

TEXAS DEPARTMENT OF INSURANCE

Engineering Services / MC 103-3A 333 Guadalupe Street P.O. Box 149104 Austin, Texas 78714-9104
Phone No. (512) 322-2212 Fax No. (512) 463-6693

PRODUCT EVALUATION FR-36

Effective February 1, 2004

*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 shall be subject to reevaluation 3 years after the effective date.*

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.

PACO Beams and Portals manufactured by:

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

will be acceptable in designated catastrophe areas along the Texas Gulf Coast when installed in accordance with the manufacturer's installation instructions and this product evaluation.

PRODUCT DESCRIPTION

General:

The PACO Beam, by PACO Steel & Engineering Corp., is a structural steel beam designed for use as beams, joists, headers, columns, frames or other load-carrying elements in residential and commercial construction. In some cases the PACO Beam 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 Beam is produced from three pieces of steel continuously and mechanically forged together, using the ERW process, to form a parallel flanged, structural beam. In the case of Wood Steel Beams (WSB's), the optional graded lumber "nailers", are fastened to the PACO Beam by means of nut and bolt, self-tapping screw, or hardened pin.

The PACO portal is fabricated from PACO beam material to produce a rigid portal frame designed to carry both vertical and lateral loading. The portal is fabricated in strict accordance with the provisions of the AISC Standard Code of Practice and welded is in accordance with the AWS specification D1-1 to provide a rigid, moment resisting frame with pinned connections to the foundation slab. The PACO portal is supplied as a full, prefabricated, component kit consisting of a header, two columns and all connecting bolts, anchor bolts and shims.

Materials:

Steel: The patented PACO Beam 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, square-ness and straightness tolerances prescribed under ASTM A6. All testing of the PACO Steel Beam 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 Beams 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	53,000 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 Beam and the supporting framing. In such cases the permissible bearing stresses are calculated in strict accordance with the AF&PA National Design Specification for Wood Construction. The optional graded lumber nailers, supplied with the PACO Beams (WSB’s) or the PACO Portals can be cut, drilled, trimmed back, modified or removed, to suit any local conditions, without affecting the structural integrity of the PACO component.

INSTALLATION INSTRUCTIONS

General Installation Requirements:

The installation of the portal frame assembly shall be in strict accordance with PACO Steel and Engineering Corporation installation drawings, signed and sealed 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 shall include all necessary details for the erection and installation of PACO Beams and Portals. The design drawings shall 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 Beams and Portals shall not be altered from their original design condition. During the installation, any alterations, modifications or damage of the portal frame assembly shall have the repair approved by the engineer of record for PACO Steel and Engineering Corp. or be replaced.

Buildings utilizing PACO Beams and Portal shall be designed by a Texas licensed professional engineer. A set of design plans, sealed by a Texas licensed professional engineer, shall be submitted to the Texas Department of Insurance for review prior to commencement of construction. A WPI-2D, Building Design Compliance, form sealed by the Texas licensed professional engineer who designed the PACO Beams and Portal, shall be submitted with the design plans. The Texas Department of Insurance can make no inspections until the design plans have been reviewed and accepted. The design drawings shall reflect the appropriate wind load standards and wind speed relating to the building specifications adopted by the Commissioner of Insurance.

Note: The manufacturer’s installation instructions shall be available on the job site during installation. All fasteners shall be corrosion resistant as specified in the International Residential Code (IRC) and the International Building Code (IBC).