

Installation Guide

Ancon E-HLD Dowel Installation using Ancon Two Part Resin (FIS V 360 S)

The Ancon E-HLD joins new concrete slabs to existing concrete walls. It is designed to transfer shear load where new slabs are connected to diaphragm walls or secant pile walls in basement construction. The E-HLD comprises a stainless steel dowel and Ancon two-part resin is required to install the dowel component.

Pre-installation Notes/Checks

The quantity of resin cartridges required will depend on dowel diameter and number being fixed. Dowel installation to be carried out under the supervision of the person responsible for technical matters on site. Checks must be carried out prior to the installation of the male dowel to ensure the placed concrete matches the design concrete strength and that the temperature is within the permitted range for injection of the resin (see Table 2). Checks must be carried out to ensure the concrete is well compacted and free from significant voids. In the case of aborted holes, these must be filled with an appropriate non-shrink grout of equal or greater compressive strength than the surrounding concrete. Drilling by hammer drill, compressed air drill and diamond drill are suitable methods.

Table 1

E-HLD Male Dowel Dia. (mm)	18	22	24	30	35	42	52
Overall Dowel Length (mm)	270	300	330	350	400	470	570
Max Hole Dia. In Concrete (mm)	23	27	29	35	40	47	57
Hole Depth (mm)	130	155	170	180	205	240	290
Approx number of dowels per 360ml cartridge	16	10	9	6	4	3	2

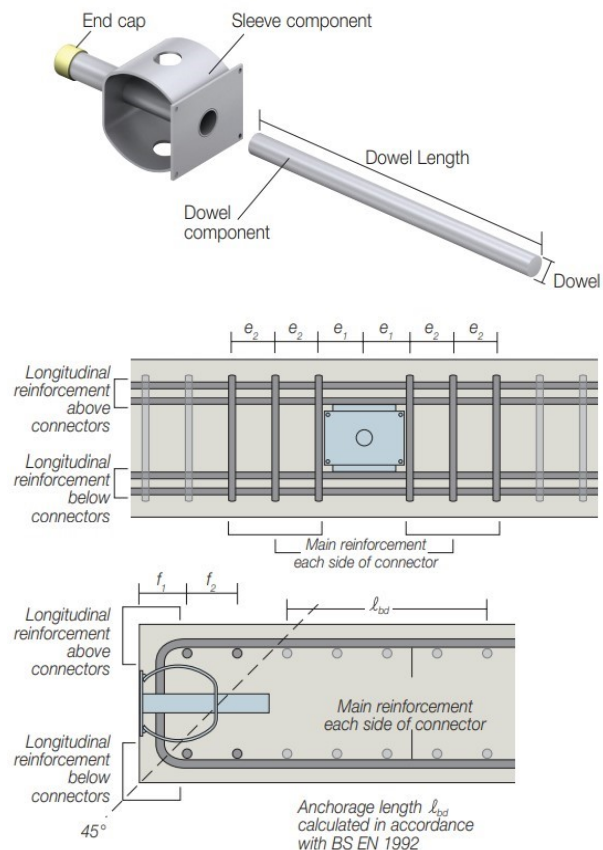
Table 2

Concrete Temperature Range	Min. Curing Time	Working/ Processing Time
-5°C to ± 0°C	24hr	
≥ 0°C to + 5°C	180 mins	13 mins
≥ + 5°C to + 10°C	90 mins	9 mins
≥ + 10°C to + 20°C	60 mins	5 mins
≥ + 20°C to + 30°C	45 mins	4 mins
≥ + 30°C to + 40°C	36 mins	2 mins

For wet concrete and flooded holes the curing time must be doubled.

Reinforcement Details

Local reinforcement is required around the sleeve component 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 Ancon E-HLDs attain their published capacity. The tables below show proposals for the type and spacing of the main reinforcement, together with details of reinforcement above and below the connectors.



Installation Procedure

The recommended wall reinforcement around the dowel bar is 12mm diameter, installed at 150mm vertical and horizontal centres. For advice on other configurations, please contact us.

1. Drill a hole of appropriate diameter and depth (see Table 1)

2. Remove standing water and debris from the hole using oil free compressed air. To ensure hole is free of water and debris, blow out four times.

3. Clean the drill hole four times using an adequate steel brush and a drill, using an extension for deep holes. Repeat the blowing procedure.

