

# Diamond Dowel® System

## Plate Dowels for Formed Construction Joints

**Achieve superior load transfer with the industry's leading 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**

- The Diamond Dowel® installation template guarantees the fastest and most perfectly aligned plate dowel installation
- Eliminates drilling forms, greasing/spinning dowels and removing/reinstalling dowels
- Ensures load transfer and eliminates cracking from restraint with reliable dowel alignment
- Reduces job site trip hazards

**More Cost Effective**

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

**Available locally through our national distribution network and can be shipped with other products to save you time and money on freight.**

**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

**Optimizes Steel**

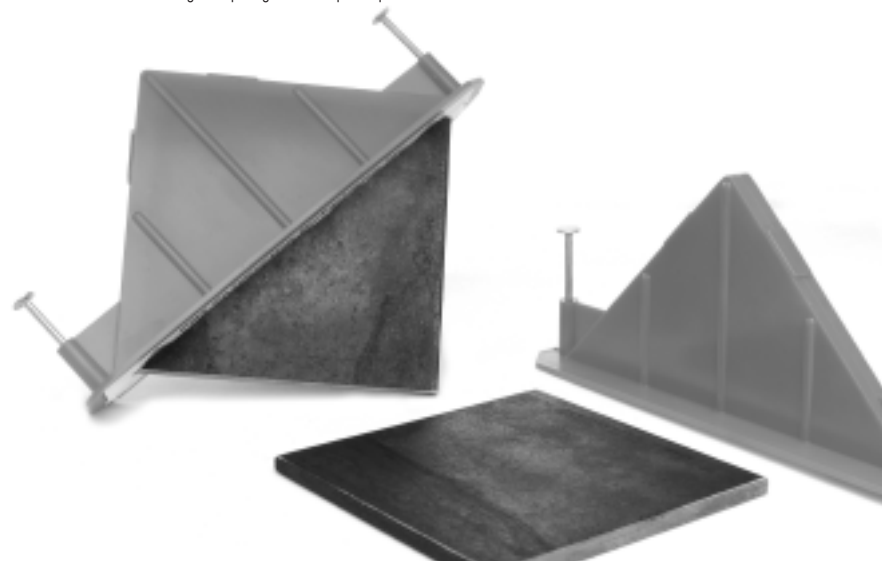
PNA's plate dowel solution allows Diamond Dowel® plates to be spaced farther apart than conventional dowels. This provides superior load transfer at the construction joints while optimizing steel.

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 →								
	3/4" Round Dowel Spacing			1" Round Dowel Spacing			1 1/4" Round Dowel Spacing		
Thickness x sq. length	12"	18"	24"	12"	18"	24"	12"	18"	24"
1/4" x 4.5"	18"	24"	30"						
3/8" x 4.5"				18"	24"	24"	12"	18"	24"

NOTE: The recommended maximum spacing for Diamond Dowel® plates in areas subject to heavy forklift traffic is 24". Comparison to other round dowel sizing and spacing available upon request.



# 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 the center point for the spacing of each Diamond Dowel® pocket former on the top of the wood form along the entire length. Set the forms along the construction joints. The Diamond Dowel® System can be placed up to within 6 inches of the joint intersection per industry guidelines.



## Step 2

Insert the correct tube, if needed, in the template based on the slab depth. The orange template is used with the 1/4". The yellow template is used with the 3/8".

Orange 1/4" Slab Depth	Yellow 3/8" Slab Depth	Use
7"	9"	REMOVE tube from template
6"	8"	Slide <b>WHITE</b> tube onto template
4" or 5"	7"	Slide <b>BLACK</b> tube onto template



## Step 3

Insert the Diamond Dowel® pocket former into the installation template.



## Step 4

Line up the mark on the top of the wood form with the center of the installation template.



## Step 5

Nail the Diamond Dowel® pocket former to the form and remove the installation template. Repeat at specified spacing, along the entire length of the form.



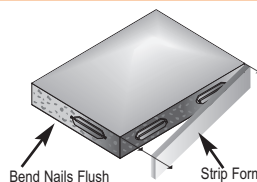
## Step 6

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



## Step 7

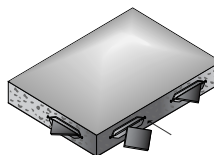
Strip the forms and bend nails flush with the joint face.



## Step 8

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 9

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

### 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

▶ HYDRACURE™ S16—SINGLE-USE

▶ HYDRACURE™ M5—MULTI-USE



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