Facilitating Acceptance with ICC-ES Certification

Presented by: Michael Temesvary, P.E. (ICC-ES)

Steel Frame Experience

October 31, 2024

International Code Council (ICC)

An industry association for building code officials and others interested in building safety.

The developer and publisher of the International Codes, such as the IBC.

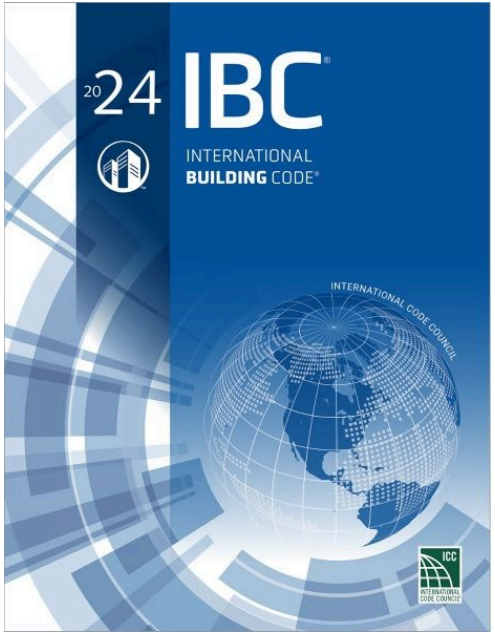
A family of companies serving code officials and others interested in building safety.

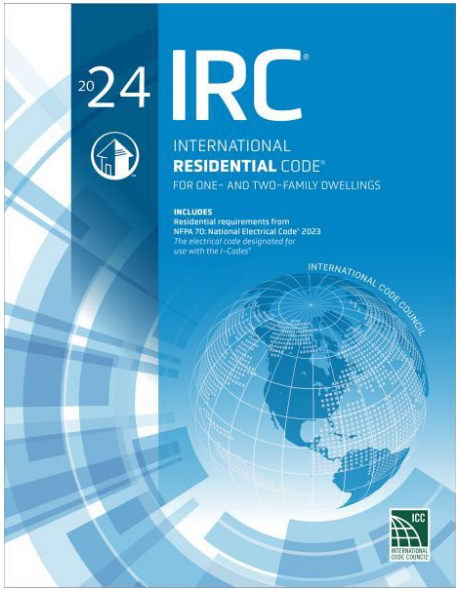
Model Building Codes

ICC publishes model building codes including the International Building Code® (IBC) and the International Residential Code® (IRC).

These codes are not legal requirements until they are adopted by the authority having jurisdiction (AHJ).

The AHJ may make modifications and additions to the model code when adopting it.





ICC Evaluation Service (ICC-ES)

A subsidiary of the International Code Council.

The leader in evaluating building products against the requirements of the I-Codes.

An ISO/IEC 17065 accredited certifying body.

A one stop shop for clients, offering testing services at our ISO/IEC 17020 accredited laboratories.

A2LA ACCREDITED

ANAB
ANSI National Accreditation Board
ACCREDITED
ISO/IEC 17065
PRODUCT CERTIFICATION BODY

JAS-ANZ

Standards Council of Canada
Conseil canadien des normes

ICC-ES Global Regions

- North America (US, Canada)
- South America (Argentina, Brazil, Chile, Ecuador, Peru, Uruguay)
- MENA (Middle East/North Africa)
- Oceania (New Zealand, Australia)

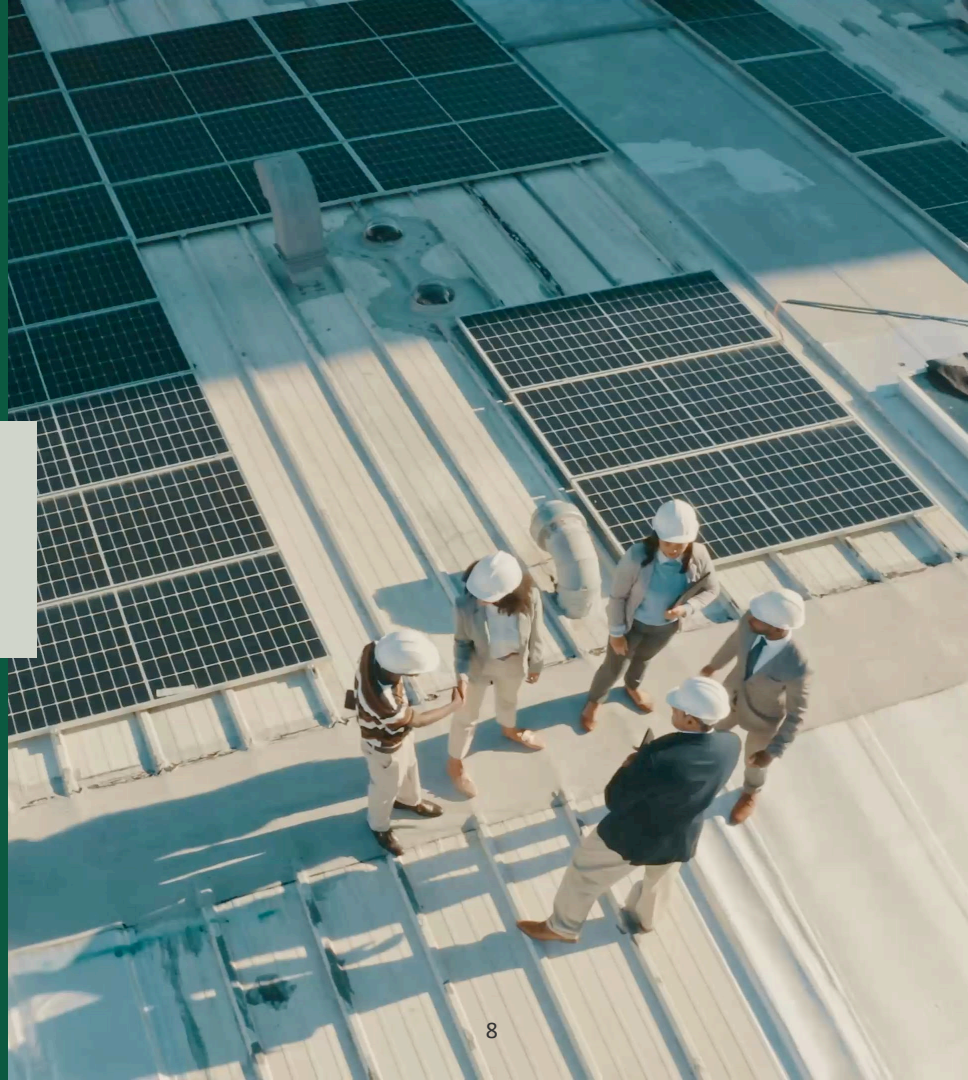
Alliances

ICC-ES has established a number of alliances and relationships (MoU agreements) with other product evaluation bodies and organizations to better serve its customers, including the World Federation of Technical Assessment Organisations. Leveraging these relationships allows ICC-ES to streamline processes, add more value to customers and bridge code conformity gaps that product manufacturers face when seeking building product certification:

ICC-ES Programs

- Evaluation Service Reports (ESRs): Serve as evidence that building products, components, methods, and materials meet code requirements

- Evaluation Service Listing (ESL): Products are evaluated to standards referenced in the codes



ICC-ES Programs (cont.)

