Structural Connections
Shear Load Connectors

Leviat®
A CRH COMPANY

Ancon Lockable Dowel

for Temporary Movement Joints in Post-Tensioned Concrete

UK & Ireland Edition

Imagine. Model. Make.

Leviat®
A CRH COMPANY

We imagine, model and make engineered products and innovative construction solutions that help turn architectural visions into reality and enable our construction partners to build better, safer, stronger and faster.

Leviat is a world leader in connecting, fixing, lifting and anchoring technology.

From the build of new schools, hospitals, homes and infrastructure, to the repair and maintenance of heritage structures, our engineering skills are making a difference around the world.

We provide technical design assistance at every stage of a project, from initial planning to installation and beyond.

Our technical support services range from simple product selection through to the development of a fully customised project-specific design solution.

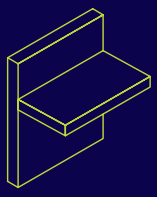
Every promise we make locally, has the commitment and dedication of our global team behind it. We employ almost 3,000 people at 60 locations across North America, Europe and Asia-Pacific, providing an agile and responsive service worldwide.

Leviat, a CRH company, is part of the world's leading building materials business.

>3,000
People

60+
Locations

~23
Countries

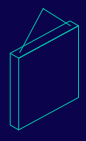


Structural Connections

Systems to form robust, efficient connections, and continuity of concrete reinforcement as necessary, between walls, slabs, columns, beams and balconies, providing structural integrity as well as enhanced thermal and acoustic performance.

- Insulated balcony connectors
- Reinforcing bar couplers
- Concrete Connections
- Reinforcement continuity systems
- Punching shear reinforcement
- Shear load connectors
- Floor Joint Systems
- Precast / Reinforced Columns
- Infrastructure Products
- Precast Connections
- Acoustic dowels and bearings
- Prestress

Other areas of expertise:

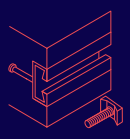


Lifting & Bracing

Systems for the safe and efficient transportation, lifting and temporary bracing of cast concrete elements and tilt-up panels before permanent structural connections are made.

Façade Support & Restraint

Systems for the safe and thermally-efficient fixing of the external building envelope, including brick and natural stone, insulated sandwich panels, curtain walling and suspended concrete façades, and also the repair and strengthening of existing masonry installations.

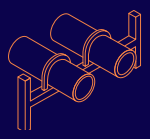


Anchoring & Fixing

Systems for fixing secondary fixtures to concrete, including anchor channels, bolts and inserts; also tension rod systems for roofs and canopies.

Formwork & Site Accessories

Non-structural accessories that complement our engineered solutions and help keep your construction environment operating safely and efficiently, including moulds for casting standard and special concrete elements and construction essentials such as reinforcing bar spacers.



Industrial Technology

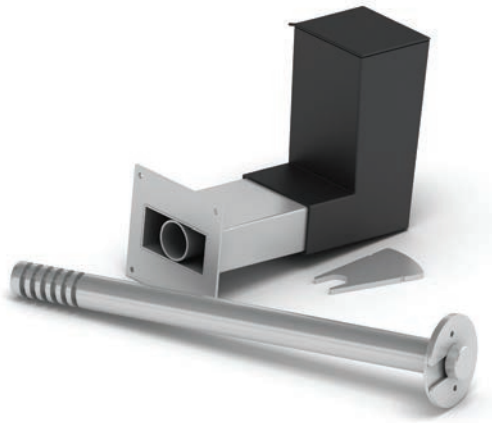
Mounting channels, pipe clamps and other versatile framing systems that provide safe fixing in a wide range of industrial applications.

Leviat product ranges:

Ancon | Aschwanden | Connolly | Halfen | Helifix | Isedio | Meadow Burke | Modersohn | Moment | Plaka | Scaldex | Thermomass

Ancon Lockable Dowels

Contents



Ancon Lockable Dowel

European Patent No. 2191078
US Patent No. 8209933
Singapore Patent No. 159760
South Africa Patent No. 2010/01651
Australian Patent No. 2008294503
New Zealand Patent No. 583887

Lockable Dowels

Ancon Lockable Dowels have been designed for use at temporary movement joints, most commonly found in post-tensioned concrete frames.

These dowels allow initial shrinkage of the concrete to take place and are then locked in position with a mechanical plate and a controlled amount of epoxy resin. The locked dowels continue to transfer shear, but prevent further movement taking place.

Advantages

The use of Lockable Dowels can save a significant amount of time and materials over other construction methods. Traditionally, concrete shrinkage has been accommodated by leaving gaps in the slab called 'pour strips' or 'closure strips'. These strips are filled once movement has stabilised, however until they are filled the slabs must be propped, restricting site access and delaying site progress. Gaps in the slab also create a trip hazard for site workers, use additional formwork and can leave the soffit face marked.

Lockable Dowels improve site access, minimise formwork requirements and accelerate the rate of construction. With a Lockable Dowel, there is less requirement for the slabs to be propped or a support corbel to be constructed, as shear load is transferred by the dowel. The time saved by early removal of slab props can be significant.

A Lockable Dowel also provides many advantages over the site-assembled arrangement of carbon steel reinforcing bar, galvanised or plastic ducting, vent tubes and a non-specific grout, which is sometimes used by contractors.

In addition, engineers have found the Ancon Lockable Dowel to be the preferred design solution for pin-ended joints. Although it is customary for practical reasons to use U-bars or other rebar continuity systems at these connections, these options do not truly act as hinges and so rotation of the slab under load can induce cracking at the wall-to-slab interface with potential integrity issues.

The Lockable Dowel is closer to a true pin-ended joint and, being manufactured from stainless steel, provides additional corrosion protection over systems using carbon steel reinforcement.

The design capacities shown on page 8 are backed by independent test data and the unique void former allows inspection of the dowel before the joint is locked.

Standard Ancon systems are available for use at slab joints and retaining / core walls.

