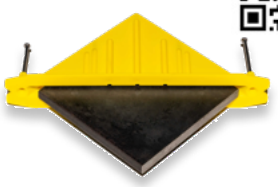
AMERICAN DIAMOND™ SYSTEM



DIAMOND SHAPED PLATE DOWEL AND POCKET FORMER FOR CONSTRUCTION JOINTS

Reliably deliver serviceable construction joints and achieve joint stability measurements of 0.01 inches (0.25 mm) in concrete flatwork applications with the American Diamond™ System. The specific size and tapered shape of the American Diamond™ System provide positive load transfer, and continuity of surface profile to minimize joint spalling, eliminate tripping hazards, and improve joint filler performance without inducing restraint.

American Diamond™ System Helps You:

- Reduce your call backs and save labor
- Optimize the amount of steel in your project
- Limit your liability
- Deliver cost-effective concrete flatwork

When used with the American ST™ & DT™ Basket Assembly "strategic reinforcement" design, it helps optimize steel usage in your projects by placing the steel where it is needed most—at the joints. American Diamond System have delivered a significant return on investment for owners, designers, and contractors nationwide.

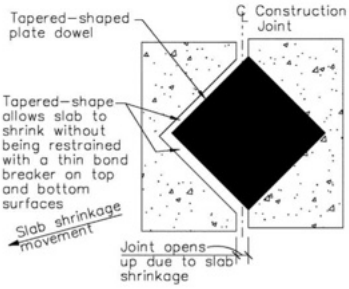
Steel Options:

- All plates are manufactured from steel certified to meet ASTM A36. Plates can also be manufactured with galvanized or stainless steel for corrosion resistance.

Plate Dimensions:

Steel at the joint edge is 6.36" (162 mm)

- 1/4" x 4 1/2" x 4 1/2 (6 mm x 114 mm x 114 mm)
- 3/8" x 4 1/2" x 4 1/2 (10 mm x 114 mm x 114 mm)
- 3/4" x 4:1/2" x 4 1/2 (19 mm x 114 mm x 114 mm)



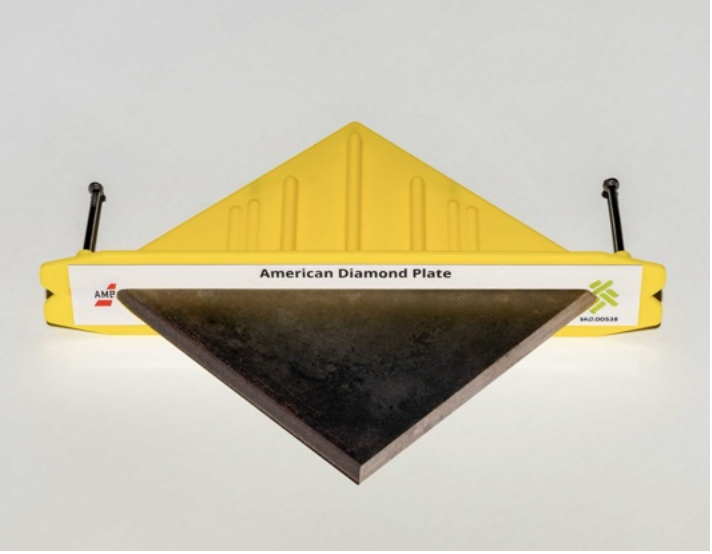
ACI 360R-10 Guide to Design of Slabs-on-Ground

Dowel Specification:

- A properly installed plate dowel is recommended for all construction and contraction tapered joints and is suitable for all types of ground-level concrete slabs, such as jointed floors, flatwork and pavement.
- A tapered plate dowel conforms to ACI 301.1R-15 Guide to Concrete Slab and Floor Construction, ACI 330.2R-17 Guide for the Design and Construction of Concrete Site Paving for Industrial and Trucking Facilities and 360R-10 Guide to Design of Slabs-on-Ground.
- The size and diamond shape of the taper dowel provide concrete joint stability, load transfer and smooth slab-to-slab transition without restraining floor movement.
- The ABS plastic pocket former is nailed to the lumber edge forms before concrete placement, and the steel plate slides into the pocket former after the forms are removed in preparation for the adjoining slab. Plates should be installed within 36 hours.
- The plastic pocket former allows movement, and the steel plate provides maximum bearing, bending and punching resistance without the risk of slab interlock common with other methods.

