TMJ ECOSLEEVE
TEMPORARY MOVEMENT JOINT SYSTEM

Concrete shrinkage in long post-tensioned slabs, normal concrete shrinkage, elastic shortening, and creep effects is accommodated either through the construction of temporary movement joints or by leaving 'pour strips'. These joints or strips are then filled once movement has stabilised to create a monolithic slab.

Although, commonly used, pour strips are not ideal as they require the slab formwork to be left in place for extended periods and the requirement for access to concrete these pour strips underneath subsequently constructed floor levels. This restricts site access and delays work until the pour strip has been concreted (typically 56 days after the tensioning of the slab) and the formwork removed. Pour strips also create an unnecessary trip hazard for site workers, use additional formwork and leave the soffit face marked.

Once shrinkage has stabilised, grout is pumped through a tube into the ducting, locking the bar in position to prevent further movement taking place. It is widely accepted that the performance achieved by these site assembled components is unreliable. It was issues such as those outlined above with the traditional construction methods which led Fortec to develop a new range of temporary movement joints, TMJ ECOSleeve, to suit N20 and N24 bars.

We have furthered this principle by engineering a bespoke temporary movement joint which can be locked after an initial phase of movement. The TMJ ECOSleeve comprises a N20 or N24 reinforcing bar (this keeps cost down), a corrugated polypropylene flat duct sleeve (to enhance bond and ensure good grout flow for full encapsulation) with the end fitting at the joint face featuring a cast-in steel RHS section for additional bar support to prevent differential slab levels across the joint.

The system is designed for the reinforcing bar to be cast into pour 1 and the sleeve is then fitted over the bar and sealed in place in pour 2. The bar and sleeve components allow shrinkage of the concrete to take place; the end fittings and rectangular corrugated sleeve allows lateral, longitudinal and some rotational movement to occur in this initial stage.

After a predetermined time, generally 56 days, when movement has stabilised and the joint has been sealed underneath, the bar is locked in position by grouting with a low shrinkage high strength cementitious grout through the grout vents at either end of the cast-in sleeve.

The TMJ ECOSleeve range includes standard solutions for slab-to-slab and slab-to-wall joints.