- ✓ **Eliminate pour strips**
- ✓ **Reduce propping times**
- ✓ **Reduce formwork**
- ✓ **Improve site access**
- ✓ **Faster, safer construction**
- ✓ **Proven performance**

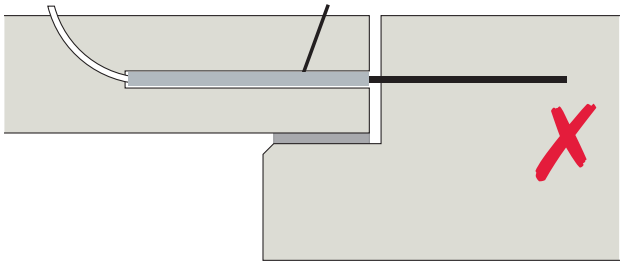
Pour Strips restrict site access, cause a trip hazard and delay progress on site

The Lockable Dowel eliminates the need for Pour Strips, accelerating the speed of construction and improving site safety

Applications

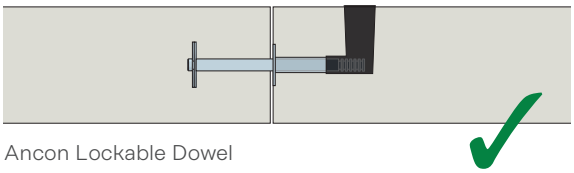
In most cases, Ancon Lockable Dowels can be used to replace pour strips at temporary movement joints in post-tensioned concrete frames. Standard Ancon systems are available for use at slab joints and retaining / core walls.

Slab-to-Slab



Various site-assembled components

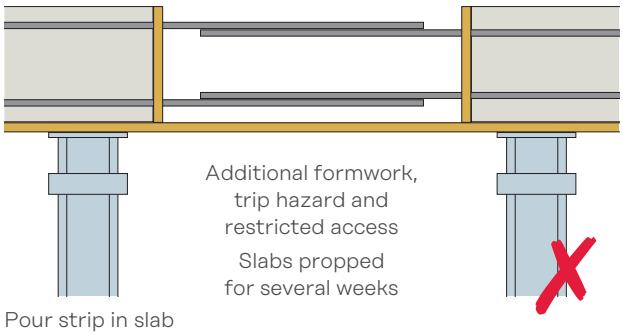
Unreliable performance, additional construction materials used and support corbel or prop required



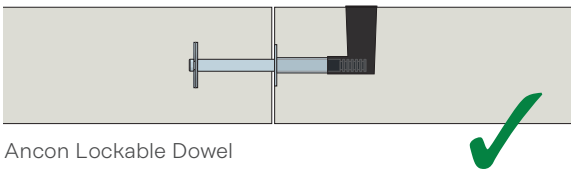
Ancon Lockable Dowel

Proven performance
Minimal material usage

Slab-to-Slab



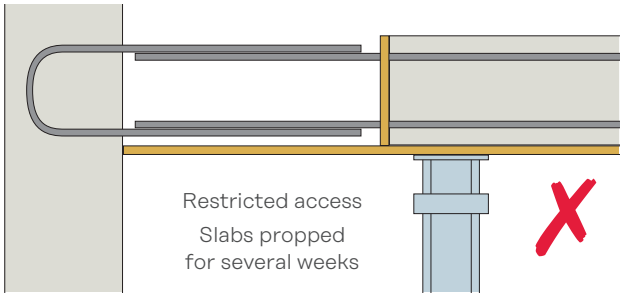
Pour strip in slab



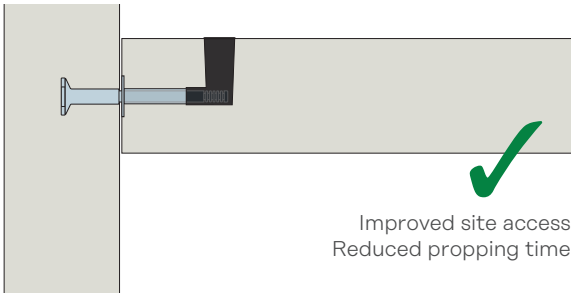
Ancon Lockable Dowel

Minimal formwork
Improved site access
Reduced propping time

Slab-to-Wall



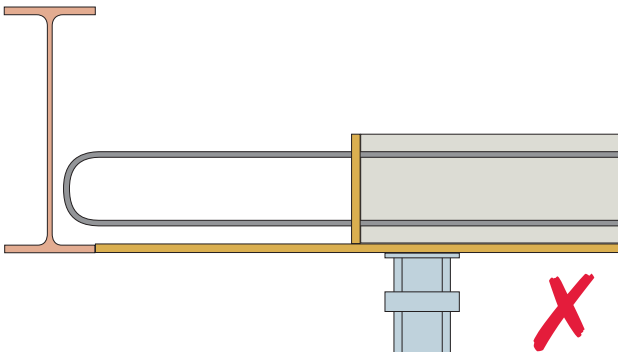
Pour strip at wall-to-slab junction



Improved site access
Reduced propping time

Ancon Lockable Dowel

Hybrid Construction



Pour strip at steel beam to concrete slab junction

Ancon Lockable Dowel, in conjunction with Ancon Weldable Coupler. Contact Leviat with details of your project requirements.

