

Lockable Dowels and Locking Pins

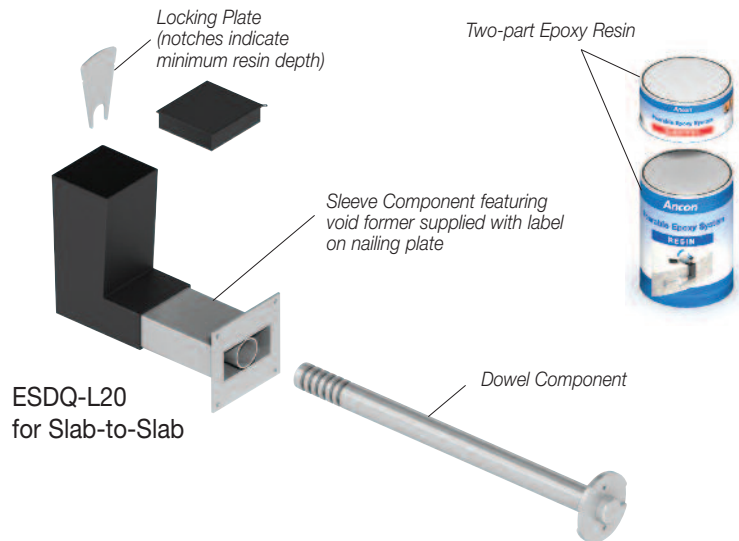
Range of Lockable Dowels

A Lockable Dowel allows initial shrinkage of the concrete to take place and then, after a pre-determined time period (generally 3-4 weeks), is locked in position with a mechanical plate and a controlled amount of epoxy resin. The range comprises three products; ESDQ-L20, HLDQ-L30 and ESDQ-L20W.

Slab-to-Slab Lockable Dowels

ESDQ-L20

The dowel component is manufactured from 30mm diameter stainless steel; one end features two fixed overlapping anchor discs and the other has a series of grooves to accept the Locking Plate. The cylindrical sleeve which accepts the dowel component is contained within a box-section to allow lateral, longitudinal and some rotational movement. The epoxy resin is poured into the L-shaped void former. This product has a design capacity of up to 71kN. See pages 8-11 for full technical details.



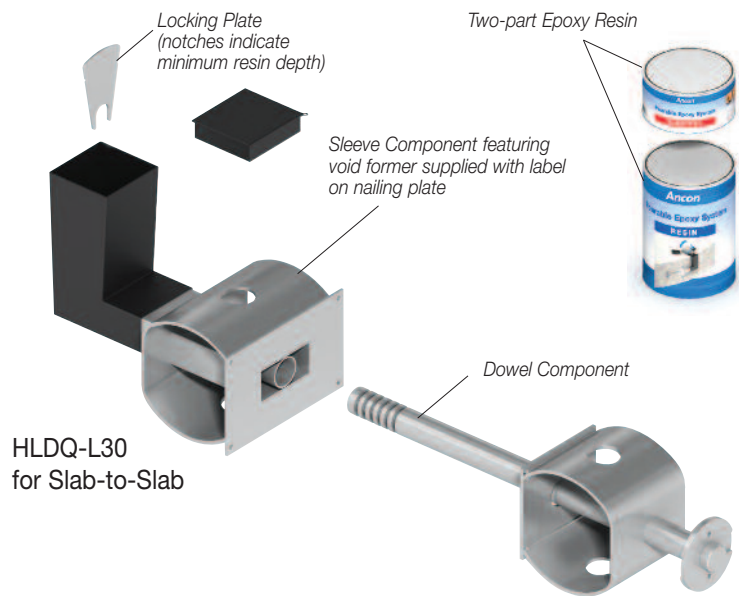
ESDQ-L20 for Slab-to-Slab



Reinforcement being located around ESDQ-L20 Sleeves

HLDQ-L30

The HLDQ-L30 is a high load Lockable Dowel with a design capacity of up to 136kN. See pages 8-11 for full technical details.