- Plumbing, Mechanical and Gas (PMG) Listings: Demonstrate conformance to the standards referenced in the I- Codes® as well as the UPC, UMC and National Plumbing Code of Canada

- Environmental Programs: Provide manufacturers with independent and comprehensive verification and/or certification that their products meet specific sustainability (green) targets (e.g., WaterSense, Energy STAR, formaldehyde emissions)

Testing, Inspection and Certification

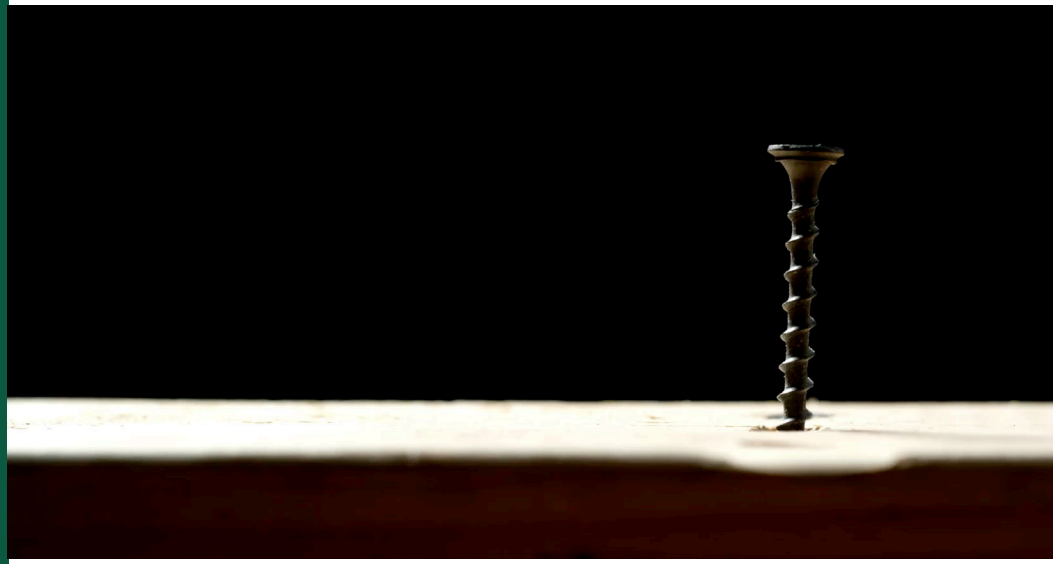
Comprehensive Testing Services: ICC-ES offers comprehensive testing services and can also accept ILAC-recognized tests.

- ✓ Air/Water/Structural Testing
- ✓ Benchmark Testing
- ✓ Comparative Testing
- ✓ Fire/Flammability
- ✓ Floor Assembly
- ✓ Florida Product Approval (Miami-Dade Hurricane Testing)
- ✓ HUD Assemblies
- ✓ Polymers & Plastics Testing
- ✓ Plumbing
- ✓ Product Performance Testing
- ✓ Prototype Testing
- ✓ Quality Assurance Testing
- ✓ Structural Assembly Performance
- ✓ Termite Resistance
- ✓ Wall Assembly
- ✓ Water Resistance
- ✓ Weathering/Erosion

Product Certification

- Review of products against a standard, a criteria, or a code to ensure continuous compliance of products

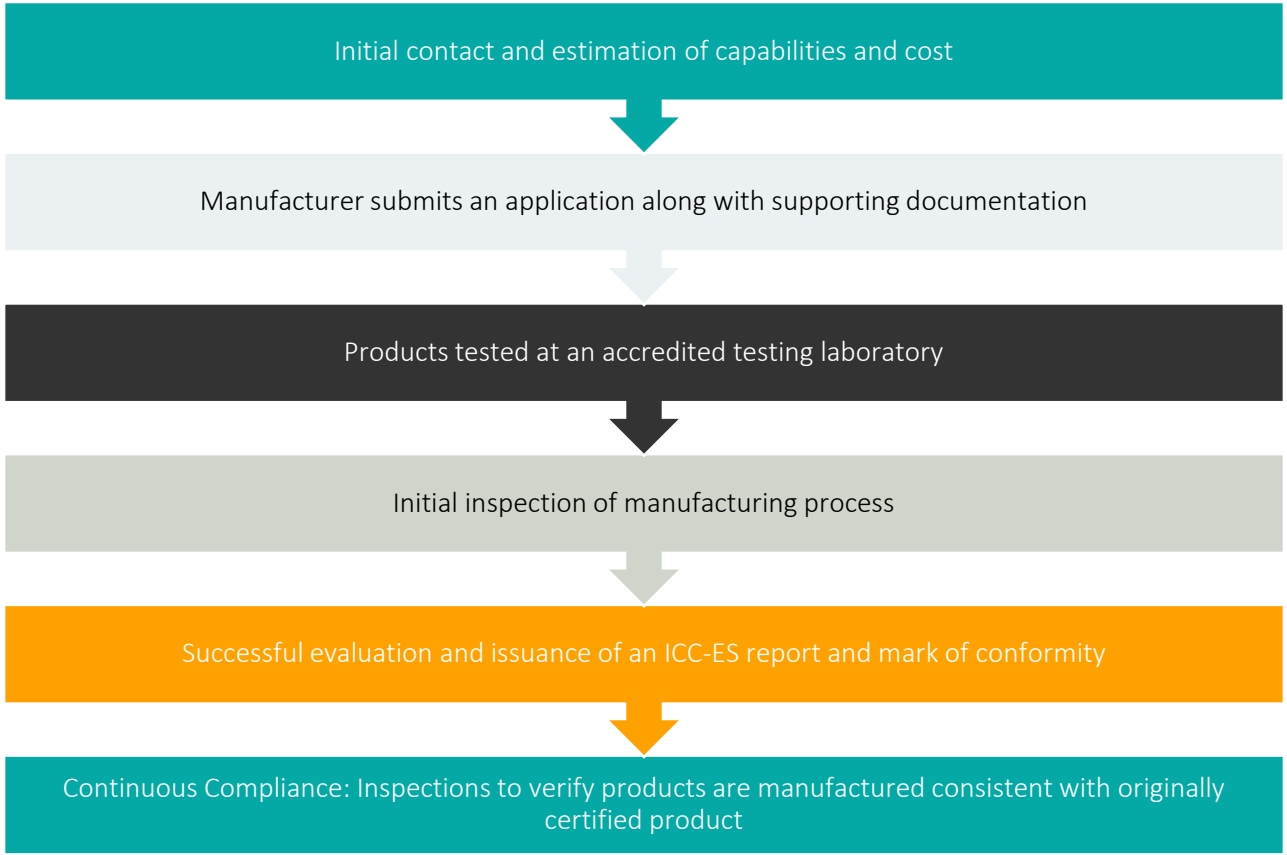
- Certification steps include review of products, periodic inspection of plants (by an ISO/IEC 17020 accredited inspection agency), periodic review of submitted information against new or revised standards



Inspection

Inspection of the manufacturing plants ensures that the product that was once deemed as compliant continues to comply.

