



PORTLAND STONE WARE CO.

# Structural Lock Adjustable Hollow Columns Product Evaluation Information

## ADJUSTABLE HOLLOW COLUMN A Structural Lock Product

### Evaluation Scope:

#### 2012 IRC

R301.2.1

R407.3

R502.9

R606.14

#### 2012 IBC

### Properties Evaluated: Structural

**Uses:** Portland Stone Ware Co., Inc. Adjustable Hollow Columns are prefabricated steel column assemblies used as structural members to transfer axial compressive loads from wood or steel beams to concrete footings.

### Description

The Portland Stone Ware Co., Inc adjustable hollow columns are comprised of round tubing with a welded fastening unit at the top end and a screw jack assembly welded to the bottom of the tubing. The screw jack assembly consists of a screw plate, screw and a collar. The columns are available in 3" 11 ga and 4" 11 ga. The tubing conforms to ASTM A-513 steel.

The screw is fabricated from steel conforming to ASTM A36.. The screw has a nominal diameter of 1 1/4" and length of 7". The collar is fabricated from steel conforming to ASTM A36. The collar is 1/2" thick with a threaded hole for the screw and is butt welded to the bottom of the tubing. The screw plate conforms to ASTM A 36 steel and measures 11 ga x 5 3/8" x 5 3/8". The columns are primed gray. Various styles and size cap plates are available (see website). All cap plates are made from steel conforming to ASTM A 36 steel with a 1/2-13 x 1 screw to attach to the welded fastening unit.

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## Design

The available concentric axial compressive strengths for the adjustable hollow columns are noted in chart for both allowable strength (ASD) and design strength (LRFD). The actual axial compressive load applied to the adjustable columns must be less than the allowable strength or design strength loads. The capacity of the cap and base plates must be calculated in accordance with appliance code requirements for the steel, concrete or wood to determine whether the supplied cap and base plate thickness is adequate for the applied load interface (wood beams, steel beams or concrete).

## Installation

Begin installing an adjustable hollow column by choosing the correct size and quantity called out by engineered drawings, local codes, and any regional requirements prior to installation. If a Lally Lock Beam plate or Lally Lock Saddle plate is desired, use an allen wrench or the end of wrench supplied to loosen the bolt on the cap plate of the adjustable column. Attach desired plate with the same bolt. Position the column with adjustment side down on a properly rated footing. Make sure the column is vertically flush under the support beam. Using our 2 and 1 wrench tool, make adjustments at the base until the top of the column is tight to the beam. The column must be adjusted to ensure it is full bearing of the beam on the cap plate. Secure the cap plate with the appropriate fasteners using the hole openings on the plate as your guide. Finish by pouring the concrete floor and encase the adjustment assembly which will properly secure the base of your column.

## Conditions of Use

The Portland Stone Ware Co., Inc adjustable hollow columns described in this report comply with or are suitable alternatives to what is specified in those codes listed in the Evaluation Scope section of this report subject to the following conditions:

- » The column assemblies must be fabricated and installed in accordance with this report, the manufacturer's installation instructions, the approved plans and the applicable code.
- » Loading on the columns must be limited to concentric axial compressive loads. Other loading conditions such as but not limited to, eccentric loads, tensile axial loads, bending loads and lateral loads, are outside the scope of the report.
- » Connections of the column to the foundation, the supporting construction and bearing capacity of the supporting construction and bearing capacity of the supported beam, are outside the scope of this report and must be approved by the code official.
- » Maximum adjustment of the column is 4”.

## Identification

Portland Stone Ware Co., Inc adjustment hollow columns are assembled at 10 McGrath Road Methuen, MA. The columns have an instruction label as well as a description label with product data.

## Size and Load Chart

3" 11ga Adjustable Column			4" 11ga Adjustable Column		
Size	ASD Safe Load	LRFD Ultimate Load	ASD Safe Load	LRFD Ultimate Load	
6'0-6'4	14,718	22,077	22,235	33,353	
6'3-6'7	14,402	21,602	21,970	32,956	
6'6-6'10	14,079	21,119	21,698	32,547	
6'9-7'1	13,752	20,629	21,419	32,128	
7'0-7'4	13,421	20,132	21,133	31,699	
7'3-7'7	13,086	19,629	20,840	31,260	
7'6-7'10	12,748	19,122	20,542	30,813	
7'9-8'1	12,408	18,612	20,238	30,357	
8'0-8'4	12,066	18,099	19,928	29,893	
8'3-8'7	11,723	17,585	19,614	29,421	
8'6-8'10	11,380	17,070	19,296	28,943	
8'9-9'1	11,037	16,556	18,973	28,459	
9'0-9'4	10,695	16,043	18,646	27,969	
9'3-9'7	10,355	15,532	18,316	27,475	
9'6-9'10	10,016	15,024	17,984	26,975	
9'9-10'1	9,680	14,520	17,648	26,472	
10'0-10'4	9,347	14,020	17,311	25,966	
10'3-10'7	9,017	13,525	16,971	25,457	
10'6-10'10	8,691	13,037	16,630	24,945	
10'9-11'1	8,370	12,554	16,288	24,432	
11'0-11'4	8,053	12,079	15,945	23,918	
11'3-11'7	7,741	11,612	15,602	23,403	
11'6-11'10	7,435	11,153	15,259	22,888	
11'9-12'1	7,121	10,681	14,916	22,374	
12'0-12'4	6,827	10,240	14,573	21,860	

### Maximum Allowable Loads in lbs.

*\*The table above was created for Dean Column Co., Inc. by licensed Professional Engineer Joseph Schmitt, State of New York.*

**Ultimate Load:** The specific load that a structure, member or part must withstand without failure.

**Safe Load:** A load determined by using a safety factor.

**Safety Factor:** A factor that engineers use to allow for the failure stress or stresses assumed to exist in a structure or a member. It provides a margin of error in the strength, rigidity, deformation, and endurance of a structure or its component parts to compensate for irregularities in structural materials and workmanship,

uncertainties involved in mathematical analysis and stress distribution, service deterioration, and other unevaluated conditions.

**Dead Load:** A static load due to the weight of the structure.

**Live Load:** A dynamic load (such as traffic) that is applied to a structure suddenly or that is accompanied by vibration, oscillation, or other conditions that affects its intensity.