HLDQ-L30 for Slab-to-Slab



HLDQ-L30 Sleeve nailed to formwork

Example Specification Clause

Delete/Amend blue text as appropriate

<Ancon ESDQ-L20 or Ancon HLDQ-L30> lockable shear load connector comprising dowel, sleeve and locking components to be installed at the temporary movement joint between two slabs. Product to be positioned at <insert centres>mm horizontal centres at <the centre line of the slab or XXXmm from the top of the slab>. The dowel is to be locked in position after <insert time period> using the locking plate and resin supplied. System should be installed in accordance with Ancon's instructions and engineer's drawings.

Slab-to-Wall Lockable Dowel ESDQ-L20W

The dowel component is manufactured from 30mm diameter stainless steel, but is shorter than the ESDQ-L20 dowel. One end of the dowel is designed to fix into the stainless steel Ancon SKS24 Threaded Anchor cast into the face of the concrete and the other end features a series of grooves to accept the Locking Plate. The sleeve component is the same as used in the ESDQ-L20. See pages 8-11 for full technical details.



Sleeve pushed over dowel component at core wall

Example Specification Clause

Delete/Amend blue text as appropriate

Ancon ESDQ-L20W lockable shear load connector comprising dowel, sleeve, threaded anchor and locking components to be installed at the temporary movement joint between slab and wall. Product to be positioned at <insert centres>mm horizontal centres at <the centre line of the slab or XXXmm from the top of the slab>.

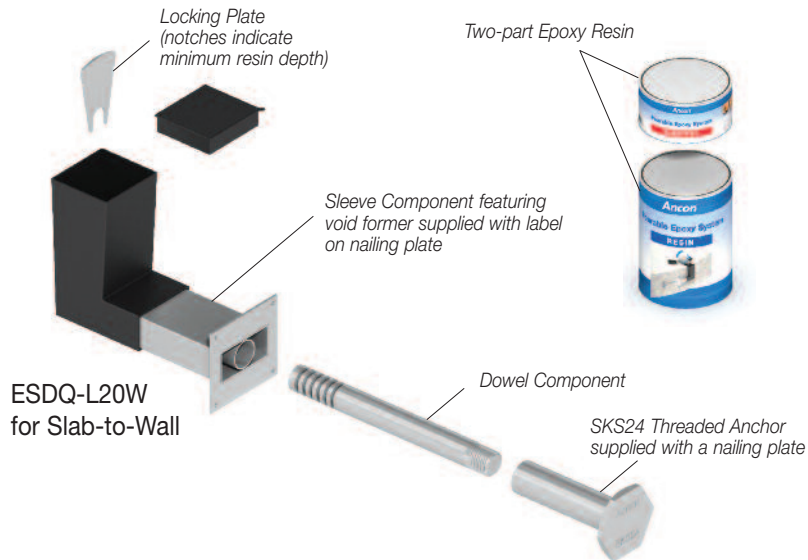
The dowel is to be locked in position after <insert time period> using the locking plate and resin supplied. System should be installed in accordance with Ancon's instructions and engineer's drawings.

Epoxy Resin

Each dowel is locked after a pre-determined time period (generally 3-4 weeks) with a high quality, two-part epoxy resin. The resin is mixed and poured into the L-shaped void former. Each dowel requires 1,500g of resin. Users are required to take note of storage conditions and mixing instructions given on the packaging.



