhance Steel Balusters are welded to the Steel Top and Bottom Rails
- 2.1.6 Vertical Square Steel Balusters of the pre-assembled panel are positioned with a maximum of 3.64" clearance between them.
- 2.1.7 Trex Enhance Steel Rail is available in two heights, 36" and 42", and two length configurations:
  - 2.1.7.1 6' configuration (**Figure 2**)
  - 2.1.7.2 8' configuration (Figure 3)





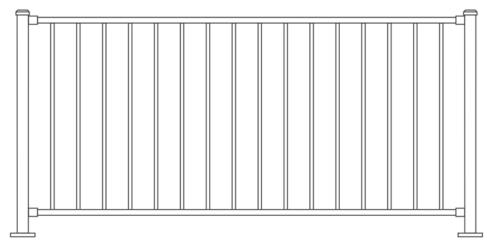


Figure 2. 6' Trex Enhance Steel Rail

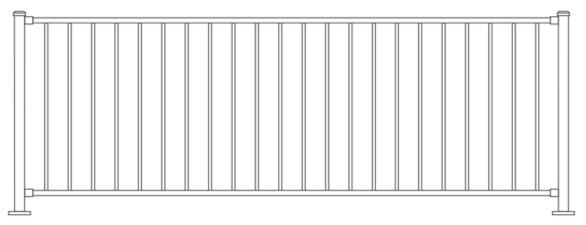


Figure 3. 8' Trex Enhance Steel Rail





# 2.1.8 Trex Enhance Steel Rail component profiles are shown in Figure 4 and Table 4.

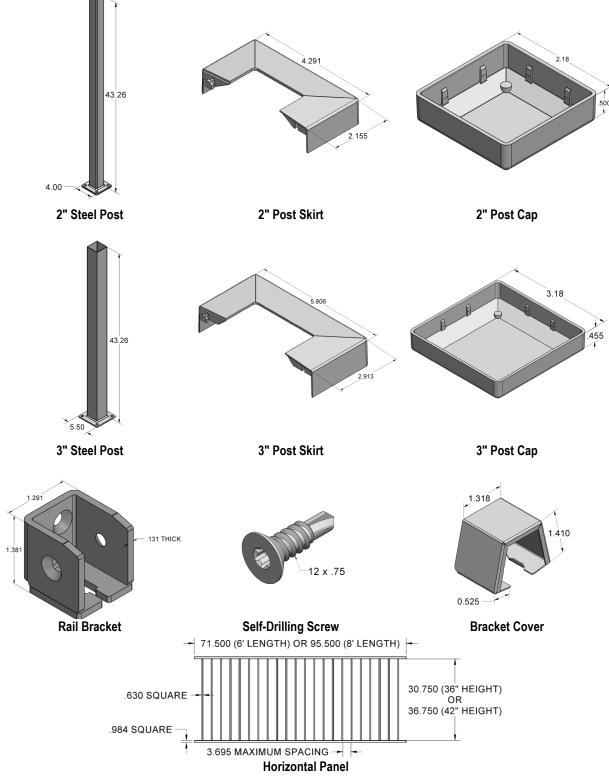


Figure 4. Trex Enhance Steel Railing Components





2.1.9 Details regarding the components of Trex Enhance Steel Rail are provided in **Table 3** and **Table 4**.

Table 3. Product Component Details

Table 5. Froduct Component Details							
Component	Overall Dimensions	Individual Component	Individual Component Dimensions	Description	Material		
	Horizontal Panel						
Horizontal Panel	33" x 1" x 71 <sup>1</sup> / <sub>2</sub> " 33" x 1" x 95 <sup>1</sup> / <sub>2</sub> " 39" x 1" x 71 <sup>1</sup> / <sub>2</sub> " 39" x 1" x 95 <sup>1</sup> / <sub>2</sub> "	Top and Bottom Rail	0.984" x 0.984"	Pre-assembled Top and Bottom Rails with Balusters	Powder Coated Q195 Steel		
		Square Baluster	0.630" x 0.630"	Balusters are welded to Top and Bottom Rails. Balusters are positioned with 3.64" maximum clearance between them			
		Trex Enhance 2" S	teel Post with Base	e Plate			
	4" x 4" x 37 <sup>1</sup> / <sub>4</sub> " 4" x 4" x 43 <sup>1</sup> / <sub>4</sub> "	2" Post (Corner)		Post is welded to base plate	Powder Coated Q195 Steel		
		2" Post (Line)	2" x 2" x 0.101"				
		2" Post (End)					
		2" Post (no brackets)					
Trex Enhance Steel 2" Posts with Baseplate		4" Base Plate	4" x 4" x 0.306"	Steel base plate has four 0.525" diameter holes with centers located approximately 0.54" from each edge and approximately 2.94" apart on-center			
		2" Post Cap	2" x 2" x 0.5"	Cap is installed on top of Post			
		2" Post Skirt	4" x 4" x 0.5"	Skirt is installed around base plate	Zamak 3		
		Trex Enhance 3" S	teel Post with Base	e Plate			
	5.5" x 5.5" x 37 <sup>1</sup> / <sub>4</sub> " 5.5" x 5.5" x 43 <sup>1</sup> / <sub>4</sub> "	3" Post (Corner)			Powder Coated Q195 Steel		
		3" Post (Line)	3" x 3" x 0.083"	Post is welded to base plate			
		3" Post (End)					
Trex Enhance Steel 3" Posts with Baseplate		3" Post (no brackets)					
		5.5" Base Plate	5.5" x 5.5" x 0.31"	Steel base plate has four 0.59" diameter holes with centers located approximately 0.6" from each edge and approximately 4.3" apart on-center			
		3" Post Cap	3" x 3" x 0.5"	Cap is installed on top of Post			
		3" Post Skirt	5.5" x 5.5" x 0.5"	Skirt is installed around base plate	Zamak 3		





Table 4. Hardware Component Details

Component	Individual Component	<b>Component Dimensions</b>	Description	Material	
Hardware	Steel Brackets	1.40" x 1.29" x 1.38" 0.131" thickness	Bracket has two 0.235" rear screw holes and are approximately 0.475" apart on-center; two 0.235" side screw holes and are approximately 0.643" from bottom of bracket	Powder Coated Q235B Steel	
	Steel Bracket Covers	1.456" x 1.525" x 1.425"	Cover for Top and Bottom Brackets		