Performance-Based Engineering

All published engineering on the spacing of plate dowels at the saw-cut contraction joints is based on the size and geometry of the American Diamond™ System.



REDUCE JOINT-EDGE SPALLING

- Ensures joint stability in line with industry standards, maintaining less than 0.01 inch (0.25 mm) and continuity of surface profile across the joint.
- Provides immediate positive load transfer, minimizing initial dowel looseness to 0.002 inches (0.05 mm)
- Reduces additional dowel looseness from repetitive loading to 0.00257 inches (0.065 mm) using an diamond shaped plate configuration, ensuring a consistent bearing area of 20.25 square inches (131 cm(2) superscript) embedded steel, positioned at the edge of the construction joint where bearing, shear, and flexural stresses are highest.
- Minimizes elastic deflection due to loading to .00543 inches (138 mm) with a minimum plate embedment of 3.3 inches (84 mm) into the slab on either side of the construction joint.

MINIMIZE RANDOM CRACKS AND ENSURE JOINT ACTIVATION

- Allows for joint activation and free horizontal movement of the concrete without restraint with diamond shaped plate geometry.
- Ensures stable horizontal and vertical plate alignment with aa ABS plastic pocket former affixed to the forms to match the joint layout.

PERFORMANCE-BASED DOWEL DESIGN

American Diamond™ System's engineered performance criteria are unique components of the rational design approach for dowel spacing outlined in "Performance-Based Dowel Design," Concrete Construction, January 2007.

This design utilizes slab depth and vehicle loadings to minimize total differential deflection between slab panels to 0.01 inches (0.25 mm) for hard wheels and 0.02 inches (0.50 mm) for air-cushioned rubber tires, delivering serviceable concrete flatwork while optimizing material use.

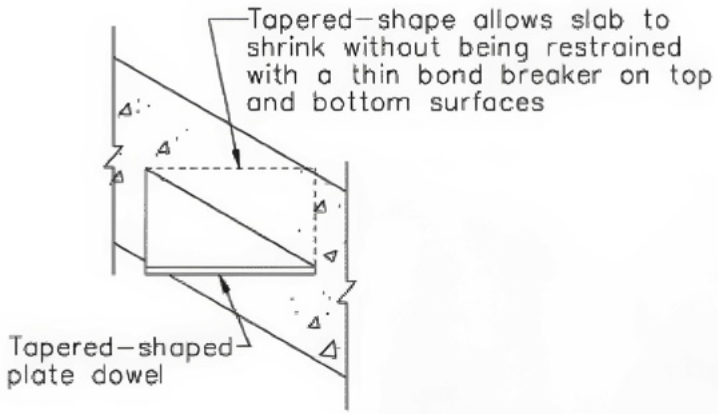
PRODUCT PERFORMANCE CHARACTERISTICS

Processes
All steel is sawn or plasma cut full-depth per industry guidelines ensuring smooth plate edges that will not induce restraint.

AMERICAN DIAMOND™ SYSTEM:

THE "STRATEGIC REINFORCEMENT" DESIGN

The "strategic reinforcement" design is a performance-based, cost-effective solution for interior and exterior concrete flatwork exposed to wheeled traffic. Applicable to a wide range of facility types, this design is trusted by owners worldwide. By removing steel from the mid-panel and placing American Highway tapered plate dowels where steel is truly needed—at the joints—you optimize materials, minimize joint spalling, and reduce random cracking.



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