Product Certification Process

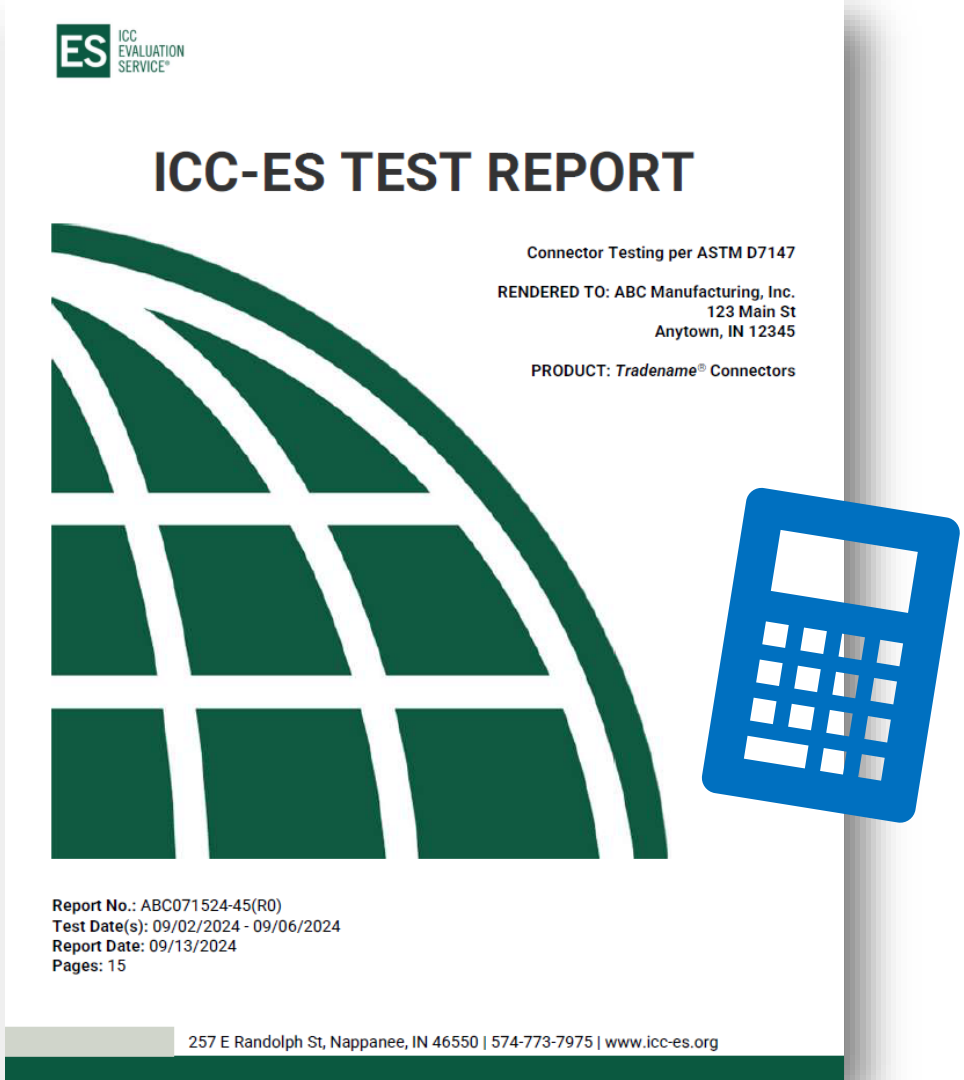


Qualification Data

Test Reports – Typically must be from an accredited third-party laboratory (not the manufacturer)

Calculations – Must be sealed

Engineering Analyses – Must be sealed



Quality Documentation

Documents used at a manufacturing facility to ensure consistent quality of products

Quality control manuals (QCMs), product drawings, control plans

Controlled – unique identifier, date

AC10 – our AC for Quality Documentation

ICC-ES Mark of Conformity

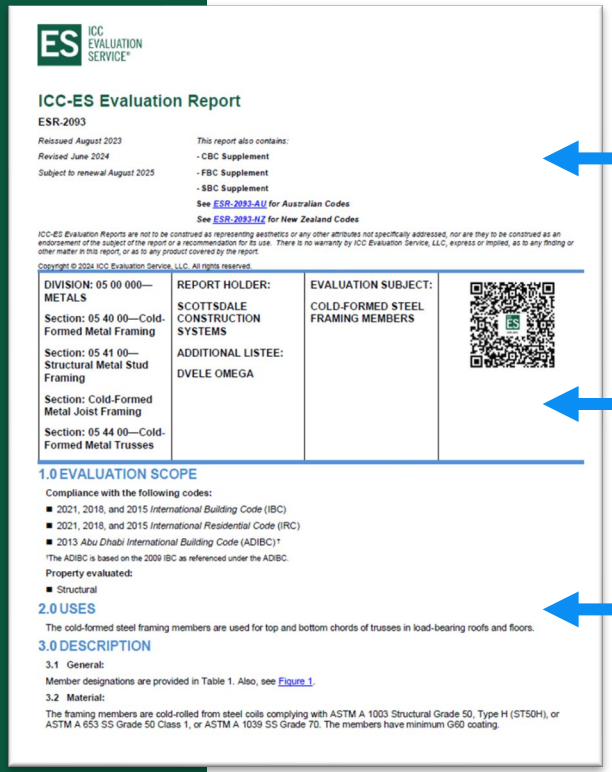
- Inspectors look for ICC-ES marks prior to approving installation where the code or other criteria requires conformity to a standard.

- The ICC-ES mark means that the product has undergone a rigorous evaluation (including testing and inspection) and successfully received a report as proof

Benefits of having an ICC-ES Evaluation Report (ESR) to a Code Official

- Provides the necessary evidence a code official can review to determine whether a product complies with codes and standards
- Avoids otherwise required departmental time/resources to ensure compliance
- Speeds permitting review
- Expedites approval by code officials

ESRs are freely accessible for building departments and the general public.



ICC EVALUATION SERVICE®

ICC-ES Evaluation Report

ESR-2093

Reissued August 2023
Revised June 2024
Subject to renewal August 2025

This report also contains:
- CBC Supplement
- FBC Supplement
- SBC Supplement

See ESR-2093-AU for Australian Codes

See ESR-2093-NZ for New Zealand Codes

ICC-ES Evaluation Reports are not to be construed as representing aesthetics or any other attributes not specifically addressed, nor are they to be construed as an endorsement of the subject of the report or a recommendation for its use. There is no warranty by ICC Evaluation Service, LLC, express or implied, as to any finding or other matter in this report, or as to any product covered by the report.

DIVISION: 05 00 000—METALS	REPORT HOLDER:	EVALUATION SUBJECT:
Section: 05 40 00—Cold-Formed Metal Framing Section: 05 41 00—Structural Metal Stud Framing Section: Cold-Formed Metal Joist Framing Section: 05 44 00—Cold-Formed Metal Trusses	SCOTTSDALE CONSTRUCTION SYSTEMS ADDITIONAL LISTEE: DVELE OMEGA	COLD-FORMED STEEL FRAMING MEMBERS

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2021, 2018, and 2015 *International Building Code* (IBC)
- 2021, 2018, and 2015 *International Residential Code* (IRC)
- 2013 *Abu Dhabi International Building Code* (ADIBC)†

†The ADIBC is based on the 2009 IBC as referenced under the ADIBC.

Property evaluated:

- Structural

2.0 USES

The cold-formed steel framing members are used for top and bottom chords of trusses in load-bearing roofs and floors.

3.0 DESCRIPTION

3.1 General:

Member designations are provided in Table 1. Also, see Figure 1.

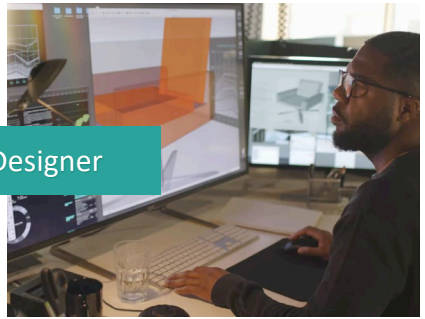
3.2 Material:

The framing members are cold-rolled from steel coils complying with ASTM A 1003 Structural Grade 50, Type H (ST50H), or ASTM A 653 SS Grade 50 Class 1, or ASTM A 1039 SS Grade 70. The members have minimum G60 coating.