	#12 Self-tapping Screw	#12 x <sup>3</sup> / <sub>4</sub> " Drill-Point Screw (Flat Head)	Two Screws for Bracket to Post One screw for Bracket to Rail	C1018 Steel	

2.2 As needed, review material properties for design in **Section 6** and the regulatory evaluation in **Section 8**.

#### 3 Definitions<sup>2</sup>

- 3.1 New Materials<sup>3</sup> are defined as building materials, equipment, appliances, systems, or methods of construction, not provided for by prescriptive and/or legislatively adopted regulations, known as alternative materials.<sup>4</sup> The design strength and permissible stresses shall be established by tests<sup>5</sup> and/or engineering analysis.<sup>6</sup>
- 3.2 <u>Duly authenticated reports</u><sup>7</sup> and <u>research reports</u><sup>8</sup> are test reports and related engineering evaluations that are written by an approved agency<sup>9</sup> and/or an approved source.<sup>10</sup>
  - 3.2.1 These reports utilize intellectual property and/or trade secrets to create public domain material properties for commercial end-use.
    - 3.2.1.1 This report protects confidential Intellectual Property and trade secretes under the regulation, 18.US.Code.90, also known as Defend Trade Secrets Act of 2016 (DTSA).<sup>11</sup>
- 3.3 An approved agency is "approved" when it is <u>ANAB ISO/IEC 17065 accredited</u>. DrJ Engineering, LLC (DrJ) is accredited and listed in the ANAB directory.
- 3.4 An <u>approved source</u> is "approved" when a professional engineer (i.e., <u>Registered Design Professional</u>, hereinafter <u>RDP</u>) is properly licensed to transact engineering commerce. The regulatory authority governing approved sources is the <u>state legislature</u> via its professional engineering regulations.<sup>12</sup>
- 3.5 Testing and/or inspections conducted for this <u>duly authenticated report</u> were performed by an <u>ISO/IEC 17025</u> <u>accredited testing laboratory</u>, an <u>ISO/IEC 17020 accredited inspection body</u>, and/or a licensed <u>RDP</u>.
  - 3.5.1 The <u>Center for Building Innovation</u> (CBI) is <u>ANAB 13 ISO/IEC 17025</u> and <u>ISO/IEC 17020</u> accredited.
- 3.6 The regulatory authority shall <u>enforce</u><sup>14</sup> the specific provisions of each legislatively adopted regulation. If there is a non-conformance, the specific regulatory section and language of the non-conformance shall be provided in <u>writing</u><sup>15</sup> stating the nonconformance and the path to its cure.
- 3.7 The regulatory authority shall accept <u>duly authenticated reports</u> from an <u>approved agency</u> and/or an <u>approved source</u> with respect to the quality and manner of use of new materials or assemblies as provided for in regulations regarding the use of alternative materials, designs, or methods of construction.<sup>16</sup>
- 3.8 ANAB is an International Accreditation Forum (IAF) Multilateral Recognition Arrangement (MLA) signatory. Therefore, recognition of certificates and validation statements issued by conformity assessment bodies accredited by all other signatories of the IAF MLA with the appropriate scope shall be approved. Thus, all ANAB ISO/IEC 17065 duly authenticated reports are approval equivalent, and can be used in any country that is an MLA signatory found at this link: https://iaf.nu/en/recognised-abs/
- 3.9 Approval equity is a fundamental commercial and legal principle. 19