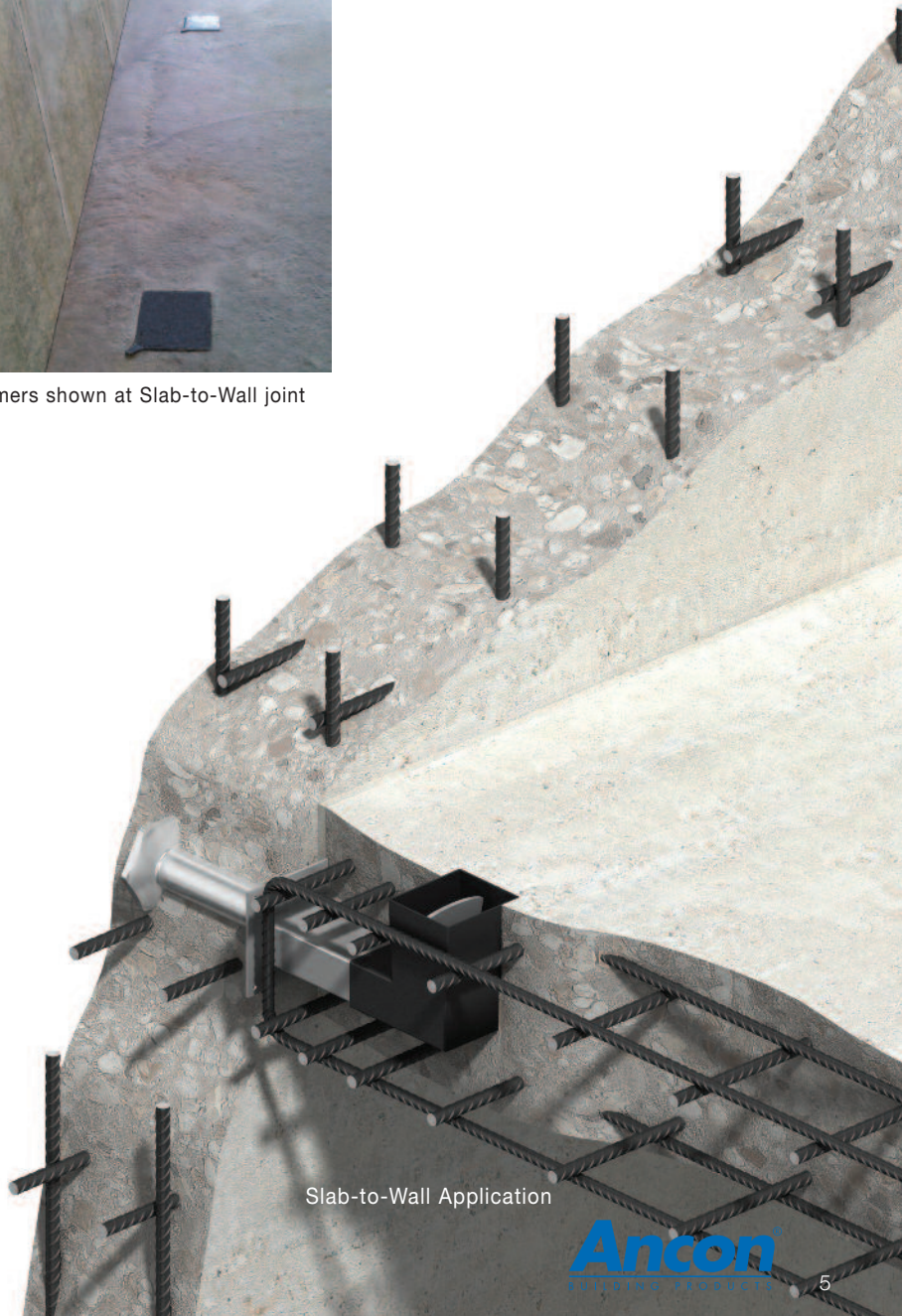
Scan here to watch an installation video of Ancon Lockable Dowels



ESDQ-L20W
for Slab-to-Wall



Void formers shown at Slab-to-Wall joint



Slab-to-Wall Application

Lockable Dowels and Locking Pins

Range of Locking Pins

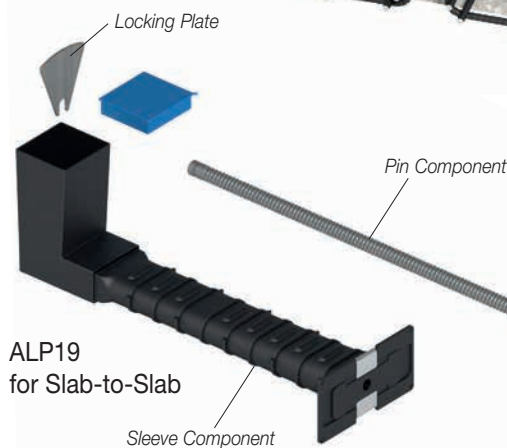
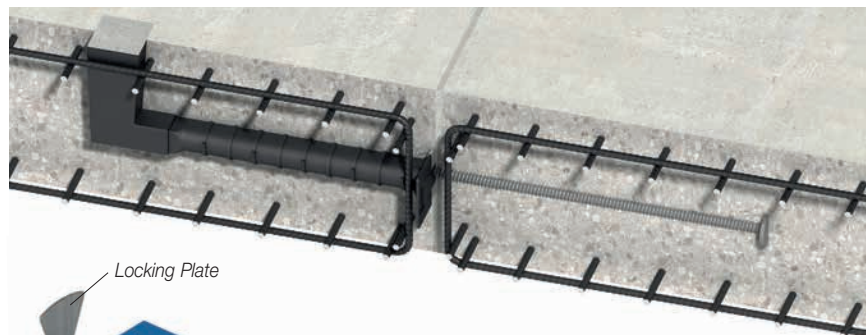
A Locking Pin allows initial shrinkage of the concrete to take place and then, after a pre-determined time period (generally 3-4 weeks), is locked in position with a mechanical plate and a controlled amount of Ancon high strength, cementitious, non-shrink grout. The range comprises the ALP19 for slab-to-slab applications and the ALP19W for slab-to-wall applications.

