



CONCRETE DOWEL INSERT

Triple Patented, Environmentally Friendly

U.S. Pat. No. 9,469,994

U.S. Pat. No. 9,834,922

U.S. Pat. No. 10,100,511

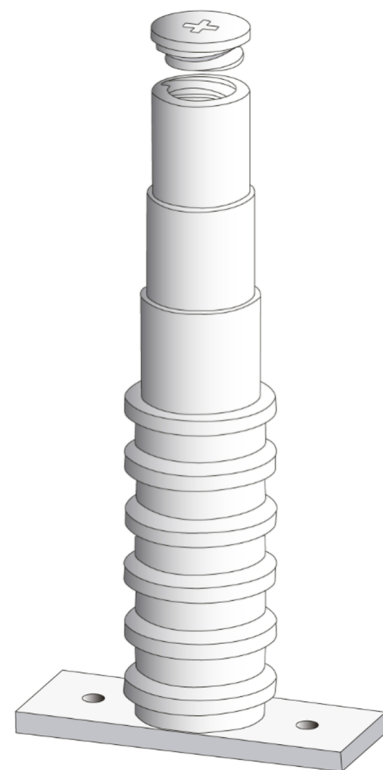
2025

BAB Concrete Insert System

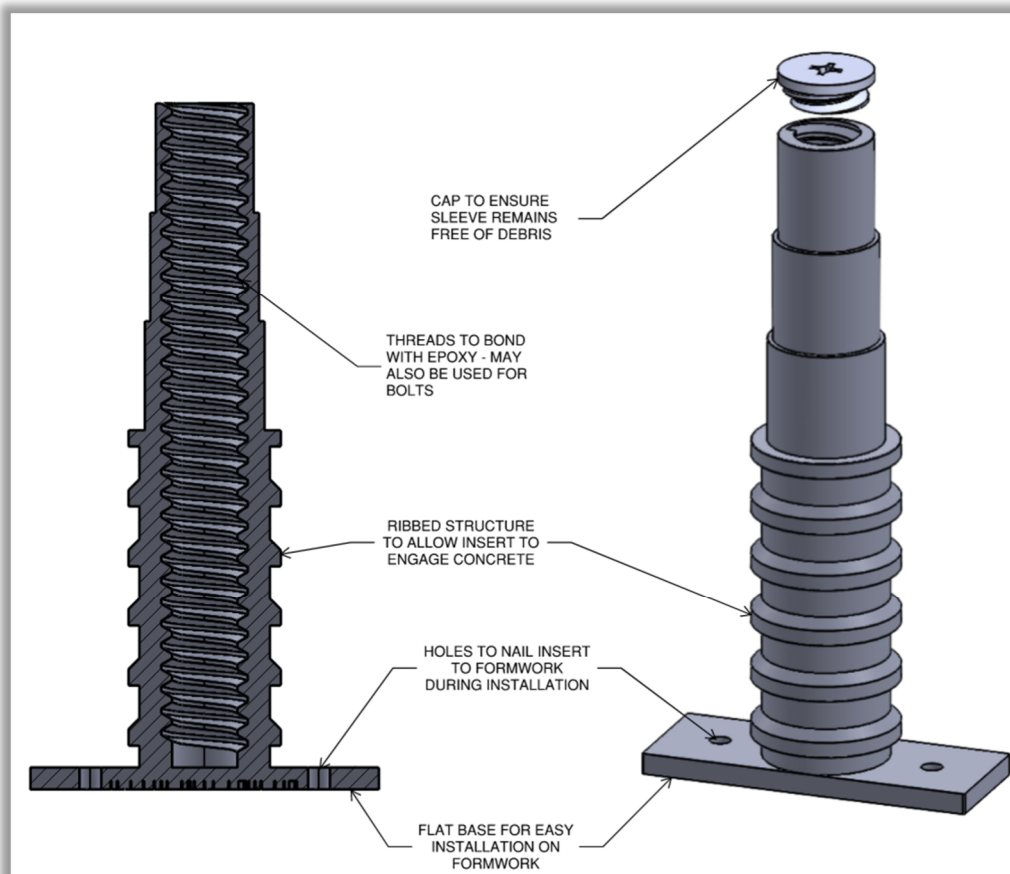
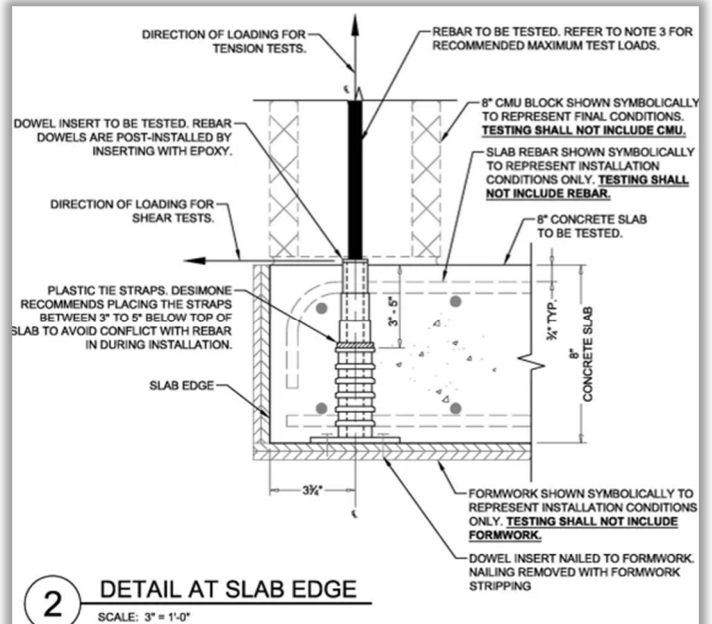
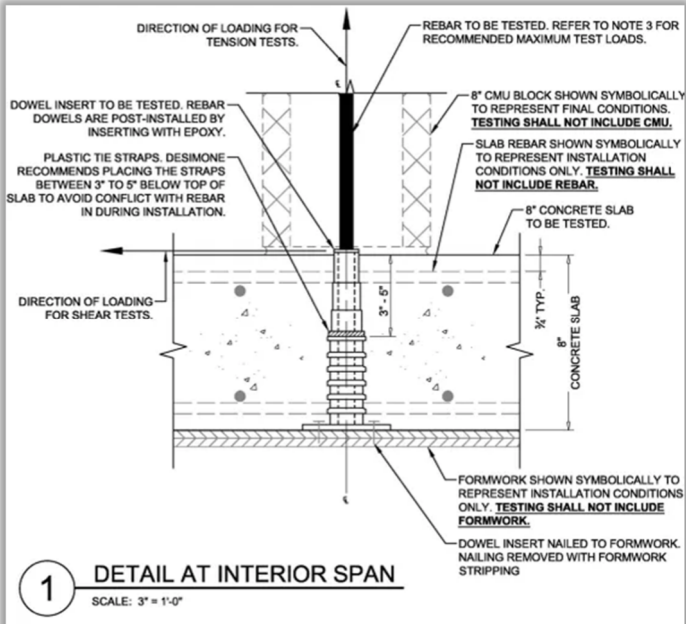
The BAB concrete insert system is a breakthrough innovation engineered for modern construction environments. Designed to simplify installation and enhance safety, it eliminates time-consuming drilling and unnecessary hardware, helping crews work smarter, safer and more efficiently. Fully OSHA Silica compliant and built for clean, dust-free performance. BAB concrete insert delivers unmatched reliability and measurable cost savings on every project.

Key Benefits

- **No safety caps required** – eliminates the cost and maintenance of traditional rebar safety caps.
- **OSHA Silica compliant** – meets strict standards while removing the need to drill into concrete, saving time and reducing equipment wear.
- **Safer Work Environment** – minimizes exposure to leading edges and reduces tool-handling hazards.
- **Streamlined Installation** – no need for bending or extending rebar, improving efficiency and accuracy.
- **Quick and Easy Setup** – simply position and fasten to the deck for immediate use.
- **Clean, Dust-free design** – removable caps keep sleeves debris-free and ready for use.
- **Improved Jobsite Safety** – reduces tripping and drilling hazards, protecting workers and improving workflow.
- **Ideal for Post-Tensioned and Pre-Stressed slabs** – eliminates drilling into slabs for safer, faster installations
- **Tested** – ASTM E488-15, Standard test methods for strength of anchors in concrete elements, ASTM international.



