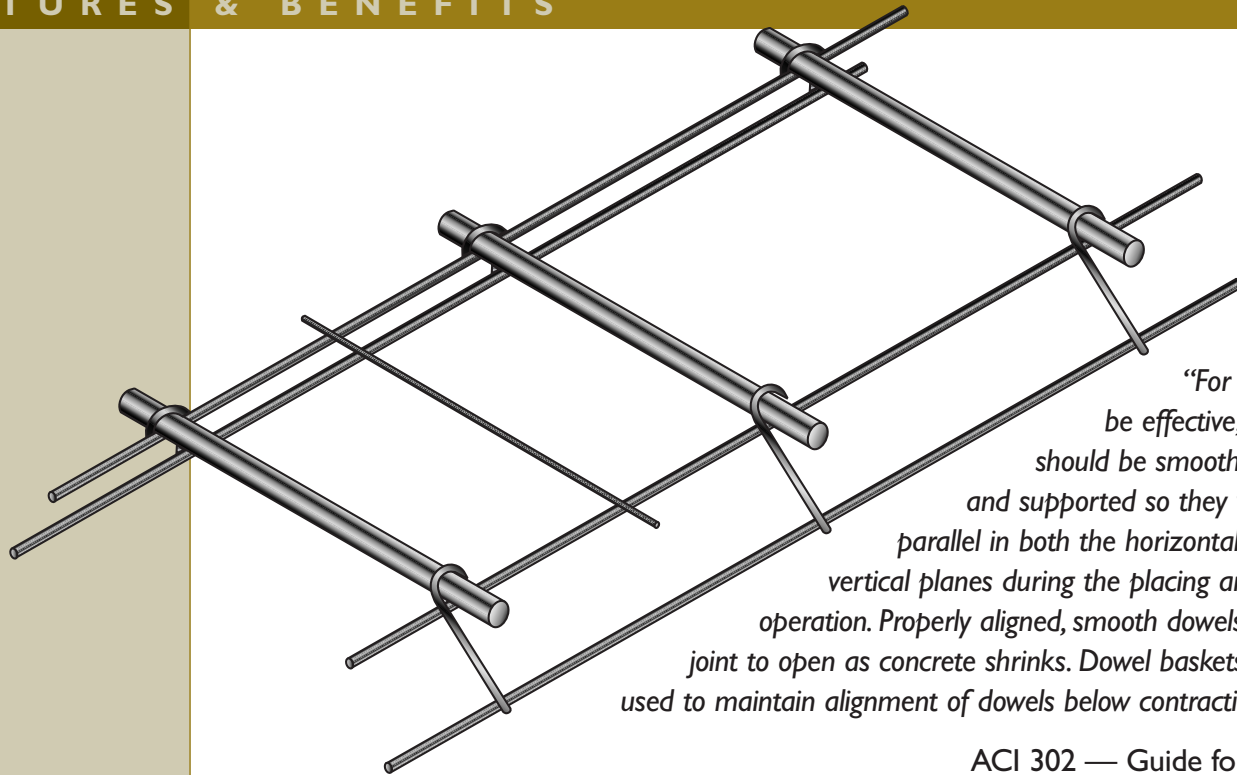




Round Dowel Basket

F O R S A W E D C O N T R A C T I O N J O I N T S

FEATURES & BENEFITS



“For dowels to be effective, they should be smooth, aligned and supported so they will remain parallel in both the horizontal and the vertical planes during the placing and finishing operation. Properly aligned, smooth dowels allow the joint to open as concrete shrinks. Dowel baskets should be used to maintain alignment of dowels below contraction joints.”

ACI 302 — Guide for Concrete Floor Slabs and Construction

Features / Benefits

Load Transfer is necessary at all joints

- Positive load transfer at sawed contraction joints provides a smooth transition of forklift traffic from one slab panel to the next.
- Dowels at both construction and sawed contraction joints minimize the detrimental effect of floor slab curling by eliminating differential faulting thus reducing the maintenance and repair of spalled joint edges.

Cost Effective

- PNA round dowel baskets are very economical, typically costing less per square foot of slab area for materials and labor than welded wire fabric. Many designers have opted for the elimination of reinforcing between the joints and are designing for better stability at the joints with dowel baskets. Undowelled joints have traditionally been the first point of failure in a floor slab.

