

Product Evaluation

FR36 | 1019

Engineering Services Program

The following product has been evaluated for compliance with the wind loads specified in the International Residential Code (IRC) and the International Building Code (IBC).

This product evaluation is not an endorsement of this product or a recommendation that this product be used. The Texas Department of Insurance has not authorized the use of any information contained in the product evaluation for advertising, or other commercial or promotional purpose.

This product evaluation is intended for use by those individuals who are following the design wind load criteria in Chapter 3 of the IRC and Section 1609 of the IBC. The design loads determined for the building or structure shall not exceed the design load rating specified for the products shown in the limitations section of this product evaluation. This product evaluation does not relieve a Texas licensed engineer of his responsibilities as outlined in the Texas Insurance Code, the Texas Administrative Code, and the Texas Engineering Practice Act.

For more information, contact TDI Engineering Services Program at (800) 248-6032.

Evaluation ID: FR-36

Effective Date: October 1, 2019

Re-evaluation Date: September 2023

Product Name: PACO I-Sections and Frames

Manufacturer: PACO Steel & Engineering Corp.
19818 South Alameda Street
Rancho Dominguez, CA 90221
(800) 421-1473
(310) 537-6375

General Description:

The PACO I-Section, by PACO Steel & Engineering Corp., is a structural steel "I" section designed for use as beams, joists, headers, columns, frames or other load-carrying elements in residential and commercial construction. In some cases, the PACO I-Section is supplied with optional graded lumber "nailers" attached, to facilitate installation in timber framing. In these cases, the beams are distributed under the PACO trade name Wood Steel Beams (WSB's). The PACO I-Section is produced from three pieces of steel continuously and mechanically forged together, using the Electric Resisting Welding (ERW) process, to form a parallel flanged, structural "I" section. In the case of WSB's, the optional graded lumber "nailers", are fastened to the PACO I-Section by means of nut and bolt, self-tapping screw, or hardened pin.

The PACO Frame is fabricated from PACO I-Section material to produce a moment resisting frame designed to carry both vertical and lateral loading. The frame is fabricated in strict accordance with the provisions of the AISC Standard Code of Practice and welded out in accordance with the

AWS specification, D1-1, to provide a moment resisting frame. The PACO Frame is supplied as a full, prefabricated, component kit consisting of a beam, two columns, and all connecting bolts, anchor rods and base plates.

Materials:

Steel: The patented PACO I-Section is manufactured in strict accordance with ASTM A769 for the Electric Resistance Welding (ERW) of steel sections. The ERW process uses high frequency electrical current to seamlessly forge and homogeneously bond the steel components. In the ERW process, three pieces of hot rolled sheet or strip steel are continuously forged to form an "I" section. This type of process fuses the pieces of parent metal, without the introduction of filler metal, thereby yielding a truly forged section.

All finished product meets or exceeds the dimensional, squareness, and straightness tolerances prescribed under ASTM A6. All testing of the PACO I-Section is conducted in strict compliance with the provisions of ASTM A 769 and the testing procedures are in compliance with ASTM A 370 (Test Methods and Definition for Mechanical Testing).

All steel materials used in the PACO I-Section are high strength strip steels manufactured in accordance with ASTM A1011. The following grades are available (all figures in pounds per square inch).

Grade	Yield Point (F _y)	Tensile Strength (F _u)
36	36,000 psi	58,000 psi
50	50,000 psi	65,000 psi

Steel is a totally homogenous material with a Modulus of Elasticity (E) of 29,000,000 psi.

Wood: The optional graded lumber "nailers" do not provide any structural resistance against bending, shear, axial load or deflection. Whilst these "nailers" are not considered to provide any flexural, axial or deformation resistance, in certain instances they may act in bearing between the PACO I-Section and the supporting framing. In such cases, the permissible bearing stresses are calculated in strict accordance with the AWC NDS National Design Specification for Wood Construction. The optional graded lumber "nailers" supplied with the PACO WSB's or the PACO Frames can be cut, drilled, trimmed back, modified or removed, to suit any local conditions, without affecting the structural integrity of the PACO component.

Installation:

General Installation Requirements:

The installation of the frame assembly must be in strict accordance with PACO Steel and Engineering Corporation installation drawings, signed, sealed, and dated by a Texas licensed engineer. PACO Steel and Engineering Corporation will develop a set of sealed design drawings and anchor bolt layout for each project. The drawings must include all necessary details for the erection and installation of PACO I-Sections and Frames. The design drawings must reference the appropriate edition of the wind load standard (ASCE 7) used based on the current building

specifications adopted by the TDI. The basic wind speed and the exposure category used for the design must also be referenced. The design drawings must clearly provide design wind loads, allowable load capacities, complete installation and anchorage methods associated with the product, and the name and telephone number of the design engineer. PACO I-Sections and Frames must not be altered from their original design condition. During the installation, any alterations, modifications or damage of the frame assembly must have the repair approved by the engineer of record for PACO Steel and Engineering Corp. or be replaced.

Buildings utilizing PACO I-Sections and Frames must be inspected by a Texas licensed engineer that is appointed by the TDI as a qualified inspector (AQI). It is possible for the AQI to be the same person who designs and inspects the structure.

Note: A set of sealed plans, manufacturer's installation instructions, and this product evaluation report must be available to the inspector at the job site at all times. Use corrosion resistant fasteners as specified in the IRC, the IBC, and the Texas Revisions.