Code Official

Manufacturer

Designer



A Trusted Source for Manufacturers and Code Officials

ICC-ES Evaluation Reports Streamline Approvals in a Growing Number of Jurisdictions

CALIFORNIA

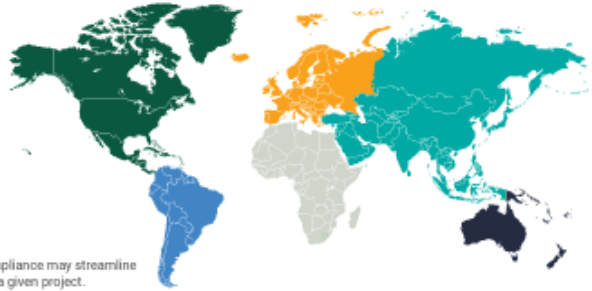
- California State Fire Marshal for Inspections and Labeling
- DSA[1]/OSHPD/HCAI
- City of Los Angeles
- Los Angeles County
- San Diego County
- San Francisco County

NORTH AMERICA

- US EPA (EnergyStar, WaterSense, TSCA Title VI)
- Oregon
- Washington
- Las Vegas (Clark County)
- Ohio Department of Transportation
- Florida
- New York
- Chicago
- Mexico – for regulated NOMs
- Canadian Provinces and Territories

INTERNATIONAL

- South America
- Central America
- New Zealand
- Australia
- Korea
- Kingdom of Saudi Arabia
- Dubai Municipality
- UAE Civil Defense

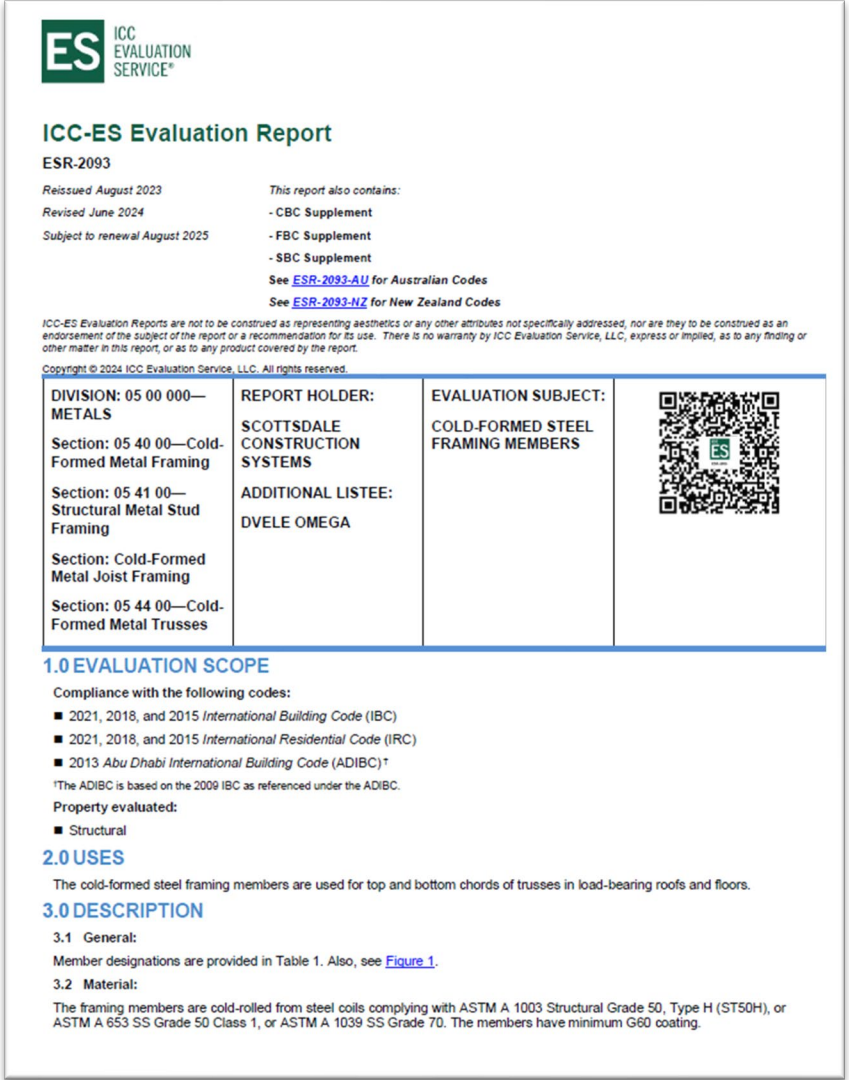


[1] Evaluation reports showing assessment of a product for CBC compliance may streamline DSA review and acceptance of the product for a specified use on a given project.

Code Officials accept ICC-ES Reports because they streamline approvals

Benefits of an ICC-ES Evaluation Report to the Manufacturer

- **Key to entering U.S. marketplace for domestic and foreign manufacturers**
- Evidence to prove product complies with codes and standards
- ICC brand backing the code compliance of the product
- Reduces regulatory barriers and allows new and innovative products to be used in construction projects
- Competitive advantage



ICC EVALUATION SERVICE®

ICC-ES Evaluation Report

ESR-2093

Reissued August 2023
Revised June 2024
Subject to renewal August 2025

This report also contains:
- **CBC Supplement**
- **FBC Supplement**
- **SBC Supplement**

See ESR-2093-AU for Australian Codes

See ESR-2093-NZ for New Zealand Codes

ICC-ES Evaluation Reports are not to be construed as representing aesthetics or any other attributes not specifically addressed, nor are they to be construed as an endorsement of the subject of the report or a recommendation for its use. There is no warranty by ICC Evaluation Service, LLC, express or implied, as to any finding or other matter in this report, or as to any product covered by the report.

DIVISION: 05 00 000—METALS Section: 05 40 00—Cold-Formed Metal Framing Section: 05 41 00—Structural Metal Stud Framing Section: Cold-Formed Metal Joist Framing Section: 05 44 00—Cold-Formed Metal Trusses	REPORT HOLDER: SCOTTSDALE CONSTRUCTION SYSTEMS ADDITIONAL LISTEE: DVELE OMEGA	EVALUATION SUBJECT: COLD-FORMED STEEL FRAMING MEMBERS	

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2021, 2018, and 2015 *International Building Code* (IBC)
- 2021, 2018, and 2015 *International Residential Code* (IRC)
- 2013 *Abu Dhabi International Building Code* (ADIBC)†

†The ADIBC is based on the 2009 IBC as referenced under the ADIBC.

Property evaluated:

- Structural

2.0 USES

The cold-formed steel framing members are used for top and bottom chords of trusses in load-bearing roofs and floors.

3.0 DESCRIPTION

3.1 General:

Member designations are provided in Table 1. Also, see Figure 1.

3.2 Material:

The framing members are cold-rolled from steel coils complying with ASTM A 1003 Structural Grade 50, Type H (ST50H), or ASTM A 653 SS Grade 50 Class 1, or ASTM A 1039 SS Grade 70. The members have minimum G60 coating.

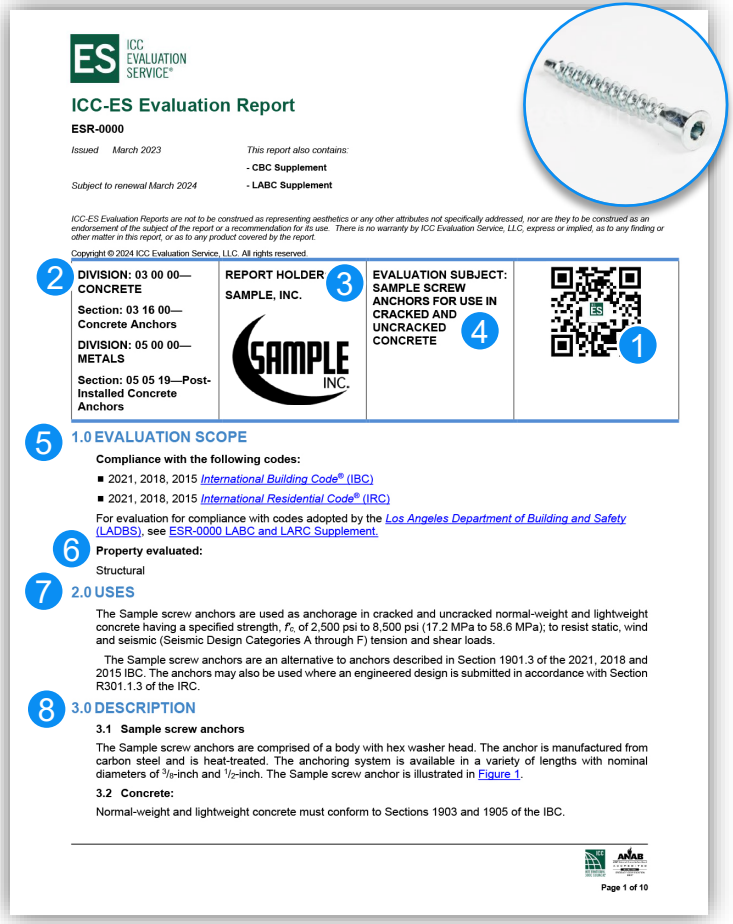
ICC-ES product certification can help drive product sales

Report holders may use the mark of conformity and/or Promotional Use electronic display of conformity on any of their marketing material to show customers and code officials that their product has been evaluated to the strictest of standards.