Ancon Lockable Dowels

Range of Ancon Lockable Dowels

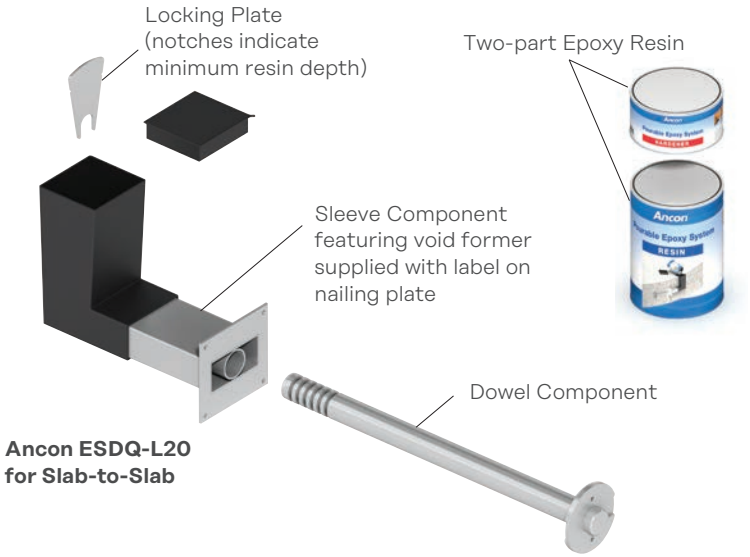
A Lockable Dowel allows initial shrinkage of the concrete to take place and then, after a pre-determined time period (generally 3-4 weeks), is locked in position with a mechanical plate and a controlled amount of epoxy resin. The range comprises three products; ESDQ-L20, HLDQ-L30 and ESDQ-L20W.

Slab-to-Slab Lockable Dowels

Ancon 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.

Reinforcement being located around ESDQ-L20 Sleeves

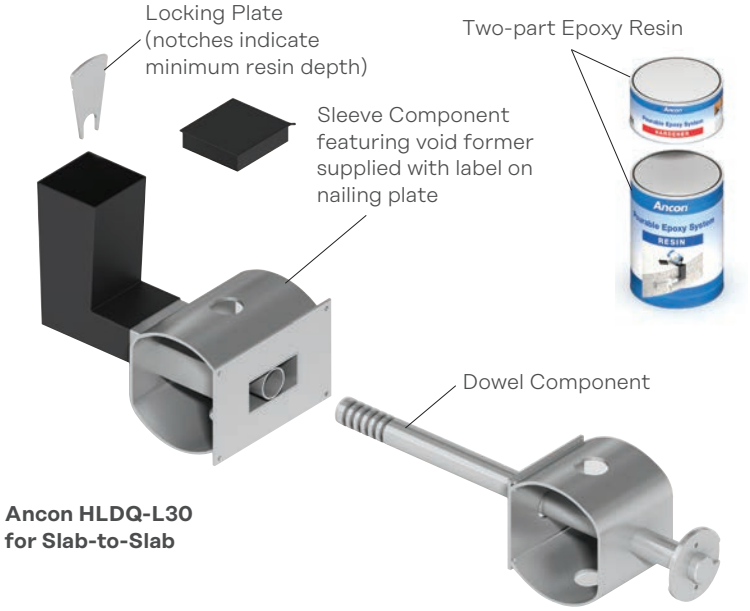


Ancon ESDQ-L20 for Slab-to-Slab

Ancon 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 Sleeve nailed to formwork



Ancon HLDQ-L30 for Slab-to-Slab

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 our instructions and engineer's drawings.

Ancon Lockable Dowels

Slab-to-Wall Lockable Dowel

Ancon 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

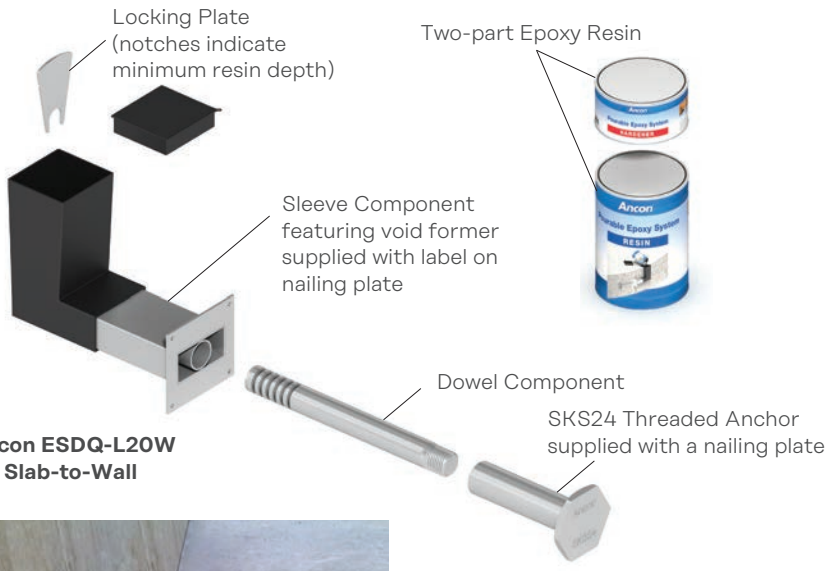
Example Specification Clause

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 our 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.



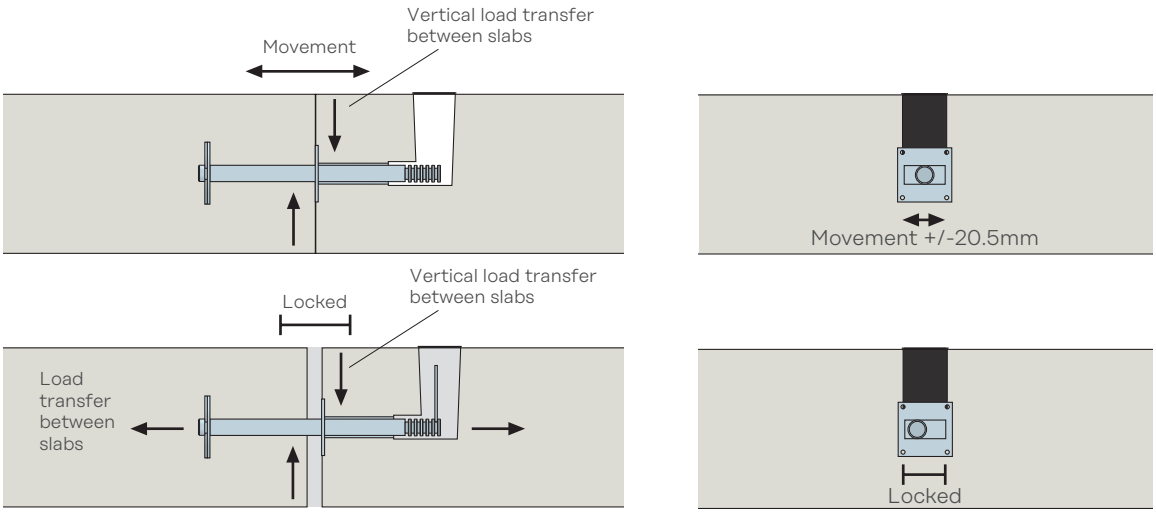
Ancon ESDQ-L20W for Slab-to-Wall

Void formers shown at Slab-to-Wall joint

Slab-to-Wall Application

Ancon Lockable Dowels

Performance Data



Ancon ESDQ-L20 Lockable Dowels (slab-to-slab)