Slab-to-Slab Locking Pin

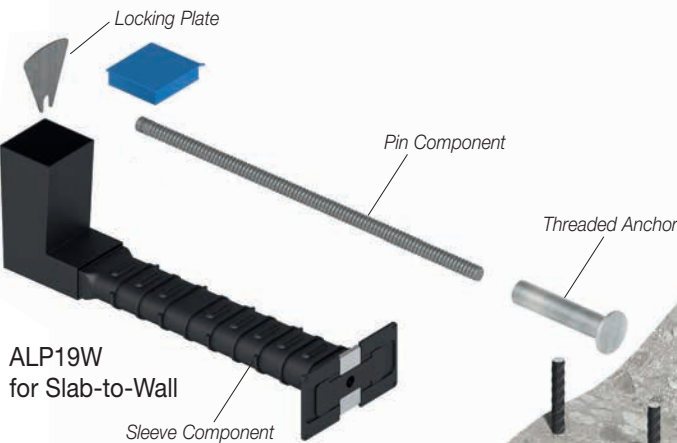
ALP19

The pin component is manufactured from 500MPa Unicoil bar which comprises a constant rolled thread. One end of the pin features a hot forged head which increases its resistance to tensile forces; the size of this head complies with the AUS/NZ standard for headed reinforcement. The other end of the pin features a notch to accept the Ancon locking plate.

When installed in the heavy duty injection moulded sleeve, the pin component is suspended in a tube; a locating bush and pinch points cradle the bar to ensure even distribution of the grout. The sleeve allows lateral and some rotational movement of the pin, in addition to longitudinal movement, prior to locking. The sleeve is ribbed on the outside for increased bond with the concrete and features indentations on the inside to maximise grout bond. The sleeve features the standard Ancon void former. A blue lid allows easy identification on site, differentiating it from a Lockable Dowel in a cast slab.