Some examples might be print magazines, digital ads, product webpages, and social media.

What's in an ICC-ES Evaluation Report

1. **QR Code-** Easy access to digital report online
2. **CSI Division Number-** ICC-ES Evaluation Reports, and the building products represented in them, are organized according to the Construction Specifications Institute's (CSI) Masterformat system.
3. **Report Holder-** The name, address, and logo of the company or organization that has applied
4. **Evaluation Subject-** The specific product(s) covered by the report.
5. **Evaluation Scope-** The code(s) that were used to evaluate the product.
6. **Properties Evaluated-** A brief description of the properties the product was evaluated against such as fire resistance and wind resistance. This section also shows if the product can be used for structural purposes.
7. **Uses-** Identifies the scope of the ICC-ES Evaluation Report and relates the product evaluated to code provisions.
8. **Description-** Provides a general description of the product and its features, such as length, thickness, etc.



ICC EVALUATION SERVICE®

ICC-ES Evaluation Report

ESR-0000

Issued March 2023

Subject to renewal March 2024

This report also contains:

- **CBC Supplement**
- **LABC Supplement**

ICC-ES Evaluation Reports are not to be construed as representing aesthetics or any other attributes not specifically addressed, nor are they to be construed as an endorsement of the subject of the report or a recommendation for its use. There is no warranty by ICC Evaluation Service, LLC, express or implied, as to any finding or other matter in this report, or as to any product covered by the report.

2 **DIVISION: 03 00 00—CONCRETE**

Section: 03 16 00—Concrete Anchors

DIVISION: 05 00 00—METALS

Section: 05 05 19—Post-Installed Concrete Anchors

REPORT HOLDER

SAMPLE, INC. 3

SAMPLE INC.

EVALUATION SUBJECT:

SAMPLE SCREW ANCHORS FOR USE IN CRACKED AND UNCRACKED CONCRETE 4

1

5 **1.0 EVALUATION SCOPE**

Compliance with the following codes:

- 2021, 2018, 2015 *International Building Code®* (IBC)
- 2021, 2018, 2015 *International Residential Code®* (IRC)

For evaluation for compliance with codes adopted by the *Los Angeles Department of Building and Safety* (LADBS), see ESR-0000 LABC and LARC Supplement.

6 **Property evaluated:**

Structural

7 **2.0 USES**

The Sample screw anchors are used as anchorage in cracked and uncracked normal-weight and lightweight concrete having a specified strength, f'_c, of 2,500 psi to 8,500 psi (17.2 MPa to 58.6 MPa); to resist static, wind and seismic (Seismic Design Categories A through F) tension and shear loads.

The Sample screw anchors are an alternative to anchors described in Section 1901.3 of the 2021, 2018 and 2015 IBC. The anchors may also be used where an engineered design is submitted in accordance with Section R301.1.3 of the IRC.

8 **3.0 DESCRIPTION**

3.1 Sample screw anchors

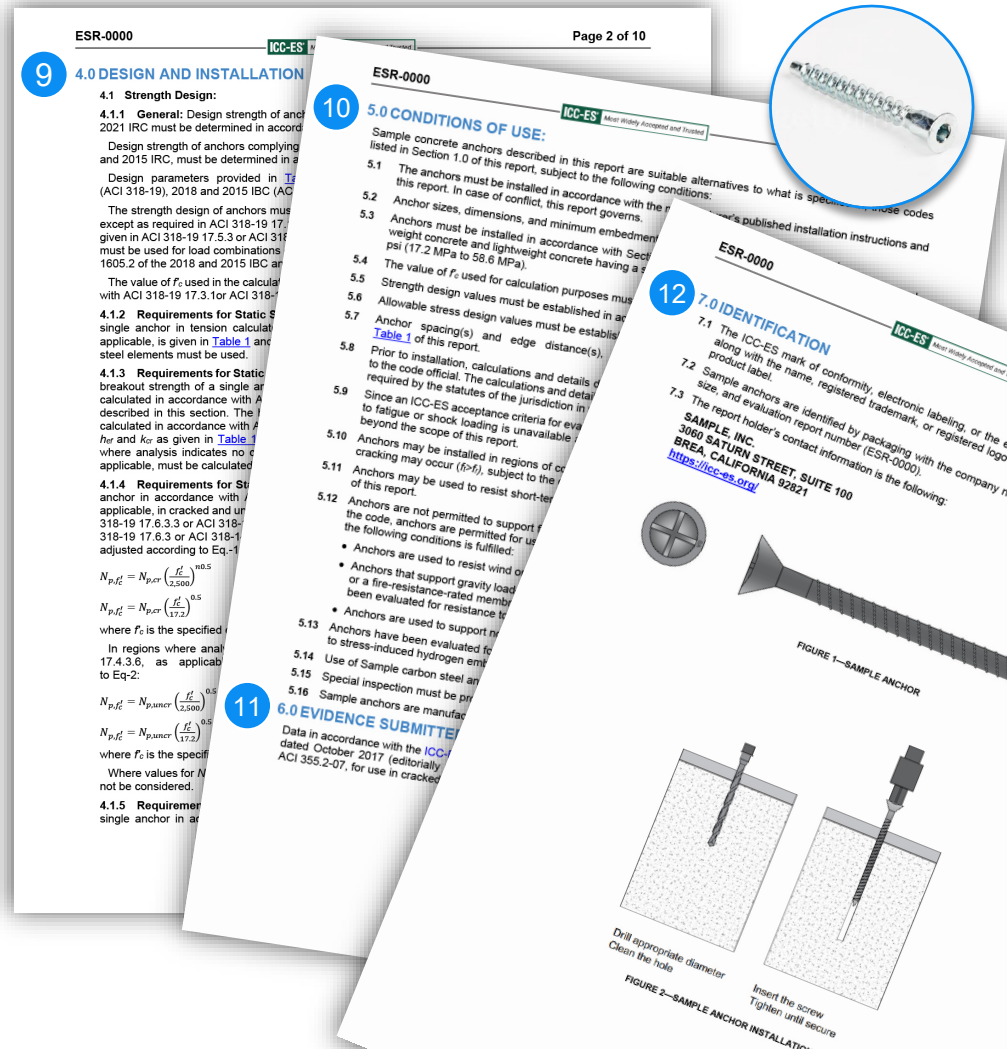
The Sample screw anchors are comprised of a body with hex washer head. The anchor is manufactured from carbon steel and is heat-treated. The anchoring system is available in a variety of lengths with nominal diameters of $^3/_8$-inch and $^1/_2$-inch. The Sample screw anchor is illustrated in Figure 1.

3.2 Concrete:

Normal-weight and lightweight concrete must conform to Sections 1903 and 1905 of the IBC.

