



SUGGESTED MASTER SPECIFICATION SECTION 03 20 00 PLATE DOWEL SYSTEMS

GREENSTREAK GROUP, INC.

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Provision for assuring proper field positioning and alignment of load plate dowels at concrete flatwork construction joints and tapered load plate dowel baskets at concrete flatwork saw cut contraction joints.
- B. Provision for allowing free shrinkage axially and laterally of concrete surfaces adjacent to construction and saw cut contraction joints while providing proper load transfer and preventing differential settlement.

1.02 RELATED SECTIONS

- A. Section 03 10 00 - Concrete Forming and Accessories
- B. Section 03 20 00 - Concrete Reinforcing
- C. Section 03 30 00 - Cast-In-Place Concrete

1.03 REFERENCES

- A. American Concrete Institute (ACI):
 - 1. ACI 117-06: Specifications for Tolerances for Concrete Construction and Materials and Commentary
 - 2. ACI 302.1R-04: Guide for Concrete Floor and Slab Construction
 - 3. ACI 315 – SP-66(04): ACI Detailing Manual
 - 4. ACI 330R-08: Guide for the Design and Construction of Concrete Parking Lots
 - 5. ACI 360R-10: Design of Slabs-on-Ground
- B. American Society for Testing and Materials International (ASTM)
 - 1. ASTM A36 Standard Specification for Carbon Structural Steel
 - 2. ASTM A576 Standard Specification for Steel Bars, Carbon, Hot-Wrought, Special Quality

1.04 SUBMITTALS

- A. Manufacturer's Product Data and installation instructions for Speed Plate and Double Tapered Basket systems.
- B. Shop Drawings indicating load plate dowel thickness and placement information including on center spacing and slab thickness dimensions.
- C. Comply with ACI referenced guidelines as well as manufacturer's installation instructions for arrangement of Speed Plate and Double Tapered Basket systems.

1.05 QUALITY ASSURANCE

- A. Preconstruction/Preinstallation meeting:
 - 1. A preconstruction/preinstallation meeting should be held, as required by the manufacturer, prior to the installation of Speed Plate and Double Tapered Basket systems, to review installation procedures and coordinate with other work and trades.
 - 2. This meeting to include General Contractor, Concrete Subcontractor and any other parties directly working with the installation of the concrete slab-on-ground.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Deliver Speed Plate and Double Tapered Basket systems in manufacturer's packaging.
- B. Cover and store Speed Plate and Double Tapered Basket systems off ground to protect from exposure to rain, rusting and damage.

PART 2 PRODUCTS

2.01 MANUFACTURER

- A. Greenstreak Group, Inc., St. Louis, MO. 800-325-9504; www.greenstreak.com

2.02 PLATE DOWEL SYSTEM MATERIALS

- A. Acceptable products:
 - 1. Greenstreak Speed Plate system for construction joints.
 - 2. Greenstreak Double Tapered Basket system for saw cut contraction joints.

- B. Materials:
1. Provide Greenstreak Speed Plate system, including sleeve pocket former and steel load plate dowel.
 - a. Speed Plate system is comprised of high density plastic sleeve pocket former and insert to properly position load plate dowel for axial and lateral shrinkage capability.
 - b. Steel load plate dowel from hot rolled steel plate meeting ASTM A36.
 - c. Speed Plate dimension: 1/4", 3/8" and 3/4" thick by 4" x 6" load plate dowel. (Select appropriate load plate dowel dimensions).
 2. Provide Greenstreak Double Tapered Basket system, including double tapered steel load plate dowels in welded basket assembly.
 - a. Double tapered steel load plate dowels from hot rolled steel plate meeting ASTM A36.
 - b. Side frames of welded basket assembly are 1/4" nominal diameter wire meeting ASTM A576, Grade 1008. Side frames are used to keep load plate dowels properly positioned for the concrete slab pour.
 - c. Shipping wires of welded basket assembly are 3/16" nominal diameter wire meeting ASTM A576, Grade 1008. Shipping wires are used to keep side frames and load plate dowels together during shipping and installation and need not be cut prior to concrete placement.
 - d. Double Tapered Plate dimension: 3/8", 1/2" and 3/4" thick by 3" wide at midpoint and 12" nominal length. (Select appropriate basket load plate dowel dimensions).
 3. Refer to Contract Documents for size and spacing of Speed Plate and Double Tapered Basket systems.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Greenstreak Speed Plate system for construction joints.
1. Snap a chalk line or use the Speed Plate alignment tool along the form at the desired dowel depth. Ideally, the centerline of the Speed Plate sleeve is positioned at the centerline of the slab, but is no less than 2 1/4" from the top of the slab.
 2. Set forms and nail the Speed Plate Sleeve to the form with the preset nails provided. Speed Plate thickness and spacing shall be per contract documents.
 3. Pour and finish the first slab according to ACI specifications.
 4. Use internal vibration to consolidate the concrete around the Speed Plate system.
 5. Strip forms and bend nails flush with the face of the construction joint.
 6. Insert the steel Speed Plate dowel through the label and into the sleeve cavity. If possible, this should be done while the concrete is still green for easier placement. Do not use excessive force while inserting Speed Plate dowel as this could potentially damage the concrete.
 7. Pour and finish the adjacent slab(s), again using an internal vibrator to consolidate the concrete around Speed Plate dowels according to ACI specifications.
- B. Greenstreak Double Tapered Basket system for saw cut contraction joints.
1. Identify, measure and mark future saw cut locations on edge forms.
 2. Using a string line between designated edge form markings, mark subgrade (using spray paint or similar) for proper installation locations of basket assemblies.
 3. Place and secure dowel basket assemblies over subgrade marks. The centerline of basket assemblies should be directly over the marked locating lines and the dowels should be kept a minimum of six inches away from joint intersections.
 4. Ensure a release agent is applied to dowels in basket assemblies prior to concrete placement.
 5. Shipping wires of Double Tapered Baskets do not need to be cut.
 6. Place concrete ensuring that basket assemblies maintain proper alignment. Use internal vibration to consolidate concrete around load plate dowels as required.
 7. Screed and finish concrete.
 8. Snap chalk lines on top of newly placed slab using edge form markings from Step 1. Saw cut joints to required depth along chalk lines.

3.02 FIELD QUALITY CONTROL

- A. Place edge forms plumb. Out of plumb forms may result in misaligned dowels.
- B. Notify Engineer and/or Special Inspector, prior to placing concrete, for inspection of Speed Plate and Double Tapered Basket systems.
- C. Thoroughly vibrate concrete to achieve proper consolidation and elimination of entrapped air, thereby minimizing voids under Speed Plate and Double Tapered Basket systems.
- D. Ensure protection from movement of forms or damage of Speed Plate and Double Tapered Basket systems during concrete placement. Avoid placing concrete directly onto the Speed Plate sleeves.

END OF SECTION