- PNA welded basket products are efficient and compatible with all forms of slab on ground placement, including large area Laser Screed™ and long strip placement construction.

Highest Quality

- PNA round dowel baskets are custom manufactured to strict tolerances and specifications to insure accurate alignment both horizontally and vertically across sawed contraction joint.
- PNA dowel baskets are bundled and shipped on individual skids to provide easy unloading and handling.
- All PNA baskets are fully welded assemblies (with alternate dowels welded), providing the most stable support of the dowel during construction.
- Round Dowel Baskets can be custom manufactured to specific lengths, to minimize or eliminate field cutting.*

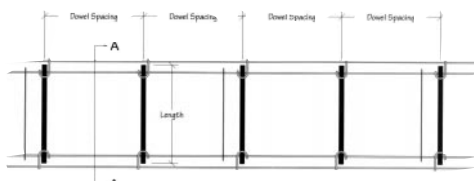
* Additional cost may apply

Round Dowel Basket

F O R S A W E D C O N T R A C T I O N J O I N T S

SPECIFICATIONS

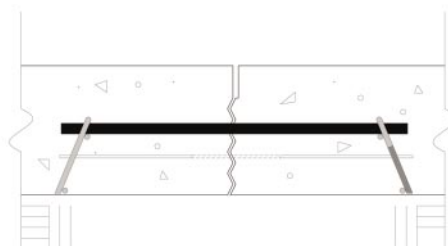
Round Dowel Basket Plan



ACI Committee 302

- “Doweled joints are recommended when positive load transfer is required, unless post-tensioning is provided across the joint. Dowels force concrete on both sides of a joint to deflect equally when subjected to a load, and help prevent damage to an exposed corner when the joint is subjected to hard-wheeled traffic.”
- “For dowels to be effective, they should be smooth, aligned and supported so they will remain parallel in both the horizontal and the vertical planes during the placing and finishing operation. Properly aligned, smooth dowels allow the joint to open as concrete shrinks. Dowel baskets should be used to maintain alignment of dowels.”
- “Deformed reinforcing bars should not be used

Section at Sawed Joint (A)



across contraction joints or construction joints because they restrain joints from opening as the slab shrinks during drying.”

Aggregate Interlock is not an effective load transfer mechanism.

- “In saw-cut contraction joints, aggregate interlock should not be relied upon for effective load transfer for wheeled traffic if the expected crack width exceeds 0.035 in. (0.9 mm)(15).”

therefore An average crack width below saw cut joints spaced at 15' is 3/32" or three times the maximum width opening recommended by the Portland Cement Association.”

¹ Colley, B. E., and Humphrey, H. A., Aggregate Interlock at Joints in Concrete Pavements, Development Department Bulletin DX124, Portland Cement Association, Skokie, Illinois, 1967.

Example Specification...

Contraction Joints (welded baskets)

- Dowels will be saw cut from hot rolled bar per ASTM A36 to within 3/16" of specified length.
- Side frame supports will be fabricated from 1/4" diameter cold drawn wire per ASTM A108 grade 1010 - 1020.
- Dowels will be welded (on one end only) into the side frames, with the welds alternating along the length of the assembly.
- Eight gauge wires will be welded across the side frames at approximately 3" o/c to keep the assembly stable during shipping and installation.
- The finished assembly will hold the dowels to within 1/8" of the specified height (normally half slab depth).
- The assemblies will be manufactured so that they stack on top of each other for transportation and remain stable under concrete placement.

- PNA Construction Technologies Inc. 1•800•542•0214 will supply all dowel basket assemblies.

Construction Joints (loose dowels)

- Dowels will be saw cut (not sheared) from hot rolled bar per ASTM A36 to within 3/16" of specified length.
- Dowels will be installed to within + or - 1/4" of mid slab depth.
- Minimum embedment into each slab will be equal to half dowel length + or - 1".
- Round dowels should be placed no closer than 12" (300mm) from the intersection of any joints.
- All round dowels will be installed in formed construction joints using Dowel Aligner™ devices as manufactured and supplied by PNA Construction Technologies Inc. 1•800•542•0214

PNA
Construction
Technologies Inc.
P.O. Box 1411,
Matthews, NC 28106
Tel: 704 821 7000
Fax: 704 821 7474
800-542-0214
www.pna-inc.com



August 2002