# 4 Applicable Local, State, and Federal Approvals; Standards; Regulations<sup>20</sup>

- 4.1 Local, State, and Federal
  - 4.1.1 Approved in all local jurisdictions pursuant to ISO/IEC 17065 <u>duly authenticated report</u> use, which includes the following featured local jurisdictions and is not limited to: Austin, Baltimore, Broward County, Chicago, Clark County, Dade County, Dallas, Detroit, Denver, DuPage County, Fort Worth, Houston, Kansas City, King County, Knoxville, Las Vegas, Los Angeles City, Los Angeles County, Miami, Nashville, New York City, Omaha, Philadelphia, Phoenix, Portland, San Antonio, San Diego, San Jose, San Francisco, Seattle, Sioux Falls, South Holland, Texas Department of Insurance, and Wichita.<sup>21</sup>
  - 4.1.2 Approved in all state jurisdictions pursuant to ISO/IEC 17065 <u>duly authenticated report</u> use, which includes the following featured states, and is not limited to: California, Florida, New Jersey, Oregon, New York, Texas, Washington, and Wisconsin.<sup>22</sup>
  - 4.1.3 Approved by the Code of Federal Regulations Manufactured Home Construction: Pursuant to Title 24, Subtitle B, Chapter XX, Part 3282.14<sup>23</sup> and Part 3280<sup>24</sup> pursuant to the use of ISO/IEC 17065 duly authenticated reports.
  - 4.1.4 Approved means complying with the requirements of local, state, or federal legislation.
- 4.2 Standards
  - 4.2.1 ASCE/SEI 7: Minimum Design Loads and Associated Criteria for Buildings and Other Structures
  - 4.2.2 ASTM E935: Standard Test Methods for Performance of Permanent Metal Railing Systems and Rails for Buildings
  - 4.2.3 ASTM E985: Standard Specification for Permanent Metal Railing Systems and Rails for Buildings
- 4.3 Regulations
  - 4.3.1 IBC –18, 21, 24: International Building Code®
  - 4.3.2 IRC –18, 21, 24: International Residential Code®

#### 5 Listed<sup>25</sup>

5.1 Equipment, materials, products, or services included in a List published by a <u>nationally recognized testing</u> <u>laboratory</u> (i.e., CBI), an <u>approved agency</u> (i.e., CBI and DrJ), and/or and <u>approved source</u> (i.e., DrJ), or other organization(s) concerned with product evaluation (i.e., DrJ), that maintains periodic inspection (i.e., CBI) of production of listed equipment or materials, and whose listing states either that the equipment or material meets nationally recognized standards or has been tested and found suitable for use in a specified manner.

## 6 Tabulated Properties Generated from Nationally Recognized Standards

- 6.1 General
  - 6.1.1 Trex Enhance Steel Rail is used as a guardrail system where a guardrail height of 36" or 42" is required in accordance with <u>IBC Section 1015.2</u>, <u>IBC Section 1015.3</u>, and <u>IRC Section R321.1</u>.<sup>26</sup>
- 6.2 Structural Performance
  - 6.2.1 Trex Enhance Steel Rail was tested and met the structural requirements of <u>IBC Section 1607.9</u> and <u>IRC Section R301.5</u>. See **Table 5** for an assessment of Trex Enhance Steel Rail.