What's in an ICC-ES Evaluation Report

9. **Design and Installation-** Identifies general and often specific requirements to help the inspector ensure the product is installed properly according to the code requirements or acceptance criteria.
10. **Conditions of Use-** Statement that the product, as described in the ICC-ES Evaluation Report, complies with or is a suitable alternative to the requirements of the applicable code and a list of conditions under which the report is issued
11. **Evidence Submitted-** Data (i.e. test reports, calculations, installation instructions) that was used in evaluating the product.
12. **Identification-** Information that can be used to identify the product, including the manufacturer's name, product code, ICC-ES Evaluation Report number, etc.



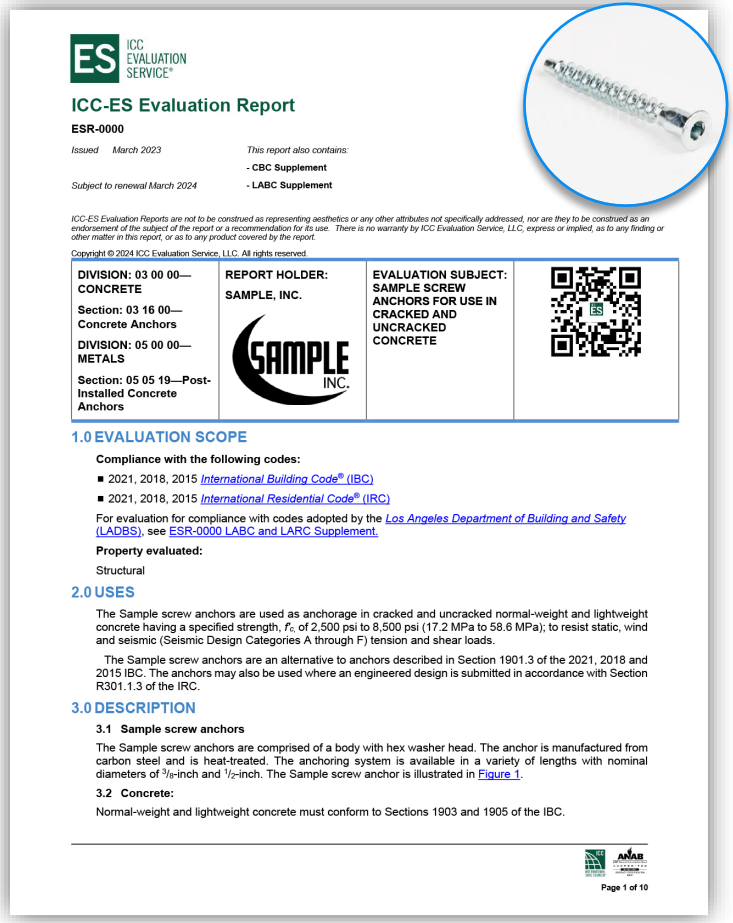
Basis for Evaluation Report

Code Provisions

- This is the basis for evaluation

Acceptance Criteria

- For innovative products not specifically referenced in the code (such as alternative material), existing or new Acceptance Criteria developed by ICC-ES are used as the basis for evaluation



ICC EVALUATION SERVICE®

ICC-ES Evaluation Report

ESR-0000

Issued *March 2023*

Subject to renewal March 2024

This report also contains:

- **CBC Supplement**
- **LABC Supplement**

ICC-ES Evaluation Reports are not to be construed as representing aesthetics or any other attributes not specifically addressed, nor are they to be construed as an endorsement of the subject of the report or a recommendation for its use. There is no warranty by ICC Evaluation Service, LLC, express or implied, as to any finding or other matter in this report, or as to any product covered by the report.

DIVISION: 03 00 00—CONCRETE Section: 03 16 00—Concrete Anchors DIVISION: 05 00 00—METALS Section: 05 05 19—Post-Installed Concrete Anchors	REPORT HOLDER: SAMPLE, INC.	EVALUATION SUBJECT: SAMPLE SCREW ANCHORS FOR USE IN CRACKED AND UNCRACKED CONCRETE	

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2021, 2018, 2015 *International Building Code®* (IBC)
- 2021, 2018, 2015 *International Residential Code®* (IRC)

For evaluation for compliance with codes adopted by the *Los Angeles Department of Building and Safety* (LADBS), see ESR-0000 LABC and LARC Supplement.

Property evaluated:

Structural

2.0 USES

The Sample screw anchors are used as anchorage in cracked and uncracked normal-weight and lightweight concrete having a specified strength, f'_c, of 2,500 psi to 8,500 psi (17.2 MPa to 58.6 MPa); to resist static, wind and seismic (Seismic Design Categories A through F) tension and shear loads.

The Sample screw anchors are an alternative to anchors described in Section 1901.3 of the 2021, 2018 and 2015 IBC. The anchors may also be used where an engineered design is submitted in accordance with Section R301.1.3 of the IRC.

3.0 DESCRIPTION

3.1 Sample screw anchors

The Sample screw anchors are comprised of a body with hex washer head. The anchor is manufactured from carbon steel and is heat-treated. The anchoring system is available in a variety of lengths with nominal diameters of $^3/_8$-inch and $^1/_2$-inch. The Sample screw anchor is illustrated in Figure 1.

3.2 Concrete:

Normal-weight and lightweight concrete must conform to Sections 1903 and 1905 of the IBC.

Alternative Material

A material that is not addressed in the building code.

A material that is not sufficiently addressed in the building code.

A material that is addressed in the building code but is being used in a way that is not addressed in the building code.

Acceptance Criterias (ACs)

Documents which provide requirements and instructions to report applicants, test labs and consultants and ICC-ES staff.

Each AC addresses a different type of product and has a unique number. For instance, AC116 is the ICC-ES Acceptance Criteria for Nails.

ICC-ES ACs apply to ICC-ES evaluations and are not intended for use by other certification bodies.