Slab Thickness (mm)	Tension along line of dowel (kN)	Vertical Design Resistance (kN) for Various Design Joint Widths (mm) in C30/37 Concrete							
		5	10	15	20	25	30	35	40
160	45	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
180	65	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
200	80	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
220	100	53.6	53.6	53.6	53.6	53.6	53.6	53.6	52.7
240	100	62.2	62.2	62.2	62.2	60.6	57.8	55.2	52.7
260 and above	100	71.4	69.9	66.6	63.5	60.6	57.8	55.2	52.7

Ancon ESDQ-L20W Lockable Dowels (slab-to-wall)

Slab Thickness (mm)	Tension along line of dowel (kN)	Vertical Design Resistance (kN) for Various Design Joint Widths (mm) in C30/37 Concrete							
		5	10	15	20	25	30	35	40
160	45	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
180	65	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
200	80	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
220	80	53.6	53.6	53.6	53.6	53.6	53.6	53.6	52.7
240	80	62.2	62.2	62.2	62.2	60.6	57.8	55.2	52.7
260 and above	80	71.4	69.9	66.6	63.5	60.6	57.8	55.2	52.7

Ancon HLDQ-L30 Lockable Dowels (slab-to-slab)

Slab Thickness (mm)	Tension along line of dowel (kN)	Vertical Design Resistance (kN) for Various Design Joint Widths (mm) in C30/37 Concrete							
		5	10	15	20	25	30	35	40
240 and above	100	136.0	136.0	136.0	136.0	136.0	136.0	136.0	121.9

Ancon ESDQ-L20 Example

Slab thickness = 240mm, Maximum width of joint = 20mm, Concrete strength = C30/37
Characteristic permanent action (dead load) = 40kN/m γ_G = 1.35*
Characteristic variable action (imposed load) = 50kN/m γ_Q = 1.5*
Design load = 1.35 x 40 + 1.5 x 50 = 129kN/m
Vertical design resistance = 62.2kN (240mm slab 20mm joint)
Therefore centres for vertical load = 62.2 / 129 = 0.482m use 450mm centres
Each dowel will in addition provide a design resistance across the joint of 100kN (for slab to wall this is 80kN), therefore the total design resistance in the direction of the dowel = 100 / 0.45 = 222kN (for slab to wall 80 / 0.45 = 177kN).
If this is insufficient, the dowel centres can be reduced to a minimum of 1.5 x slab thickness to increase the design resistance across the joint, in this example it would increase to 100 / 0.36 = 277kN (for slab to wall 80 / 0.36 = 222kN).

*The partial safety factors of 1.35 (γ_G) and 1.5 (γ_Q) are those recommended in EN 1990 Eurocode: Basis for structural design. For designs to Eurocode 2, please refer to the national annex for the factors to be used in the country concerned. For designs to BS8110, γ_G = 1.4 and γ_Q = 1.6. Other national standards may require different safety factors.

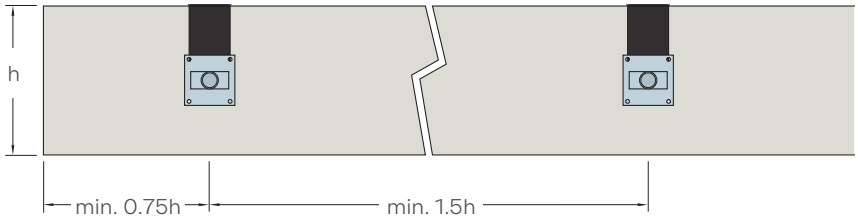
Note to above tables:
Increasing concrete grade will not improve the tensile performance of the dowel.

Joint Filler / Fire Protection
We can provide information on a suitable joint filler and also recommend fire resistant material which could be used as part of an overall fire protection system.

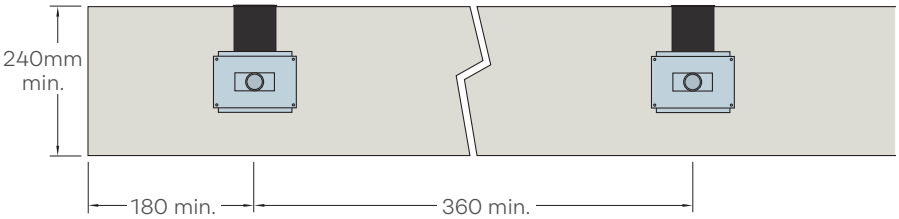
Reinforcement Details
Local reinforcement is required around each Ancon Lockable Dowel to guarantee that the forces are transferred between the connectors and the concrete.
See page 10 for full details.

Edge Distance and Spacings

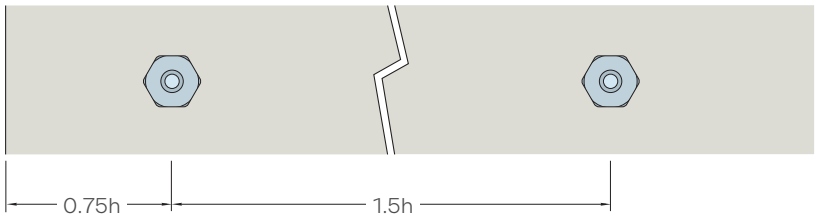
For connectors working at or near their maximum capacity, the minimum spacing should be 1.5 times the slab thickness. Where the design load of the connector could be used in a thinner slab, a spacing of 1.5 times the thinner slab thickness can be used. The minimum end distance is always 0.5 times the spacing.