Table 5. Allowable Design Loads for Trex Enhance Steel Rail System<sup>1</sup>

Load Type	Regulatory Source	Design Service-Level Live Load	
Infill Load	IBC Section 1607.9.1.2 and IRC Table R301.5	50 lb¹	
Uniform Load	IBC Section 1607.9 <sup>27</sup>	50 lb/ft	
Concentrated Load (Vertical & Horizontal)	IBC Section 1607.9 <sup>28</sup> and IRC Table R301.5	200 lb	
Concentrated Load- Top of 2" Post	IBC Section 1607.929 and IRC Table R301.5	200 lb	
Concentrated Load – Top of 3" Post	IDO SECTION 1007.3-4 AND INC. TABLE NOT.3	400 lb	

SI: 1 lbf = 4.448 N, 1 plf = 14.6 N/m

6.3 Where the application falls outside of the performance evaluation, conditions of use, and/or installation requirements set forth herein, alternative techniques shall be permitted in accordance with accepted engineering practice and experience. This includes but is not limited to the following areas of engineering: mechanics or materials, structural, building science, and fire science.

#### 7 Certified Performance<sup>30</sup>

- 7.1 All construction methods shall conform to accepted engineering practices to ensure durable, livable, and safe construction and shall demonstrate acceptable workmanship reflecting journeyman quality of work of the various trades.<sup>31</sup>
- 7.2 The strength and rigidity of the component parts and/or the integrated structure shall be determined by engineering analysis or by suitable load tests to simulate the actual loads and conditions of application that occur. <sup>32</sup>

#### 8 Regulatory Evaluation and Accepted Engineering Practice

- 8.1 Trex Enhance Steel Rail complies with the following legislatively adopted regulations and/or accepted engineering practice for the following reasons:
  - 8.1.1 Structural performance in accordance with IBC Section 1607.9 and IRC Section R301.5.
- 8.2 Any building code, regulation and/or accepted engineering evaluations (i.e., research reports, duly authenticated reports, etc.) that are conducted for this Listing were performed by DrJ, which is an ISO/IEC 17065 accredited certification body and a professional engineering company operated by RDP or approved sources. DrJ is qualified<sup>33</sup> to practice product and regulatory compliance services within its scope of accreditation and engineering expertise, <sup>34</sup> respectively.
- 8.3 Engineering evaluations are conducted with DrJ's ANAB <u>accredited ICS code scope</u> of expertise, which is also its areas of professional engineering competence.
- 8.4 Any regulation specific issues not addressed in this section are outside the scope of this report.

Load applied over square area of one (1) square foot in accordance with ASTM E935 Section 10.4 and ASCE 7 Section 4.5.1.2 as specified in <u>IBC Section</u> 1607.9.1.2 and <u>IRC Table R301.5</u>.





#### 9 Installation

- 9.1 Installation shall comply with the approved construction documents, the manufacturer installation instructions, this report, and the applicable building code.
- 9.2 In the event of a conflict between the manufacturer installation instructions and this report, contact the manufacturer for counsel on the proper installation method.
- 9.3 Installation Procedure
  - 9.3.1 Trex Enhance Steel Post shall be installed in accordance with Figure 5 or Figure 6.
    - 9.3.1.1 Material shall be nominal 2 x 8 Pressure Preservative Treated (PPT) Southern Pine (SP) with a specific gravity of 0.55.
    - 9.3.1.2 Fasteners shall be #10 x 3" PPT compatible wood screws (36 screws per post location).
    - 9.3.1.3 Installation of Trex Enhance Steel Rail shall be installed on Trex Signature®, Trex Transcend® Lineage™, Trex Transcend®, Trex Select®, Trex Enhance®, or decking with equivalent properties.