Technical Details



Installation process

1. Prepare the Slab Formwork

Install formwork according to project specifications and ensure all surfaces are properly aligned and secured.

2. Position the BAB Concrete Inserts

Place inserts at required locations and spacing. Secure each insert firmly to the formwork using nails or approved fasteners.



Figure 1: BAB Concrete insert installation demonstration

3. Install reinforcing Steel

Position and tie all required rebar in accordance with structural drawings and reinforcement details.

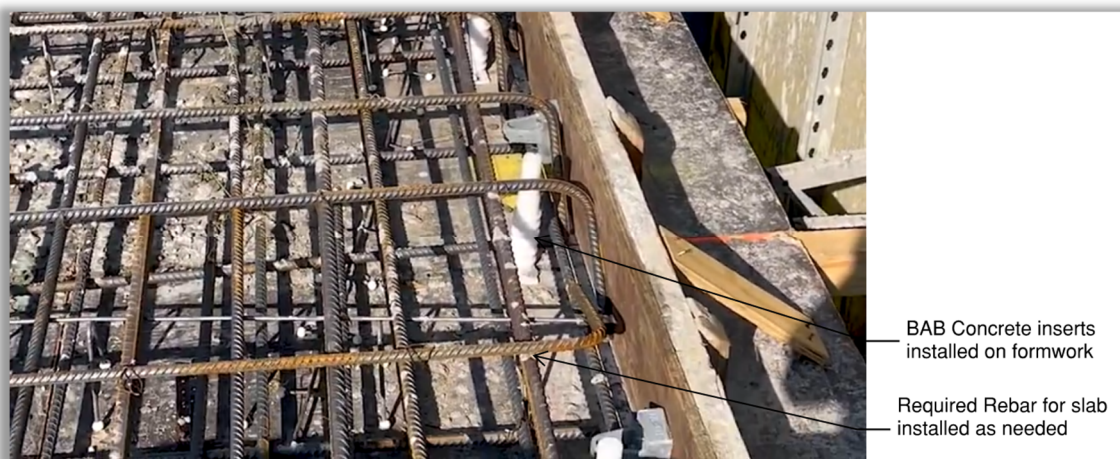


Figure 2: Rebar installed around BAB inserts

4. Place and Finish Concrete

Pour the concrete slab as specified, ensuring proper consolidation and finish around the installed inserts.



Figure 3: Concrete being poured around BAB inserts

5. Prepare for Rebar Dowels

When ready for use, remove the protective cap to expose the clean sleeve. Apply VF200 PRO+ epoxy (or equivalent) and insert the rebar dowel as required.

6. Allow for proper curing

Allow the epoxy to cure fully before applying any load. Refer to manufacturer's specs for required cure time for epoxy for different weather conditions.

Test Report & Results

BAB Concrete inserts have undergone rigorous performance testing to verify compliance with industry standards for tensile and shear strength, namely **ASTM E488-15**, standard test methods for Strength of anchors in concrete elements, ASTM International. Test results confirm that when properly installed, the surrounding rebar or concrete slab will fail before the insert itself, demonstrating the superior integrity of the system.

The images below illustrate testing procedures and corresponding results across various load conditions, validating BAB Concrete insert strength, consistency, and reliability in actual applications.