Ancon ESDQ-L20 Minimum Edge Distance and Spacings



Ancon HLDQ-L30 Minimum Edge Distance and Spacings



Ancon ESDQ-L20W Minimum Edge Distance and Spacings. h = depth of adjoining slab

"By using these dowels we have saved at least four weeks per storey. This construction method is just more efficient. Wet trades finish sooner on site and the anticipated movement at the joints was achieved without any issues."

Ben Ume, Director,
Matthew Consultants
University Campus Suffolk phase 2,
Ipswich, UK

Ancon ESDQ-L20 Example

Slab thickness	=	300mm
Maximum width of joint	=	20mm
Concrete strength	=	C30/37
Design resistance/connector (based on slabs 260mm and above)	=	63.5kN
Spacing for max. load		300 x 1.5 = 450mm
End distance for max. load		450 x 0.5 = 225mm
Design resistance/metre	=	63.5 / 0.45 = 141.1kN/m

As an ESDQ-L20 can be used in a 220mm slab for a design resistance per connector of up to 53.6kN, the spacing can be based on a 220mm slab. Therefore:

Reduced spacing	220 x 1.5 = 330mm
Reduced end distance	330 x 0.5 = 165mm
Design resistance/metre	53.6 / 0.33 = 162.4kN/m

"The Lockable Dowel is a very clean system. If you have encounted pour strips before, the Lockable Dowel is a no-brainer."

Mahmoud Farawi,
Skanska USA

Ancon Lockable Dowels

Reinforcement Details

Local reinforcement is required around each Ancon Lockable Dowel to guarantee that the forces are transferred between the connectors and the concrete. Correct detailing in accordance with appropriate design codes and the recommendations provided here will ensure the dowels attain their full capacity. The tables show the main reinforcement required, together with details of reinforcement above and below the connectors. **Although only the sleeve components are illustrated, the same reinforcement is required around the dowel component.**

Ancon ESDQ-L20

Slab Depth (mm)	U-bars		Longitudinal bars	
	Number and size	Spacing	Number and size	Spacing
160	1 H10	The first U-bars should be placed immediately adjacent to the connector. The subsequent U-bars should be placed as close as possible allowing the appropriate minimum clear distance – nominally 20mm.	1 H10	The longitudinal bars should be placed as close to the slab edge as possible in the bend of the U-bar.
180	1 H12		1 H12	
200	2 H12		1 H12	
220	2 H12		1 H12	
240	3 H12		1 H12	
260	3 H12		1 H12	

Ancon HLDQ-L30

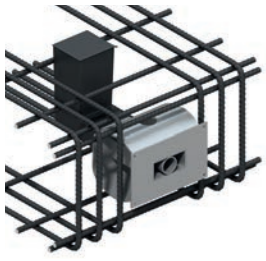
U-bars	Dowel side		Sleeve side		Longitudinal bars	Spacing
	e_1 (mm)	e_2 (mm)	e_1 (mm)	e_2 (mm)		f_1 (mm)
3 H12	70	40	95	40	2 H12	(100) 70*

* For minimum slab thickness, the longitudinal bars will be further from the slab edge due to limited space (f1 = 100mm). For thicker slabs, the longitudinal bars should be within the bend of the U-bar (f1 = 70mm).

Ancon ESDQ-L20W Wall/Anchor Side

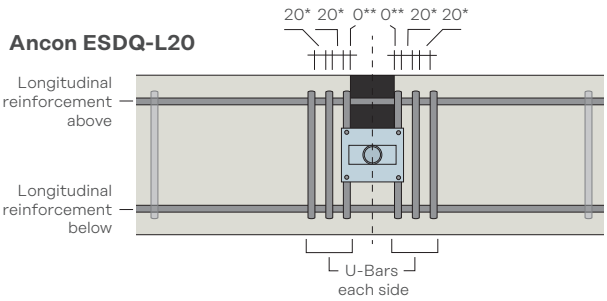
Wall thickness (mm)	Slab thickness (mm)	Vertical links	Spacing		Horizontal straight bars	Spacing
			e_1 (mm)	e_2 (mm)		f_1 (mm)
>230	160	1 H10	30	35	1 H10	30
≥280	180	1 H12			1 H12	40
	200	2 H12			1 H12	50
	220	2 H12			1 H12	60
	240	3 H12			1 H12	70
	260	3 H12			1 H12	80

Note: Rebar for sleeve side is as ESDQ-L20 sleeve side.
Provide a minimum of two vertical bars to rear face of wall to engage with link.

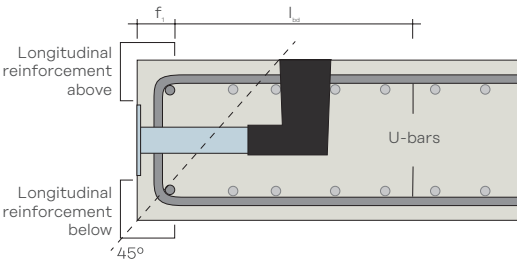


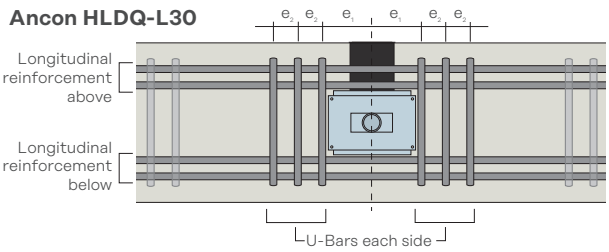
Ancon HLDQ-L30

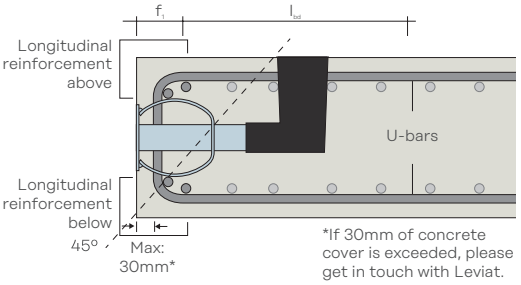
SKS24 Threaded Anchor, part of Ancon ESDQ-L20W