ALP19
for Slab-to-Slab



ALP19W
for Slab-to-Wall

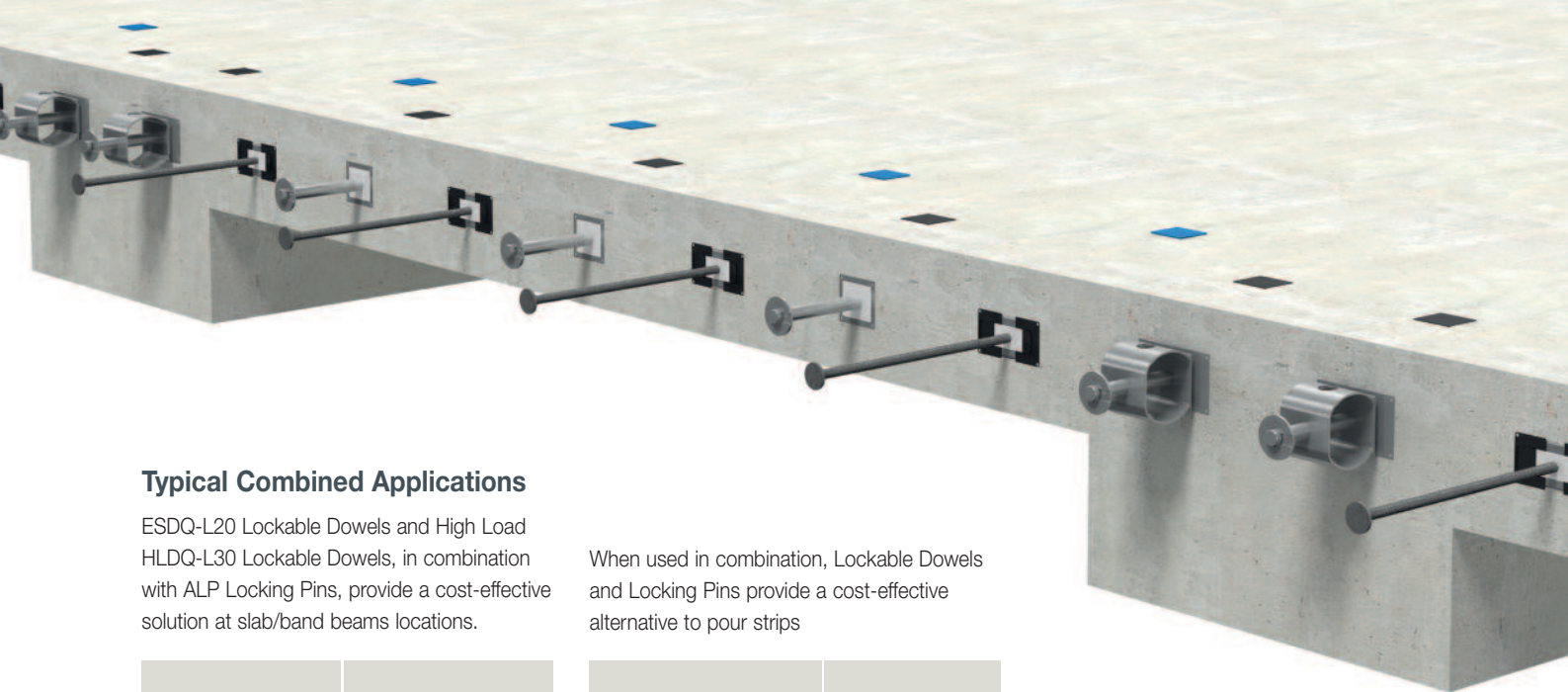
Slab-to-Wall Locking Pin

ALP19W

For walls, the pin component is manufactured from 500MPa Unicoil bar like in the slab-to-slab system but is shorter in length. One end of the pin screws directly into a Unicoil threaded anchor (product ref. UCQF16150Z) that is cast into the face of the concrete wall and the other end features a notch to accept the proprietary Locking Plate. The sleeve component is the same as used in the standard slab-to-slab ALP system.

High Strength Grout

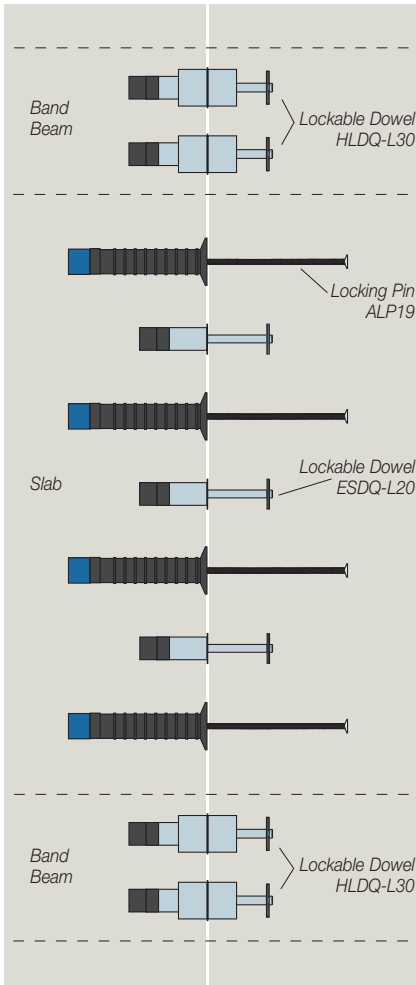
In combination with the mechanical locking plate, the Pin is locked with Ancon high strength, cementitious, non-shrink grout, which achieves a compressive strength of 25MPa in 24 hours and 75MPa in 28 days.