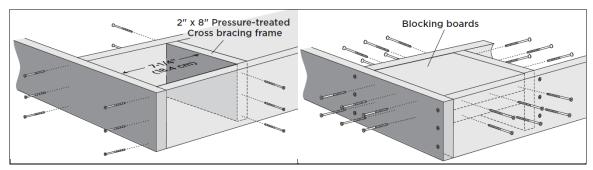


Figure 5. Corner Post Blocking - Post - Wood Installation

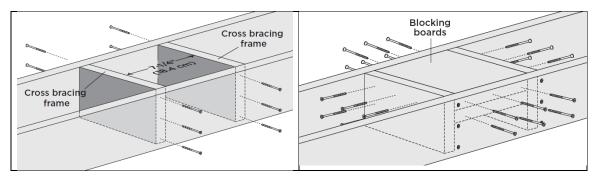


Figure 6. In-line Post Blocking – Post – Wood Installation





9.3.2 The fastening schedule per component is presented in **Table 6**.

Table 6. Fastening Schedule for Trex Enhance Steel Rail

Component	Connection	Details		
Trex Enhance 2" Steel Post		Qty 4: 1/2" 13 x 6" galvanized steel hex bolts fully threaded (grade A307 or equivalent) Qty 4: 1/2" ID, 1 3/8" OD, 0.109 thick galvanized steel flat washer (grade A307) Qty 4: 1/2" 13 galvanized steel hex nut (grade 2) installed into bottom of wood blocking		
Trex Enhance 3" Steel Post	Post to Substructure			
	Upper Bracket	Qty 2: C1018 #12 x 3/4"		
	Lower Bracket	self-drilling T25 screws		
	Panel to Brackets	Slide Horizontal Panel onto the steel brackets and secure panel to bracket with one C1018 #12 x 3/4" self-drilling T25 screw		
Trex Enhance Steel Rail Brackets, Horizontal Panel, and accessories	Rail Bracket Covers to Brackets	Spread and snap corresponding bracket covers over opening in upper and bottom rails		
	Post Skirt to Post Base Plate	Slide covers over post base plate from the side		
	Post Cap to Post	Snap on post cap to post from the top (use of rubber mallet may be required for secure attachment)		
Galvanized bolts may be used instead, but must be used with galvanized washers and T-nuts to avoid galvanic corrosion				

- 9.3.3 Installation of Trex Enhance Steel Rail Horizontal Panel:
  - 9.3.3.1 Installation of Trex Enhance Steel Rail shall be according to Trex Installation Instructions (See manufacturing installation guide for details).

#### 10 Substantiating Data

- 10.1 Testing has been performed under the supervision of a professional engineer and/or under the requirements of ISO/IEC 17025 as follows:
  - 10.1.1 ASTM E935 test reports from approved sources:
    - 10.1.1.1 In-fill load tests
    - 10.1.1.2 Uniform load tests
    - 10.1.1.3 Concentrated load tests
- 10.2 Information contained herein may include the result of testing and/or data analysis by sources that are approved agencies, approved sources, and/or an RDP. Accuracy of external test data and resulting analysis is relied upon.





- 10.3 Where applicable, testing and/or engineering analysis are based upon provisions that have been codified into law through state or local adoption of regulations and standards. The developers of these regulations and standards are responsible for the reliability of published content. DrJ's engineering practice may use a regulation-adopted provision as the control. A regulation-endorsed control versus a simulation of the conditions of application to occur establishes a new material as <a href="mailto:being equivalent">being equivalent</a> to the regulatory provision in terms of quality, strength, effectiveness, fire resistance, durability, and safety.
- 10.4 The accuracy of the provisions provided herein may be reliant upon the published properties of raw materials, which are defined by the grade mark, grade stamp, mill certificate, or <u>duly authenticated reports</u> from <u>approved agencies</u> and/or <u>approved sources</u> provided by the supplier. These are presumed to be minimum properties and relied upon to be accurate. The reliability of DrJ's engineering practice, as contained in this <u>duly authenticated report</u>, may be dependent upon published design properties by others.
- 10.5 Testing and Engineering Analysis:
  - 10.5.1 The strength, rigidity, and/or general performance of component parts and/or the integrated structure are determined by suitable tests that simulate the actual conditions of application that occur and/or by accepted engineering practice and experience.<sup>35</sup>
- 10.6 Where additional condition of use and/or regulatory compliance information is required, please search for Trex Enhance Steel Rail on the <u>DrJ Certification website</u>.