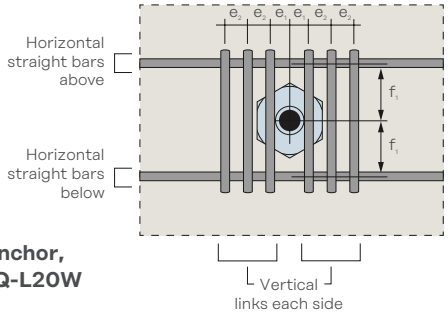
* appropriate clear spacing between U-bars nom. dim. 20mm
** first U-bars placed immediately adjacent to connector (nom. dim. 0mm)

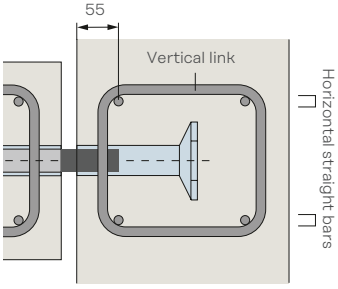


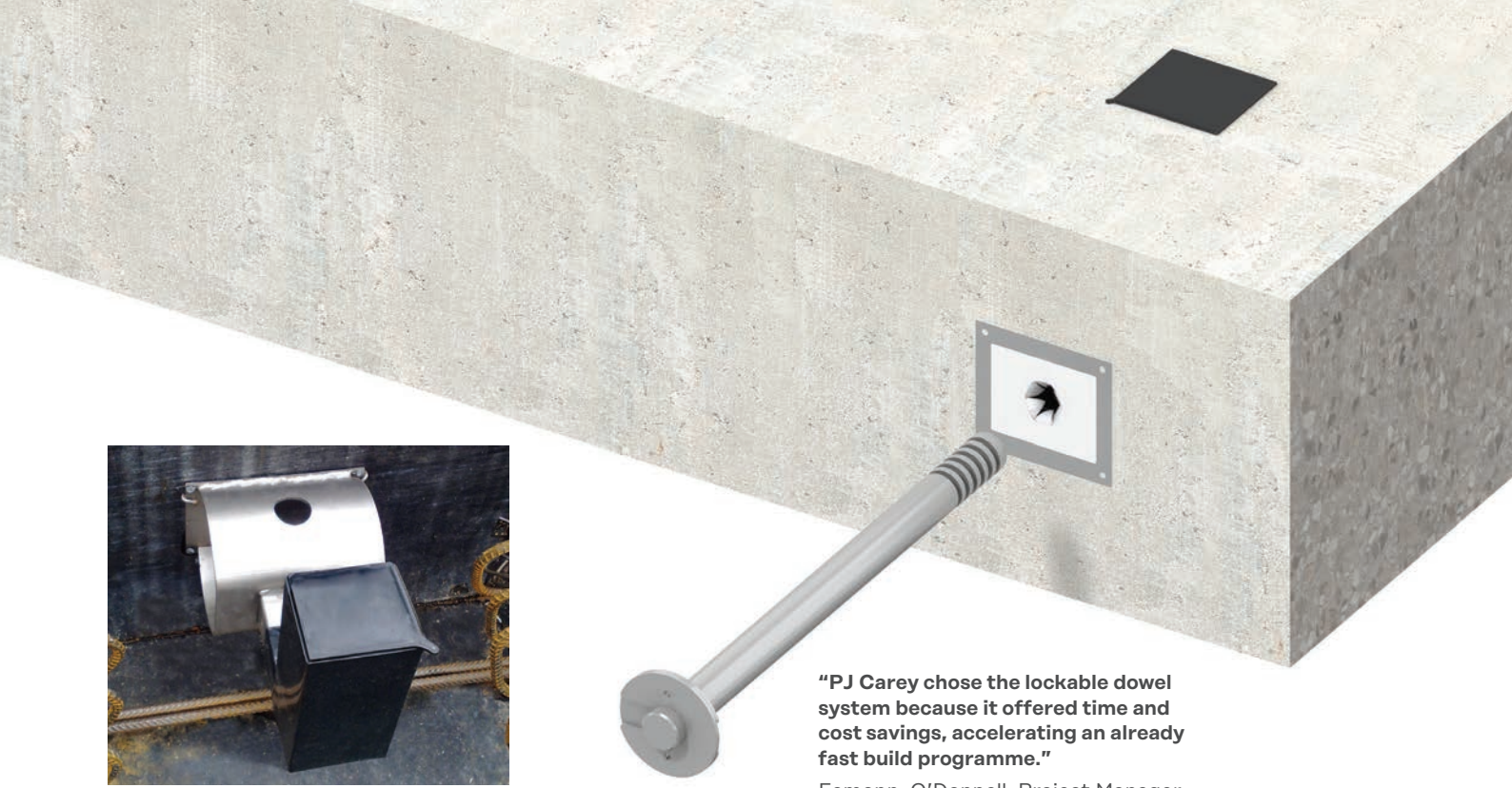




*If 30mm of concrete cover is exceeded, please get in touch with Leviat.







Ancon HLDQ-L30 Sleeve Component

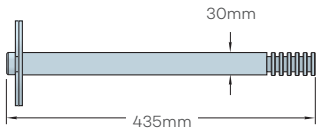
"PJ Carey chose the lockable dowel system because it offered time and cost savings, accelerating an already fast build programme."