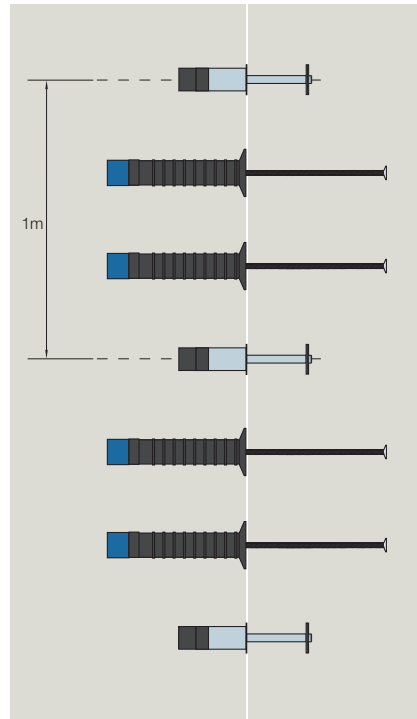
Typical Combined Applications

ESDQ-L20 Lockable Dowels and High Load HLDQ-L30 Lockable Dowels, in combination with ALP Locking Pins, provide a cost-effective solution at slab/band beams locations.

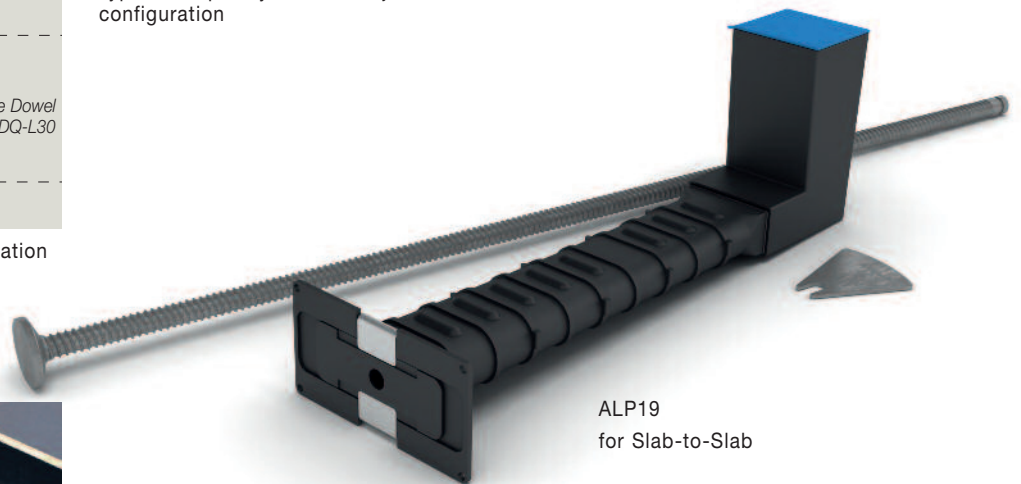
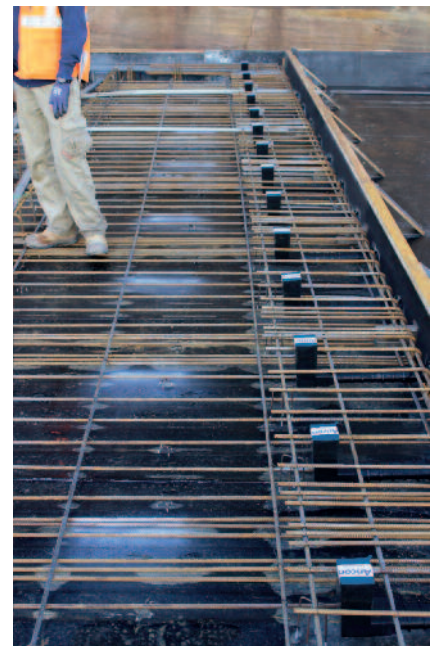
When used in combination, Lockable Dowels and Locking Pins provide a cost-effective alternative to pour strips



Slab and band beam typical configuration



Typical temporary movement joint configuration



ALP19
for Slab-to-Slab