Figure 4: Test Slab for tensile and shear test

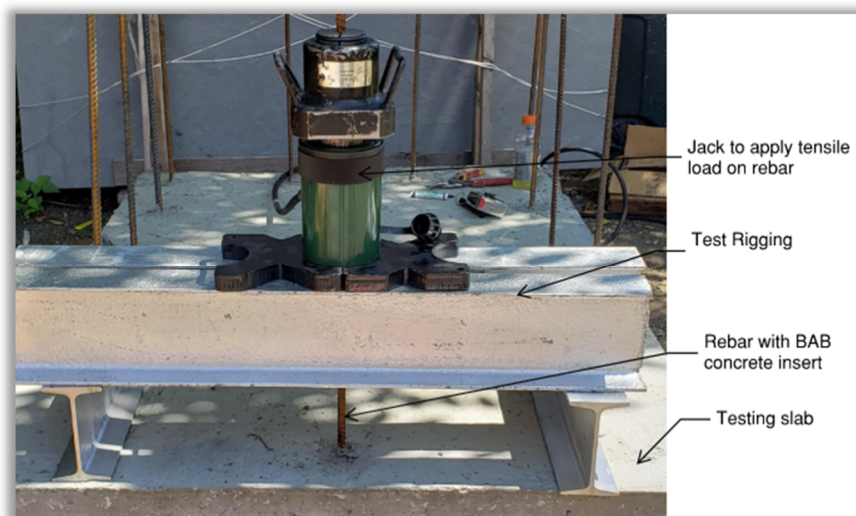


Figure 5: Tensile test layout



Figure 6: Shear test layout

Independent and in-house testing confirm that BAB concrete insert delivers exceptional structural performance under real-world conditions. Across all tensile and shear evaluations, the insert maintained integrity even beyond design load limits, with failure occurring in the surrounding rebar or concrete rather than the sleeve itself. These results demonstrates the insert's unmatched strength, consistency, and reliability, making it a proven solution for demanding construction environments.

Characteristic	Symbol	Unit	Nominal Bar Size			
			#4		#5	
Minimum Concrete Thickness	h_{min}	in (mm)	8 (203)	8 (203)	8 (203)	8 (203)
Minimum Tested Edge Distance	c_{ac}	in (mm)	3 ³ / ₄ (95)	3 ³ / ₄ (95)	3 ³ / ₄ (95)	3 ³ / ₄ (95)
Mean Ultimate Load from Static Tests	Symbol	Units	Nominal Bar Size			
			#4		#5	
Mean ultimate static tensile load, uncracked concrete	F_m	lb.	13,100		19,241	
Mean ultimate static shear load, uncracked concrete	F_m	lb.	3,900		6,132	

Table 1: Data for BAB insert in Concrete ^{1,2,3}

For SI: 1 in = 25.4mm, 1in² = 6.451x10⁻⁴ m, ft-lb = 1.356 Nm, 1 lb/in² = 6.895 Pa.

¹ Tabulated values are for normal weight concrete with an f'_c = 5,000 psi.

² Reinforcement conforms to ASTM A615 Gr. 60.

³ The rebar shall be installed in the BAB insert filled with the AllFasteners VF200 PRO adhesive (ESR-4632), in accordance with the published installation instructions.

Notes & Best Practices

- **Verify layout before pouring:** Ensure all BAB Concrete inserts are correctly positioned and securely fastened prior to concrete placement. Misalignment may affect performance.
- **Maintain clean sleeves:** Keep protective caps in place during all phases of construction to prevent debris, dust, or moisture from entering the sleeve
- **Use approved epoxy systems:** BAB concrete inserts are designed to be used with VF22PRO+ epoxy. Alternate epoxy may be used, if specifications for alternate epoxy meet or exceed VF22PRO.
- **Observe curing times:** Follow epoxy manufacturer guidelines for temperature, humidity, and curing times before applying load or continuing construction activities.
- **Inspect after pour:** Verify that insert caps remain intact and sleeves are free of concrete intrusion or damage.
- **Follow site safety protocols:** Comply with all OSHA regulations and project-specific safety requirements when installing, pouring, or working around inserts.
- **Coordinate with Structural drawings:** Confirm insert locations and rebar configurations with the structural drawings to ensure compatibility with slab design and reinforcement layout.

Why Choose BAB Concrete Insert

The BAB Concrete insert sets a new standard for safety, efficiency, and reliability in construction. By eliminating the need for drilling, bending rebar, and using additional hardware, it simplifies installation and enhances productivity across numerous phases of the project. Its proven strength, OSHA compliant design, and clean operation make it a trusted solution for contractors seeking to reduce labor costs, improve safety, and deliver lasting quality.