## 11 Findings

- 11.1 As outlined in **Section 6**, Trex Enhance Steel Rail has performance characteristics that were tested and/or meet applicable regulations. In addition, they are suitable for use pursuant to its specified purpose.
- 11.2 When used and installed in accordance with this <u>duly authenticated report</u> and the manufacturer installation instructions, Trex Enhance Steel Rail shall be approved for the following applications:
  - 11.2.1 Use as a guardrail system where a guardrail height of 36" or 42" is allowed in accordance with <u>IBC Section 1015.2</u>, <u>IBC Section 1015.3</u>, and <u>IRC Section R321</u>. <sup>36</sup> See **Section 12** for limitations.
- 11.3 Any application specific issues not addressed herein can be engineered by an <u>RDP</u>. Assistance with engineering is available from Trex Company, Inc.
- 11.4 IBC Section 104.2.3 (IRC Section R104.2.2 and IFC Section 104.2.3<sup>37</sup> are similar) in pertinent part state:
  - **104.2.3 Alternative Materials, Design and Methods of Construction and Equipment.** The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative is not specifically prohibited by this code and has been approved.
- 11.5 Approved: 38 Building regulations require that the building official shall accept duly authenticated reports. 39
  - 11.5.1 An approved agency is "approved" when it is ANAB ISO/IEC 17065 accredited.
  - 11.5.2 An approved source is "approved" when an RDP is properly licensed to transact engineering commerce.
  - 11.5.3 Federal law, <u>Title 18 US Code Section 242</u>, requires that, where the alternative product, material, service, design, assembly, and/or method of construction is not approved, the building official shall respond in writing, stating the reasons why the alternative was not approved. Denial without written reason deprives a protected right to free and fair competition in the marketplace.
- 11.6 DrJ is a licensed engineering company, employs licensed <u>RDP</u>s and is an <u>ANAB Accredited Product</u> Certification Body Accreditation #1131.
- 11.7 Through the <u>IAF Multilateral Arrangement</u> (MLA), this <u>duly authenticated report</u> can be used to obtain product approval in any <u>jurisdiction</u> or <u>country</u> because all ANAB ISO/IEC 17065 <u>duly authenticated reports</u> are equivalent.<sup>40</sup>





#### 12 Conditions of Use

- 12.1 Material properties shall not fall outside the boundaries defined in **Section 6**.
- 12.2 As defined in **Section 6**, where material and/or engineering mechanics properties are created for load resisting design purposes, the resistance to the applied load shall not exceed the ability of the defined properties to resist those loads using the principles of accepted engineering practice.
- 12.3 Trex Enhance Steel Rail has only been evaluated for live loads for use as guards. Other loadings are outside of the scope of this report.
- 12.4 Attachment of Trex Enhance Steel Rail to decking other than Trex Signature, Trex Transcend Lineage, Trex Transcend, Trex Select, or Trex Enhance decking is outside of the scope of this report.
  - 12.4.1 **Exception:** Decking with equivalent compressive strength is permitted.
- 12.5 Trex Enhance Steel Railing System
  - 12.5.1 Application compliant for any occupancy groups specified in <u>IBC Section 302</u> and IRC one and two-family dwellings.
- 12.6 The compatibility of the fasteners and all other metallic parts listed in this report with the supporting structure is outside of the scope of this report.
- 12.7 This report does not cover the compatibility of fasteners and metallic components with the support structure. This includes treated wood products.
- 12.8 Shims are not required to prevent direct contact between the post base plate and supporting structure. Shims are permitted between the post base plate and supporting structure where necessary to plumb the posts.
- 12.9 When required by adopted legislation and enforced by the <u>building official</u>, also known as the Authority Having Jurisdiction (AHJ) in which the project is to be constructed:
  - 12.9.1 Any calculations incorporated into the construction documents shall conform to accepted engineering practice and, when prepared by an approved source, shall be approved when signed and sealed.
  - 12.9.2 This report and the installation instructions shall be submitted at the time of permit application.
  - 12.9.3 This innovative product has an internal quality control program and a third-party quality assurance program.
  - 12.9.4 At a minimum, this innovative product shall be installed per **Section 9**.
  - 12.9.5 The review of this report by the AHJ shall comply with IBC Section 104.2.3.2 and IBC Section 105.3.1.
  - 12.9.6 This innovative product has an internal quality control program and a third party quality assurance program in accordance with <u>IBC Section 104.7.2</u>, <u>IBC Section 110.4</u>, <u>IBC Section 1703</u>, <u>IRC Section R104.7.2</u>, and <u>IRC Section R109.2</u>.
  - 12.9.7 The application of this innovative product in the context of this report is dependent upon the accuracy of the construction documents, implementation of installation instructions, inspection as required by <u>IBC Section 110.3</u>, <u>IRC Section R109.2</u>, and any other regulatory requirements that may apply.
- 12.10 The approval of this report by the AHJ shall comply with <u>IBC Section 1707.1</u>, where legislation states in part, "the <u>building official</u> shall make, or cause to be made, the necessary tests and investigations; or the <u>building official</u> shall accept duly authenticated reports from <u>approved agencies</u> in respect to the quality and manner of use of new materials or assemblies as provided for in <u>Section 104.2.3</u>", all of <u>IBC Section 104</u>, and <u>IBC Section 105.3</u>.
- 12.11 <u>Design loads</u> shall be determined in accordance with the regulations adopted by the <u>jurisdiction</u> in which the project is to be constructed and/or by the building designer (i.e., <u>owner</u> or <u>RDP</u>).
- 12.12 The actual design, suitability, and use of this report for any particular building, is the responsibility of the owner or the authorized agent of the <u>owner</u>.