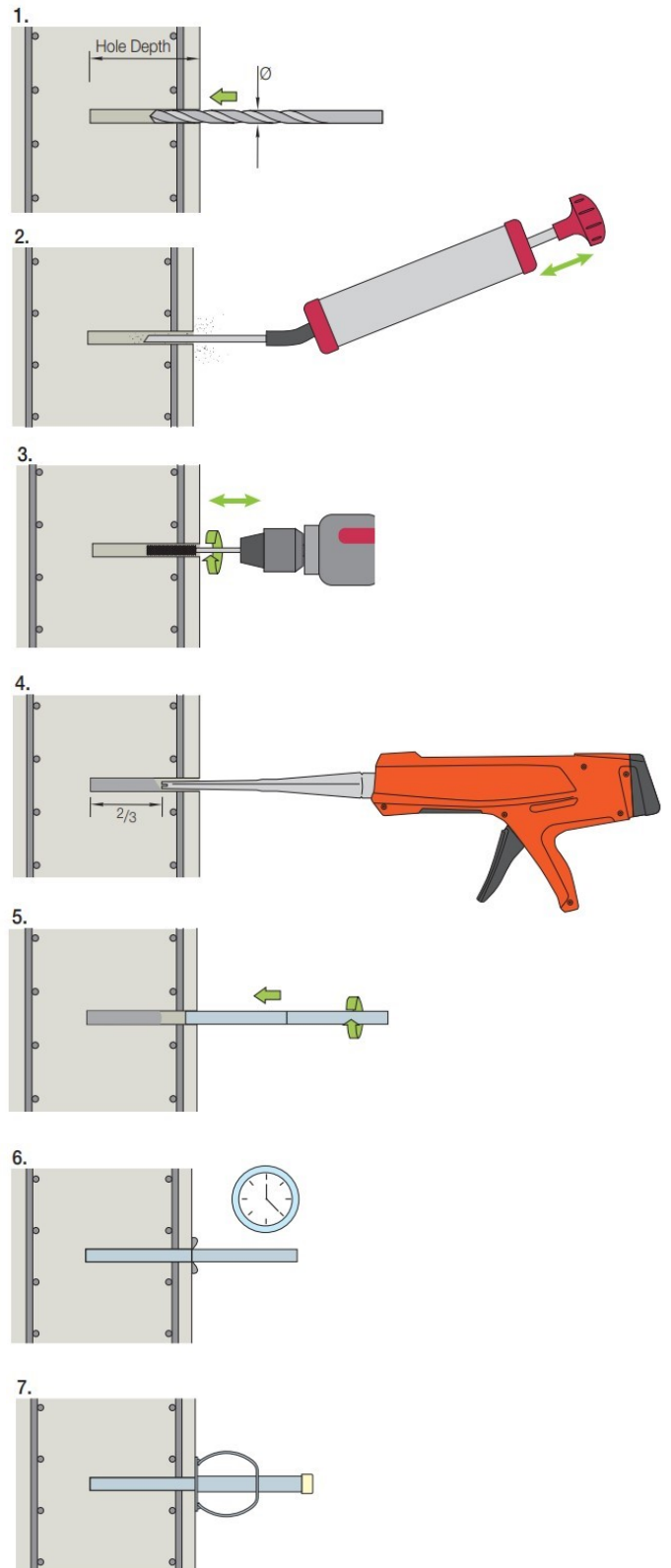
4. Twist the cartridge sealing cap to the left and pull it off. Insert the static mixer and turn to the right to lock in place. The spiral mixer in the static mixer must be clearly visible. Place the cartridge in the dispenser and press to extrude approximately 10cm of resin until it is a consistent grey colour. Resin that is not grey will not cure and should be disposed of.

Using the extension tube, inject approx. 2/3 of the drill hole with resin. Fill from the bottom of the hole to eliminate voids. If an excessive amount of resin emerges after inserting the dowel, adjust the amount accordingly.

5. Use clean, oil-free E-HLD dowel bars. Mark the dowel with the appropriate embedment depth (see Table 1). Press the dowel to the bottom of the hole, turning it firmly while doing so. After inserting the dowel, excess resin must emerge around the dowel element.

6. Do not touch the dowel until the appropriate cure time is reached (see Table 2).

7. Once the resin reaches full strength push the female E-HLD sleeve over the exposed end of the dowel. The required local reinforcement should be installed around the E-HLD sleeve, ensuring that the correct cover is maintained. The concrete is cast to complete the installation.



The Construction applications and details provided in this guide are indicative only. In every case installation should be entrusted to appropriately qualified and experienced persons. Normal handling precautions should be taken to avoid physical injury. The company cannot be held responsible for any injury as a result of using our products, unless such injury arises as a result of our negligence.

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