

# Diamond Dowel® System

## Plate Dowels for Formed Construction Joints

**Achieve superior load transfer with PNA's plate dowel systems to deliver the durable, maintenance-free floors your customers expect. As a result, you:**

- Collect your retainage
- Reduce your callbacks
- Save labor
- Optimize the amount of steel in a project
- Limit your liability by using the latest ACI 302.1R-04 guidelines
- Deliver cost-effective slabs-on-ground

### Faster, Easier Installation

- Eliminates drilling of forms, greasing/spinning dowels and removal/reinstallation of dowels
- Dowel alignment is more reliable – ensuring load transfer and eliminating cracking from restraint
- Safer – reduces jobsite trip hazards

### More Cost-Effective

- Reduces labor costs by at least 50 percent when compared to round dowels

### Better Engineering

- Offers more efficient use of steel – lowering costs
- Provides positive alignment to ensure free movement of the joint
- Ensures load transfer, reducing joint-edge spalling

### Optimize Steel

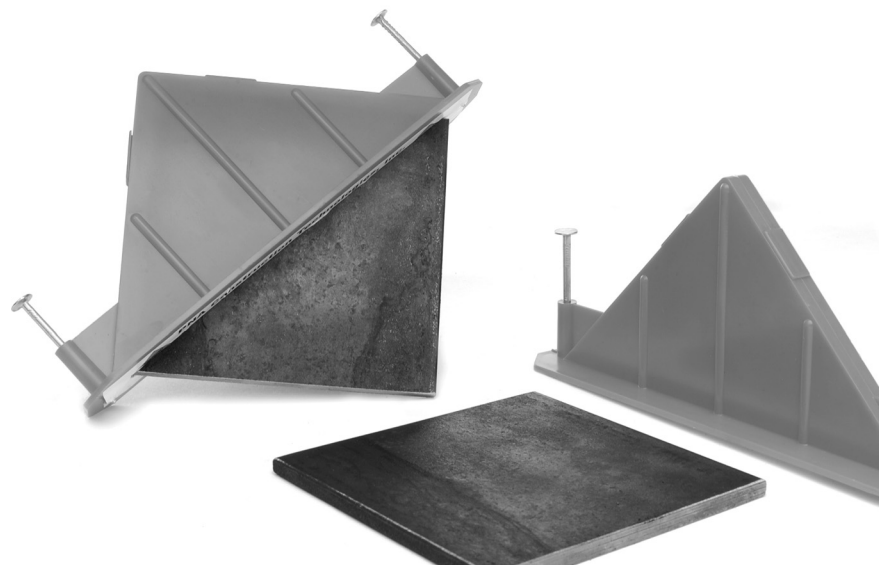
PNA's plate dowel solution allows Diamond Dowel® plates to be spaced further apart than conventional dowels. This provides superior load transfer at the construction joints while optimizing steel.

The conversion chart below shows the various Diamond Dowel® plate sizes and spacing compared to conventional dowels.

### Example Conversion

Diamond Dowel® Plate Size	Center-to-Center Spacing for Diamond Dowel® Plates											
	¾" Round Dowel Spacing			½" Round Dowel Spacing			1" Round Dowel Spacing			1¼" Round Dowel Spacing		
Thickness x sq. length	12"	18"	24"	12"	18"	24"	12"	18"	24"	12"	18"	24"
¼" x 4.5"	18"	24"	30"									
⅜" x 4.5"				22"	24"	24"	18"	24"	24"	12"	18"	24"

NOTE: The recommended maximum spacing for Diamond Dowel® plates in areas subject to heavy forklift traffic is 24".

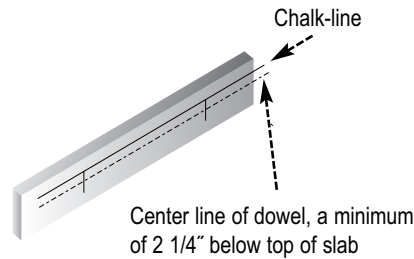


## Instructions for Use

Install the Diamond Dowel® System per PNA's installation guide using a full-depth form. PNA does NOT endorse any other methods of installation for the Diamond Dowel® System, including the use of partial-depth EPS forms.

### Step 1

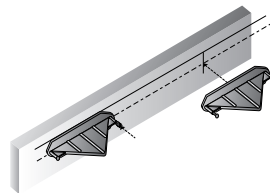
Mark chalk-line on wood forms 3/4" above slab center but at least a minimum of 1 1/2" below the top of the slab, so the center line of the Diamond Dowel® plate will be a minimum of 2 1/4" below the top of the slab.



### Step 2

Set the forms and nail the Diamond Dowel® pocket former to the form with pre-assembled nails.

Unlike conventional dowels, there is no limit to how close a Diamond Dowel® plate can be placed to an intersection of joints.



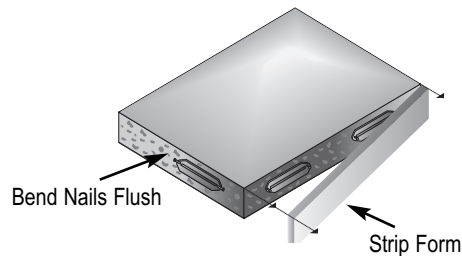
### Step 3

Pour and finish first slab. Use internal vibration to consolidate the concrete around the Diamond Dowel® pocket former per ACI specifications.



### Step 4

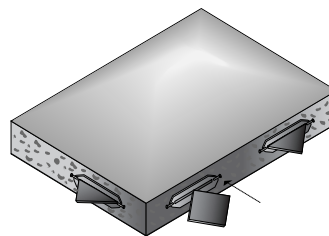
Strip the forms and bend nails flush with the joint face.



### Step 5

Insert Diamond Dowel® plate into the slot created by the Diamond Dowel® pocket former. Center the corner of the plate in the middle of the label and push straight through the label into the pocket former.

Do not hammer, or use excessive pounding force, to insert Diamond Dowel® plate. Diamond Dowel® plate should be inserted within two weeks of concrete placement.



### Step 6

Pour and finish the second slab. Use internal vibration to consolidate the concrete around the Diamond Dowel® plate per ACI specifications.

#### LOAD TRANSFER SYSTEMS

- ▶ DIAMOND DOWEL® SYSTEM
- ▶ LOAD PLATE BASKET™ ASSEMBLY
- ▶ PD<sup>3</sup> BASKET™ ASSEMBLY
- ▶ ROUND/SQUARE DOWELS, CLIPS & BASKETS

#### JOINT PROTECTION PRODUCTS

- ▶ ARMOR-EDGE™ JOINT ASSEMBLY
- ▶ ARMOR-EDGE™ N2E JOINT ASSEMBLY

#### HYDRACURE™ COVERS



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