## 13 Identification

- 13.1 Trex Enhance Steel Rail, as listed in **Section 1.1**, is identified by a label on the board or packaging material bearing the manufacturer name, product name, this report number, and other information to confirm code compliance.
- 13.2 Additional technical information can be found at <a href="https://www.trex.com">www.trex.com</a>.

## 14 Review Schedule

- 14.1 This report is subject to periodic review and revision. For the latest version, visit www.drjcertification.org.
- 14.2 For information on the status of this report, please contact <u>DrJ Certification</u>.





# **Notes**

- For more information, visit <u>dricertification.org</u> or call us at 608-310-6748.
- <sup>2</sup> Capitalized terms and responsibilities are defined pursuant to the applicable building code, applicable reference standards, the latest edition of <u>TPI1</u>, the <u>NDS</u>, <u>AISI S202</u>, <u>US</u> professional engineering law, <u>Canadian building code</u>, <u>Canada professional engineering law</u>, <u>Qualtim External Appendix A: Definitions/Commentary</u>, <u>Qualtim External Appendix B: Project/Deliverables</u>, <u>Qualtim External Appendix C: Intellectual Property and Trade Secrets</u>, definitions created within Design Drawings and/or definitions within Reference Sheets. Beyond this, terms not defined shall have ordinarily accepted meanings as the context implies. Words used in the present tense include the future; words stated in the masculine gender include the feminine and neuter; the singular number includes the plural and the plural, the singular.
- https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1702
- Alternative Materials, Design and Methods of Construction and Equipment: The provisions of any regulation code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by a regulation. Please review <a href="https://www.justice.gov/atr/mission">https://www.justice.gov/atr/mission</a> and <a href="https://www.justice.gov/atr/mission">http
- https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1706.2:~:text=the%20design%20strengths%20and%20permissible%20stresses%20shall%20be%20established%20by%20tests
- The <u>design strengths</u> and permissible stresses of any structural material shall conform to the specifications and methods of design of accepted engineering practice. <a href="https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1706.1:~:text=Conformance%20to%20Standards-,The%20design%20strengths%20and%20permissible%20stresses,-of%20any%20structural</a>
- https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1707.1:~:text=the%20building%20official%20shall%20make%2C%20or%20cause%20to%20be%20made%2C%20the%20necessary%20tests%20and%20investigations%3B %20or%20the%20building%20official%20shall%20accept%20duly%20authenticated%20reports%20from%20approved%20agencies%20in%20respect%20to%20the%20quality%2 0and%20manner%20of%20use%20of%20new%20materials%20or%20assemblies%20as%20provided%20for%20in%20Section%20104.2.3.
- 8 <a href="https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1703.4.2">https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1703.4.2</a>
- https://up.codes/viewer/mississippi/ibc-2024/chapter/2/definitions#approved\_agency
- https://up.codes/viewer/mississippi/ibc-2024/chapter/2/definitions#approved\_source
- https://www.law.cornell.edu/uscode/text/18/1832 (b) Any organization that commits any offense described in subsection (a) shall be fined not more than the greater of \$5,000,000 or 3 times the value of the stolen trade secret to the organization, including expenses for research and design and other costs of reproducing the trade secret that the organization has thereby avoided. The federal government and each state have a public records act. To follow DTSA and comply state public records and trade secret legislation requires approval through ANAB ISO/IEC 17065 accredited certification bodies or approved sources. For more information, please review this website: Intellectual Property and Trade Secrets.
- https://www.nspe.org/resources/issues-and-advocacy/professional-policies-and-position-statements/regulation-professional AND https://apassociation.org/list-of-engineering-boards-in-each-state-archive/
- 13 https://www.cbitest.com/accreditation/
- 14 https://up.codes/viewer/mississippi/ibc-2024/chapter/1/scope-and-administration#104.1:~:text=directed%20to%20enforce%20the%20provisions%20of%20this%20code
- https://up.codes/viewer/mississippi/ibc-2024/chapter/1/scope-and-administration#104.2.3 AND https://up.codes/viewer/mississippi/ibc-2024/chapter/1/scope-and-administration#105.3.1
- https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1707.1
- 17 <u>https://iaf.nu/en/about-iaf-</u>
  - mla/#:~:text=Once%20an%20accreditation%20body%20is%20a%20signatory%20of%20the%20IAF%20MLA%2C%20it%20is%20required%20to%20recognise%20certificates%20 and%20validation%20and%20verification%20statements%20issued%20by%20conformity%20assessment%20bodies%20accredited%20by%20all%20other%20signatories%20of%20the%20IAF%20MLA%2C%20with%20the%20appropriate%20scope
- True for all ANAB accredited product evaluation agencies and all International Trade Agreements.
- https://www.justice.gov/crt/deprivation-rights-under-color-law AND https://www.justice.gov/atr/mission
- Unless otherwise noted, the links referenced herein use un-amended versions of the 2024 International Code Council (ICC) 2024 International Code Council (ICC) model codes as foundation references. Mississippi versions of the IBC 2024 and the IRC 2024 are un-amended. This material, product, design, service and/or method of construction also complies with the 2000-2012 versions of the referenced codes and the standards referenced therein. As pertinent to this technical and code compliance evaluation, CBI and/or DrJ staff have reviewed any state or local regulatory amendments to assure this report is in compliance.
- 21 See Adoptions by Publisher for the latest adoption of a non-amended or amended model code by the local jurisdiction. https://up.codes/codes/general
- 22 See Adoptions by Publisher for the latest adoption of a non-amended or amended model code by state. https://up.codes/codes/general
- https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3282/subpart-A/section-3282.14
- https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3280
- https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3280#p-3280.2(Listed%20or%20certified); https://up.codes/viewer/mississippi/ibc-2024/chapter/2/definitions#listed AND https://up.codes/viewer/mississippi/ibc-2024/chapter/2/definitions#labeled
- 26 2021 IRC Section R312.1
- 27 2021 IBC Section 1607.9.1
- 28 2021 IBC Section 1607.9.1
- 29 <u>2021 IBC Section 1607.9.1</u>
- https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1703.4
- 31 https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-
  - 3280#:~:text=All%20construction%20methods%20shall%20be%20in%20conformance%20with%20accepted%20engineering%20practices%20to%20insure%20durable%2C%20livable%2C%20and%20safe%20housing%20and%20shall%20demonstrate%20acceptable%20workmanship%20reflecting%20journeyman%20quality%20of%20work%20of%20the%20various%20trades