Eamonn, O'Donnell, Project Manager,
PJ Carvey (Contractors) Ltd
Emergency Care Centre, Aberdeen, UK

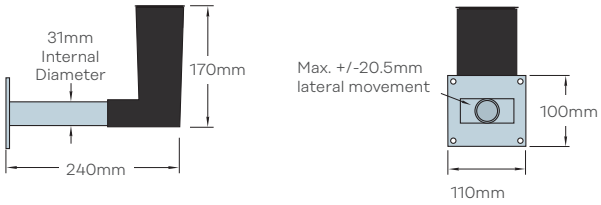
Dimensions

Ancon ESDQ-L20 Components

Dowel Component

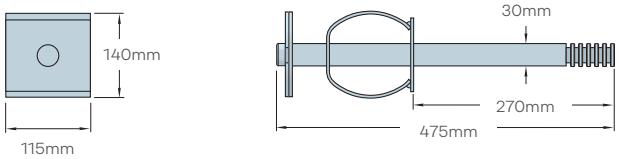


Sleeve Component

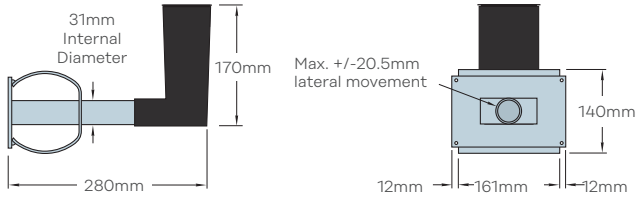


Ancon HLDQ-L30 Components

Dowel Component

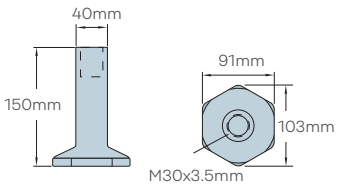


Sleeve Component

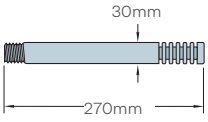


Ancon ESDQ-L20W Components

SKS24 Threaded Anchor



Dowel Component



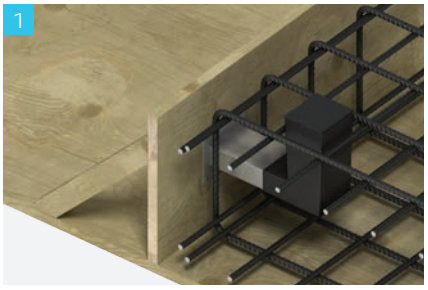
Sleeve Component

Lockable Dowels

Installation
Slab-to-Slab

Although installation is shown for the ESDQ-L20, the procedure is the same for the HLDQ-L30.

1



Nail the sleeve to the formwork either central in the slab or for slab depths over 300mm so the top of the void former is level with the top of the slab. Do not remove the label over the nailing plate as this prevents ingress of concrete into the sleeve. Fix the local reinforcement, as specified on engineer's drawings.

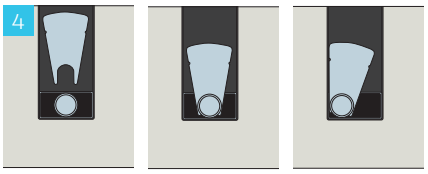
2

Pour the concrete, and when of sufficient strength, strike the formwork. Puncture the label to reveal the cylindrical sleeve only and insert the dowel until it is approximately 20mm from the back of the void former.

3

Fix the local reinforcement around the dowel component and pour the concrete.

4



After a predetermined time period (generally 3-4 weeks), when movement between the slabs has stabilised and the joint between the slabs has been filled, the dowel is ready to be locked.

Fit the Locking Plate on a groove in the centre of the void former. The fan-shaped Locking Plate allows the dowel to be locked in any position.

5

Mix the two-part epoxy resin and pour into the void former. It is essential the resin flows along the stainless steel box section towards the joint and reaches the notches on the locking plate, which indicate minimum resin depth.

Joint must be filled before resin is installed.

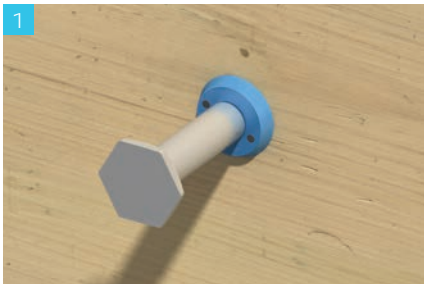
6

After 24 hours the void former can be filled with cementitious material, level with the top of the slab, to complete the installation.

The locked dowel continues to transfer vertical load between the slabs, but movement can no longer take place.

Slab-to-Wall

1

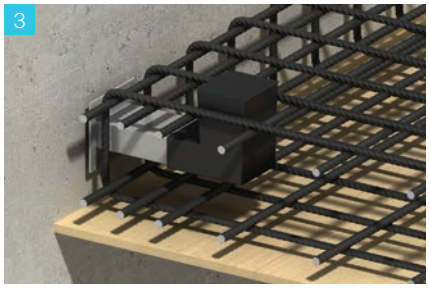


Nail the threaded anchor to the formwork so the dowel will be central in the adjoining slab or within 150mm of the top of slabs over 300mm. Fix the local reinforcement as specified on engineer's drawings and cast the concrete.

2

When concrete reaches sufficient strength, strike the formwork and remove nailing plate. Screw the dowel into the anchor.

3



Puncture the label of the sleeve to reveal the cylindrical sleeve only. Push the sleeve over the dowel until it is flush with the concrete. Tie sleeve to reinforcement and pour concrete.

See Steps 4 to 6 above to complete installation.

Notes: Where deep concrete pours are proposed, the installation will require further consideration. More robust fixing of the sleeve and dowel components will be necessary, to avoid displacement during casting of the concrete.

Ancon Lockable Dowels

Project References

200 Lockable dowels were installed on the James Hehir Building (University Campus Suffolk phase 2) in Ipswich, UK

'Highly Commended' in the 2010 CONSTRUCT award for innovation and best practice for its use of the Lockable Dowel.