Acceptance Criteria related to Steel Framing

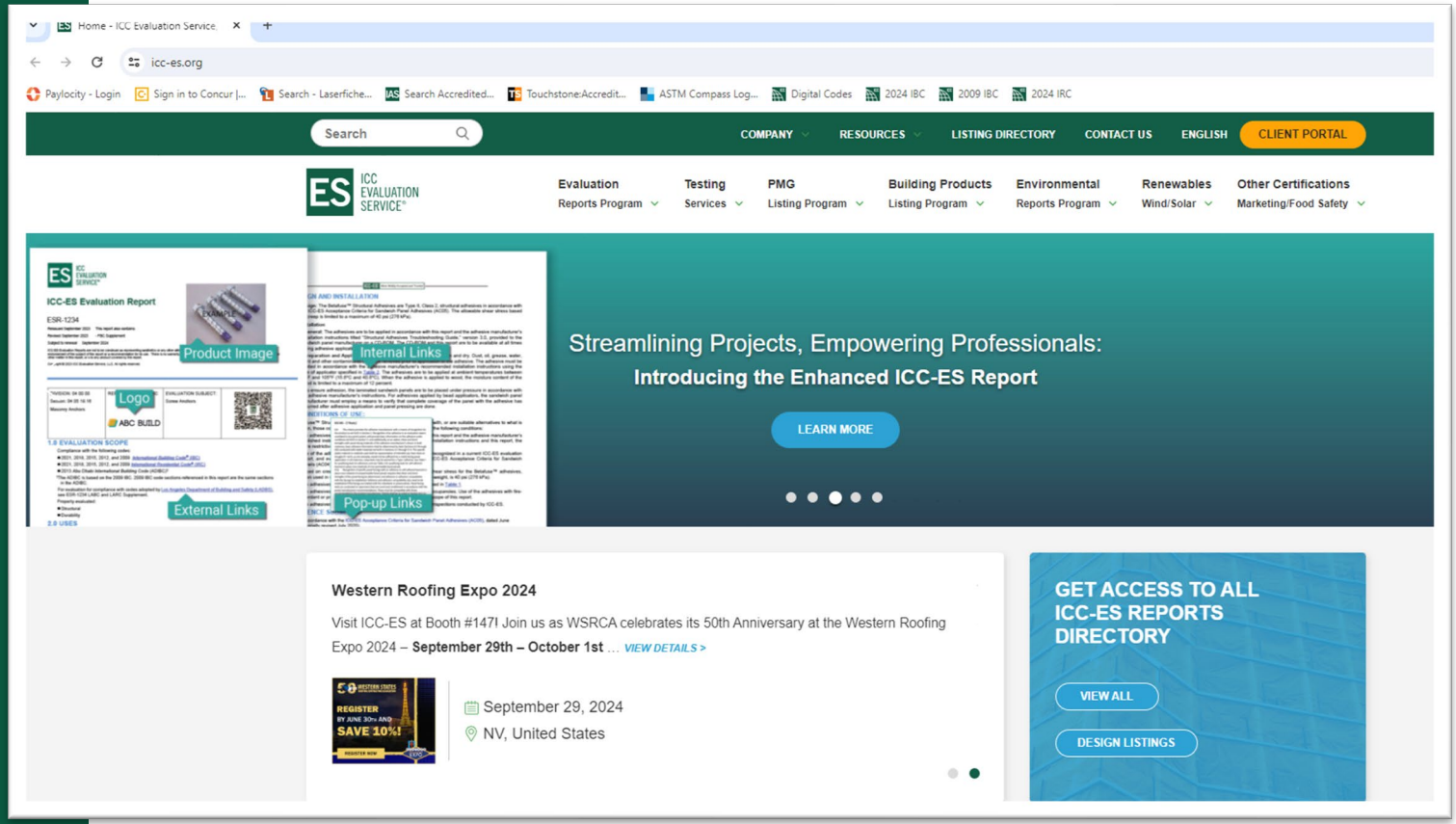
AC46– Cold-formed Steel Framing Members

AC129 - Steel Moment Frame Connection Systems

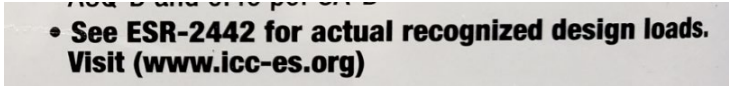
AC390 - Wall Panels with a Welded Steel Perimeter Frame Used in Agricultural Storage Structures

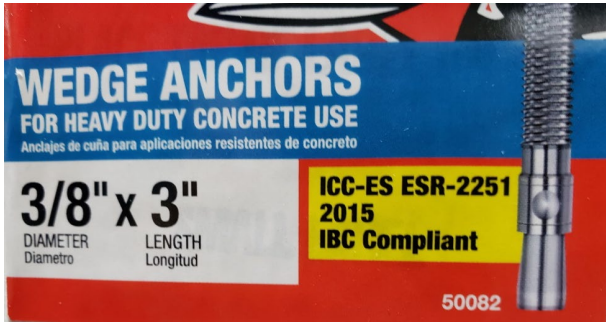
AC398 - Steel Connectors for Connecting Light-frame Construction Members to Concrete

www.icc-es.org

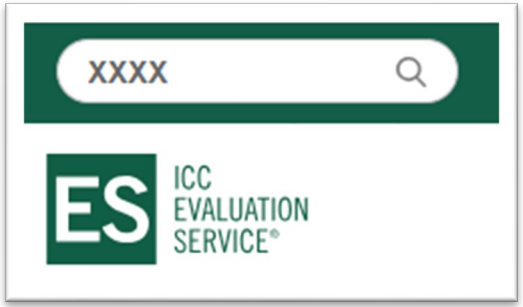


If you know the Report Number (ESR-XXXX):

