



SUGGESTED MASTER SPECIFICATION

PD³ Basket[®] Assembly

PART 1 - GENERAL

1.1 SUMMARY

- A. Product supplied under this section:
 - Alternating tapered plate dowel basket assembly
- B. Related sections:
 - 1. Section 03200 - Concrete reinforcement.
 - 2. Section 03300 - Cast-in-place concrete.

1.2 REFERENCES

- A. American Concrete Institute (ACI):
 - 1. ACI 315R-18 Detailing Manual (SP-66)
 - 2. ACI 302.1R-15 *Guide for Concrete Floors and Slab Construction*.
 - 3. ACI 360R-10 *Design of Slabs-on-Ground*.
- B. American Society for Testing and Materials International (ASTM):
 - 1. A36 Standard Specifications for Carbon Structural Steel.
 - 2. A108 Standard Specifications for Steel Bar, Carbon and Alloy, Cold Finished.

1.3 SUBMITTALS

- A. Product data: Manufacturer's product data with application and installation instructions for proprietary materials and items, including but not limited to alternating tapered plate dowel basket assemblies.
- B. Shop drawings: Indicate placement of the PD³ Basket[®] assembly.
 - 1. Indicate dimensions and spacings.
 - 2. Comply with ACI 302.1R-15, ACI 360R-10, ACI 315R-18 (SP-66), and PNA installation guides indicating arrangement of alternating tapered plate dowel basket assembly.

1.4 QUALITY ASSURANCE

- A. Pre-construction meeting:
 - 1. Convene a pre-construction meeting before installation of PNA products. Require attendance of parties affecting the work of this section, including Contractor, Engineer, and installers.
 - 2. Review installation procedures and coordinate with other work.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Deliver PD³ Basket[®] assemblies in manufacturer's packaging.
- B. Deliver and handle materials to prevent damage or weakening to assemblies.
- C. Store in an appropriate place to avoid accumulating rust, debris, or deleterious materials on assemblies. Store off ground and under cover.



- D. Do not cut shipping wires on baskets.

PART 2 - PRODUCTS

2.1 MANUFACTURER

- A. Acceptable manufacturer: PNA Construction Technologies, www.pna-inc.com; 800-542-0214.

2.2 ALTERNATING TAPERED PLATE BASKET ASSEMBLY

- A. Acceptable product: PNA PD³ Basket[®] assembly.
- B. Material:
 - 1. Alternating tapered plate dowels: Plasma cut from hot rolled steel bar certified to meet ASTM A36 standards to within 3/16" of specified dowel length with a 4° taper from the widest end to the narrow end.
 - 2. Side frame supports: Fabricated from 1/4" diameter cold drawn wire certified to meet ASTM A108 grade 1010-1020 standards.
 - 3. De-bonding agent: Safecote[®] A.
- C. Fabrication:
 - 1. Welded plate dowels (on widest end only) into side frames, with welded ends alternating along length of assembly.
 - 2. Welded eight gauge wires across side frames at no more than 3'-0" o/c to keep assembly stable during shipping and installation.
 - 3. Factory applied de-bonding agent - thinly and evenly coat plate dowels without excessive drips or thickness.
 - 4. Finished assembly shall hold alternating tapered plate dowels to within +/- 1/8" of 1/2 slab depth.

PNA offers Dowel Optimization Services to assist in choosing the correct dowels for your specific project (www.pna-inc.com/products-designs/pd3/dowel-design-form).

Alternatively: refer to "Performance-Based Dowel Design", Concrete Construction, January 2007, ACI 302.1R-15 Table 3.1 or ACI 360R-10 Table 5.1 for selection of plate size and spacing. Slab depth shall be determined based on shop drawings and number of bars based on specified joint spacing.

- 5. Basket dimensions:
 - a) Filled in cross-sectional area of steel required at the saw-cut joint
 - i. 2" x 3/8"
 - ii. 2-1/2" x 1/2"
 - iii. 2-1/2" x 3/4"
 - b) Filled in length of dowel based on required saw-cut installation tolerances
 - i. 12" for an 8" tolerance
 - c) Filled in slab depth, dowel spacing and number of bars based on shop drawings



PART 3 - EXECUTION

3.1 EXAMINATION

- A. Notify Engineer at least 72 hours prior to placing concrete dowel system to allow time for examination of assemblies. Place no concrete without Engineer's acceptance of concrete dowel systems.

3.2 INSTALLATION

- A. Plate dowel basket assembly:
 1. Do not cut shipping wires.
 2. Measure and mark (notch or nail) saw-cut joint location on forms.
 3. Pull string lines. Spray paint saw-cut locations on subgrade.
 4. Lay-out one row of baskets over painted marks on subgrade. End alternating tapered plate dowel is placed up to six inches of joint intersection.
 5. Place concrete. Maintain alignment of baskets over paint marks (staking the 8" plate dowel basket is recommended to ensure it remains within the allowable four-inch saw-cut installation tolerance).
 6. Screed and finish concrete, using internal vibration as recommended in industry guidelines.
 7. Use markings or nails on forms to snap chalk-lines and saw-cut joints as normal to specified depth.

3.3 PROTECTION

- A. Protect alternating tapered plate dowel basket assemblies from displacement and from damage until concrete casting is complete.

END OF SECTION