© RMJM

5,000 Lockable dowels were installed on the Royal Children's Hospital in Melbourne, Australia

© P J Carey (Contractors) Limited

500 Lockable dowels were installed on the Emergency Care Centre in Aberdeen, UK

Other Ancon Products

DSD/Q Shear Load Connectors

Ancon DSD and DSDQ double-dowel connectors are used to transfer shear across movement joints in suspended concrete slabs. They are more effective at transferring load and allowing movement than standard single dowels and can be used to eliminate double columns at structural movement joints in buildings. The Q version features a rectangular box section to allow lateral and some rotational movement.

Punching Shear Reinforcement

Ancon Shearfix is used within a slab to provide additional reinforcement from punching shear around columns. The system consists of double-headed steel studs welded to flat rails and is designed to suit the load conditions and slab depth at each column using our free calculation software.

Reinforcing Bar Couplers

The use of reinforcing bar couplers can provide significant advantages over lapped joints. Design and construction of the concrete can be simplified and the amount of reinforcement can be reduced. The Ancon range includes parallel-threaded, tapered-threaded and mechanically-bolted couplers.

Reinforcing Continuity Systems

Ancon Eazistrip is approved by UK CARES and consists of bent bars housed in a galvanised steel casing. Once installed, the protective cover is removed and the bars are straightened, ready for joining to the slab reinforcement. Alternatively, Ancon KSN Anchors are cast into the wall and, when the formwork and thread protection are removed, Bartec Plus threaded rebars are simply screwed into the anchors.

Insulated Balcony Connections

Thermally insulated Ancon connectors minimise heat loss at balcony locations while maintaining structural integrity. They provide a thermal break and, as a critical structural component, transfer moment, shear, tension and compression forces. Standard solutions are available for concrete-to-concrete, steel-to-concrete and steel-to-steel interfaces.

Contact Leviat locally

For more information on the products featured here, please contact Leviat:

United Kingdom

Sheffield
President Way,
President Park,
Sheffield S4 7UR
Tel: +44 - 114 275 5224
Email: info.uk@leviat.com

Contact Leviat worldwide

Australia
98 Kurrajong Avenue,
Mount Druitt, Sydney, NSW 2770
Tel: +61 - 2 8808 3100
Email: info.au@leviat.com

Austria
Leonard-Bernstein-Str. 10
Saturn Tower, 1220 Wien
Tel: +43 - 1 - 259 6770
Email: info.at@leviat.com

Belgium
Industrielaan 2
1740 Ternat
Tel: +32 - 2 - 582 29 45
Email: info.be@leviat.com

China
Room 601 Tower D,
Vantone Centre
No. A6 Chao Yang Men Wai Street
Chaoyang District
Beijing P.R. China 100020
Tel: +86 - 10 5907 3200
Email: info.cn@leviat.com

Czech Republic
Business Center Šafránkova
Šafránkova 1238/1
155 00 Praha 5
Tel: +420 - 311 - 690 060
Email: info.cz@leviat.com

Finland
Vädursgatan 5
412 50 Göteborg / Sweden
Tel: +358 (0)10 6338781
Email: info.fi@leviat.com

France
6, Rue de Cabanis
FR 31240 L'Union
Toulouse
Tel: +33 - 5 - 34 25 54 82
Email: info.fr@leviat.com

Germany
Liebigstrasse 14
40764 Langenfeld
Tel: +49 - 2173 - 970 - 0
Email: info.de@leviat.com

India
309, 3rd Floor
Orion Business Park
Ghodbunder Road
Kapurbawdi, Thane West,
Thane, Maharashtra 400607
Tel: +91 - 22 2589 2032
Email: info.in@leviat.com

Italy
Via F.lli Bronzetti 28
24124 Bergamo
Tel: +39 - 035 - 0760711
Email: info.it@leviat.com

Malaysia
28 Jalan Anggerik Mokara 31/59
Kota Kemuning,
40460 Shah Alam Selangor
Tel: +603 - 5122 4182
Email: info.my@leviat.com

Netherlands
Oostermaat 3
7623 CS Borne
Tel: +31 - 74 - 267 14 49
Email: info.nl@leviat.com

New Zealand
2/19 Nuttall Drive, Hillsborough,
Christchurch 8022
Tel: +64 - 3 376 5205
Email: info.nz@leviat.com

Norway
Vestre Svanholmen 5
4313 Sandnes
Tel: +47 - 51 82 34 00
Email: info.no@leviat.com

Philippines
2933 Regus, Joy Nostalg,
ADB Avenue, Ortigas Center
Pasig City
Tel: +63 - 2 7957 6381
Email: info.ph@leviat.com

Poland
Ul. Obornicka 287
60-691 Poznań
Tel: +48 - 61 - 622 14 14
Email: info.pl@leviat.com

Singapore
14 Benoi Crescent
Singapore 629977
Tel: +65 - 6266 6802
Email: info.sg@leviat.com

Spain
Polígono Industrial Santa Ana
c/ Ignacio Zuloaga, 20
28522 Rivas-Vaciamadrid
Tel: +34 - 91 632 18 40
Email: info.es@leviat.com

Sweden
Vädursgatan 5
412 50 Göteborg
Tel: +46 - 31 - 98 58 00
Email: info.se@leviat.com

Switzerland
Grenzstrasse 24
3250 Lyss
Tel: +41 (0)800 22 66 00
Email: info.ch@leviat.com

United Arab Emirates
RA08 TB02, PO Box 17225
JAFZA, Jebel Ali, Dubai
Tel: +971 (0)4 883 4346
Email: info.ae@leviat.com

United Kingdom
President Way,
President Park,
Sheffield S4 7UR
Tel: +44 - 114 275 5224
Email: info.uk@leviat.com

USA / Canada
6467 S Falkenburg Road
Riverview, FL 33578
Tel: (800) 423-9140
Email: info.us@leviat.us

For countries not listed
Email: info@leviat.com

Leviat®
A CRH COMPANY

Imagine. Model. Make.

Leviat.com