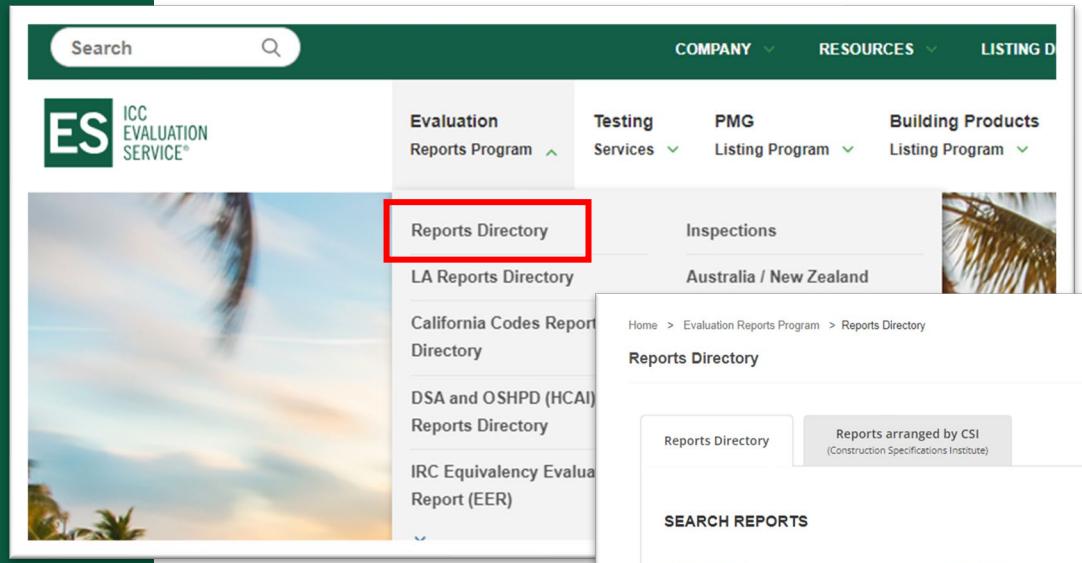


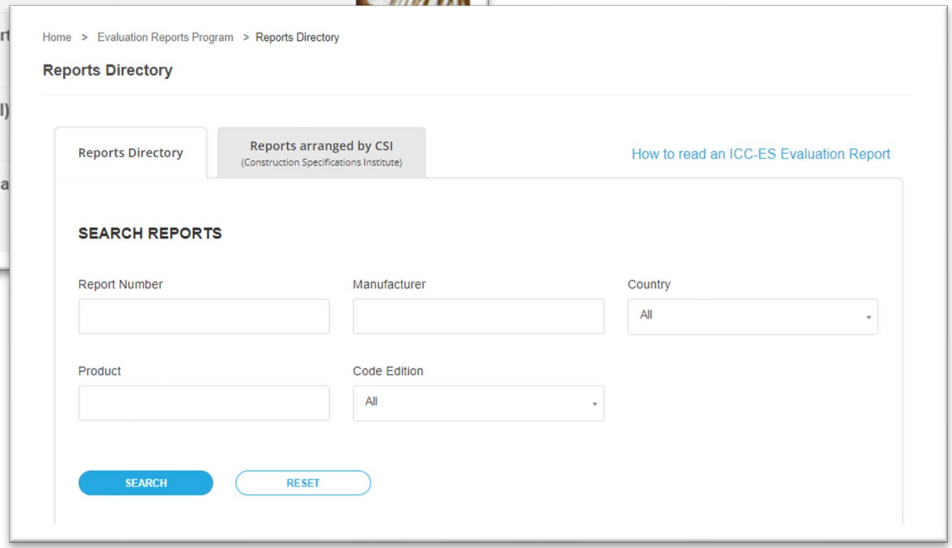


Simply enter the numerical digits in the search box



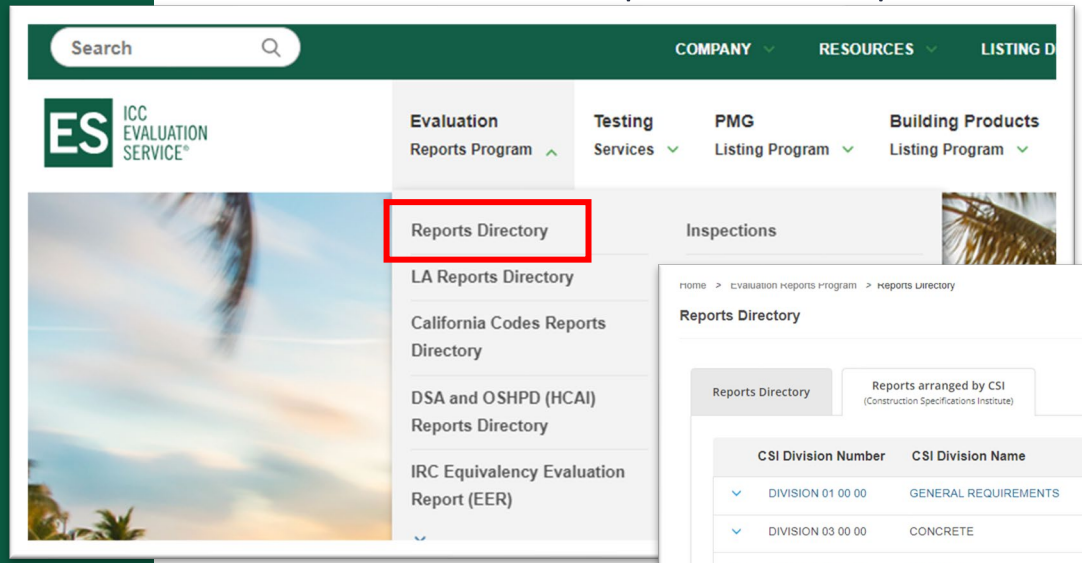
If you know don't know the Report Number, but do know the product name and/or report holder name:

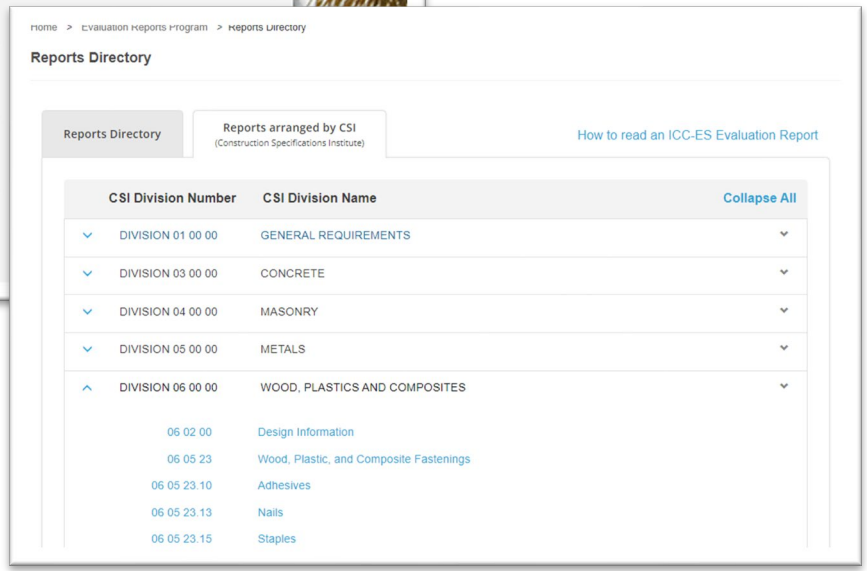




Use the Reports Directory search tool.

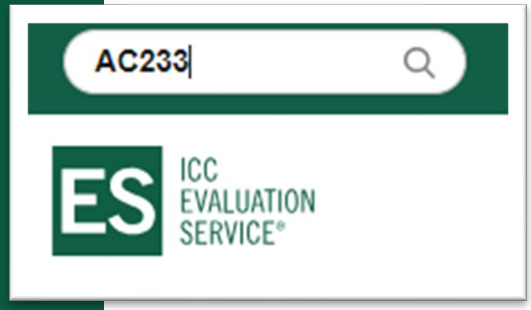
If you are not looking for a specific report, but want to see reports on a particular product type:



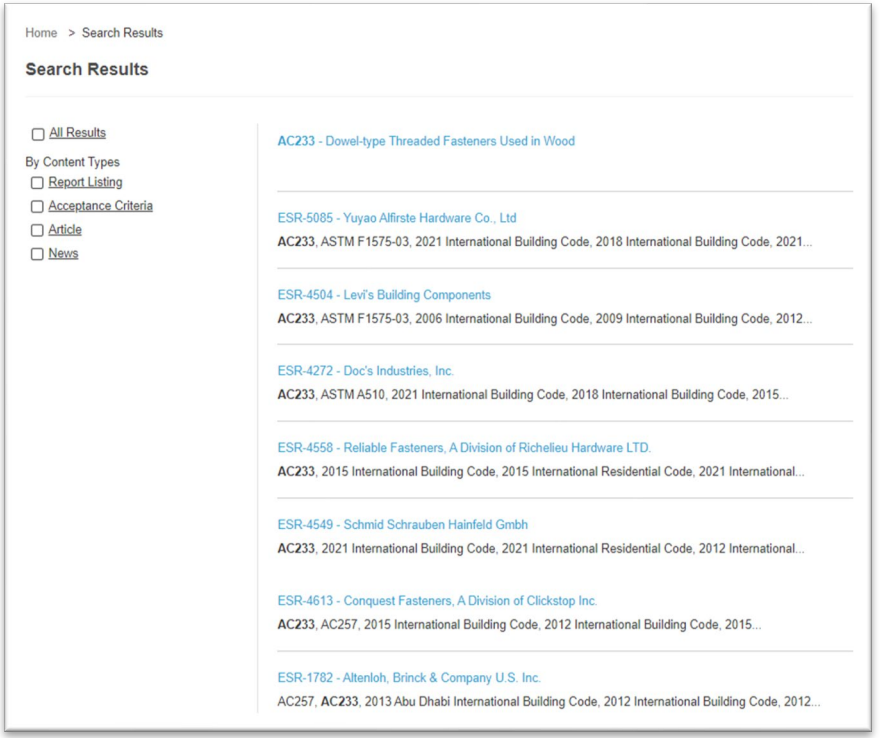


Search by CSI Division and Section numbers.

To see reports under a particular ICC-ES Acceptance Criteria:



Use the global search box.



There are a wide variety of free instructional tools available to the public at www.icc-es.org/education

How to Read an ICC-ES Report

PowerPoint Presentations

- ICC-ES Overview Presentation
- Description of ICC-ES Evaluation Committee Hearing Process and Flowchart
- ICC-ES MgOBPA Presentation

SCAN ME

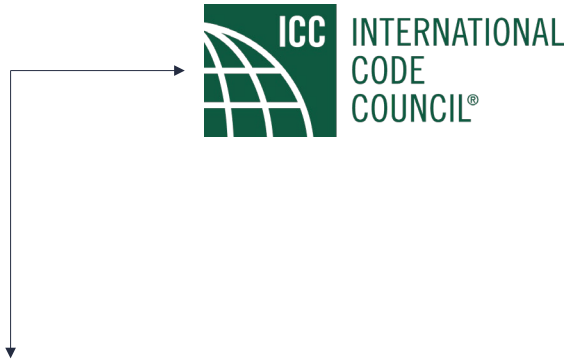
Instructional Tools and Brochures

- ICC-ES Overview Brochure
- What's in an Evaluation Service Report (ESR)?
- Jurisdictions Readily Accepting ICC-ES Reports
- Reasons Why Code Officials Accept ICC-ES Reports
- ICC-ES Evaluation Process
- ICC-ES Oceania Building Product Evaluation Brochure
- Do I need an ESR or ESL?
- ICC-ES PMG Brochure

Industry Resources

ICC-ES supports the building industry

Thank You



Family of Solutions