- https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3280#:~:text=The%20strength%20and%20rigidity%20of%20the%20component%20parts%20and/or%20the%20integrated%20structure%20shall%20be%20determined%20by%20engineering%20analysis%20or%20by%20suitable%20load%20tests%20to%20simulate%20the%20actual%20loads%20and%20conditions%20of%20application%20that%20occur
- Qualification is performed by a legislatively defined <u>Accreditation Body</u>. <u>ANSI National Accreditation Board (ANAB)</u> is the largest independent accreditation body in North America and provides services in more than 75 countries. <u>DrJ</u> is an ANAB accredited <u>product certification body</u>.
- https://anabpd.ansi.org/Accreditation/product-certification/AllDirectoryDetails?prgID=1&orgID=2125&statusID=4#:~:text=Bill%20Payment%20Date-,Accredited%20Scopes,-13%20ENVIRONMENT.%20HEALTH
- 35 See Code of Federal Regulations (CFR) Title 24 Subtitle B Chapter XX Part 3280 for definition: https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3280
- 36 2021 IRC Section R312
- 37 2018: https://up.codes/viewer/wyoming/ifc-2018/chapter/1/scope-and-administration#104.9 AND 2021: https://up.codes/viewer/wyoming/ibc-2021/chapter/1/scope-and-administration#104.11
- Approved is an adjective that modifies the noun after it. For example, Approved Agency means that the Agency is accepted officially as being suitable in a particular situation. This example conforms to IBC/IRC/IFC Section 201.4 (https://up.codes/viewer/mississippi/ibc-2024/chapter/2/definitions#201.4) where the building code authorizes sentences to have an ordinarily accepted meaning such as the context implies.
- 39 <a href="https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1707.1">https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1707.1</a>
- 40 Multilateral approval is true for all ANAB accredited product evaluation agencies and all International Trade Agreements.