## **SleeveCap**

## **EFFICIENT - SAFE - SOLUTIONS**



**PREPARED FOR:** Marketing

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### WHAT IS THE PURPOSE OF THE SleeveCap?

The SleeveCap facilitates separation between concrete elements for an engineer-specified duration, allowing for grouting and "locking" of the joint, after sufficient shrinkage has occurred.

The SleeveCap assembly maintains an air void around the reinforcing bar at concrete joints, the grouting tubes allow for the void to be grout filled later.

### WHY DO CONCRETE STRUCTURES REQUIRE SLEEVED JOINTS?

Sleeved joints allow a concrete slab to shrink away from stiffer supporting elements, this reduces cracking and allows post tensioned cables to efficiently transfer their force directly into the slab. Without the sleeving stiffer support elements would attract the post tensioning force, reducing its effectiveness and in turn increasing cracks and deflections within the slab.

In order to deliver a structure that performs in accordance with the engineering models, engineers rely on sleeving.

Sleeving is usually required at:

- Post Tensioned Slab to Basement wall connections.
- Post Tensioned **Slab to Capping Beam** connections.
- Post Tensioned **Slab to Footing** connections.
- Post Tensioned Slab to Precast Wall connections.
- Post Tensioned Slab to Slab connections; Temporary Movement Joints.

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### **HOW WERE SLEEVES INSTALLED BEFORE?**

Not very well, and we're not sure how some installations pass inspection.



PT Duct cut to length and grout tube duct taped to the end, to allow grouting later.



The wall end usually requires some cutting to allow the addition of a grout tube.

An attempt is usually made to keep concrete out with duct tape.



Every sleeve and tube requires two individual grout tubes. This creates havoc when finishing the slab, as concrete finishers need to work around all of the tubes, delaying the process.

See photos below for final finish.

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Multiple tubes for concrete finishers to work around.



Manual labour required to finish around closely spaced tubes. Tube numbers multiply quickly, depending on starter bars specified by the head consultant.

The inability to connect in series only exacerbates the issues.

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# WHAT ARE THE ISSUES WITH THE WAY SLEEVES WERE PREVIOUSLY INSTALLED?

Faults discovered on a regular basis include:

- Sleeve doesn't allow movement of the slab, forming cracks in the slab near supports. Usually concrete has entered the sleeve during the pour, rendering it useless.
- Sleeves have allowed movement of the slab but can't be grouted.
  The grout tube has dislodged and the grout tube is blocked. This
  can be dangerous as some wall elements are reliant on grouting
  of the joint to restrain other elements. The slab needs to be
  drilled to locate the air void within the sleeve to allow grouting;
  man-hours wasted.
- Grout tubes have been damaged during finishing of the slab. The sheer number of grout tubes required, make it impossible to finish the slab without damage to tubing. This results in difficulty grouting, increased man-hours and a poor concrete finish.

### ARE THERE ANY OTHER INNOVATIVE OPTIONS?

Yes, and they have their place but they are usually cost prohibitive, costing 15 to 50 times our SleeveCap. At Concrete Accessories Australia we believe our solutions should be as innovative, useful and as cost-effective as possible.

## WHAT ARE THE BENEFITS OF THE SleeveCap?

The SleeveCap utilises the same elements that have been readily available and accepted in the use of sleeving over the last four decades. Introducing the SleeveCap connecting caps, allows a seamless connection that is easy to install quickly and safely.

The positive connection of the grout tube allows connection and grouting in series. Reducing grouting time and the number of nuisance grout tubes protruding through the slab. Grout tubes enter and exit near the wall or joint side, allowing concrete power trowels to finish the slab quickly.

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### SleeveCap INSTALLATION PHOTOS AND COMMENTS



SleeveCap installed on a typical Post Tensioning duct; snug fit, prevents concrete from entering.

Grout tube connector to side allows connection in series.



Two sleeves connected in series allow grouting to enter at sleeve one (wall side), and exit at sleeve two (wall side). Reducing the number of grout tubes and locating them at the slab edge, facilitates quick trowel finish of the concrete slab.



Installation is fast, clean, and safe. Minimising clutter on site.

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### **PROJECT COMPARISON**





Level 5, change in contractors. Installed without SleeveCap.

Level 4 sleeves installed using SleeveCap.

The above photos are taken along the same grid line at different levels, on a project in Melbourne. On inspection of the finished product the builder demanded all additional levels utilise the SleeveCAP.

## Savings included:

- Reduced install time
- Ease of slab surfacing
- Reduced grinding and levelling costs

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### MORE INFORMATION

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Sincerely,

Charlie Ritsikos & Ari Schupak

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