SL-DECK
INSTALLATION MANUAL

abeo®

INSTALLATION OF SL-DECKS IN STANDARD WIDTHS OF 2400MM

HOOKING, LIFTING AND INSTALLATION:

All SL-decks are delivered with 4 cast-in lifting anchors used for hooking the slabs. Cast-in lifting anchors are generally located at the edges of each slab. The lifting anchors are embedded in longitudinal grooves in the slab.

The lifting anchors are immersed from the element surface and can be cast out after erection. No subsequent removal is necessary.

The hook distance between the lifting anchors are adjusted while hooking. Ensure that the resulting top angle of the erection chains does not exceed 60 degrees.

Slabs with inclined edges, openings etc. can conveniently have lifting anchors placed asymmetrically, so they are not located directly opposite one another. In this case, lifting chains are applied, which ensure a horizontally hanging slab and an equally distributed load among the 4 chains. This is achieved by adjusting the respective chain lengths with length reducing hooks and triangle plates.

SUPPORTS:

Attainment of the prescribed support depths has to be ensured for all decks. The minimal support depth of SL-decks is 55 mm.

OPENINGS:

SL-decks with large openings resulting in less favorable support conditions can potentially tilt if an unsupported corner is exposed to a liveload during erection, e.g. by persons. Hence, any critically unsupported corner should be temporarily supported during erection. Please note that special erection tools are applied when lifts are not located opposite one another. The temporary support can only be removed after all joints have been reinforced and grouted, and when the necessary concrete strength of the grouting material has been attained.

TEMPORARY SUPPORTS:

The accompanying note for the numbering plan will display whether temporary supports are required. The supports should be designed for potential load on slabs during erection, and it must be ensured that the supporting structure/terrain can take the resulting load without any risk of deformation.

The temporary supports and fences are not to be removed until the slab has been fully installed and the structure has reached the necessary strength.

CANTILEVERED SLABS:

SL-decks that are cantilevered after erection may NEVER be lifted from the future cantilevered section, as the slabs are not reinforced for this purpose. The lifting anchors which are embedded in the slabs must always be used. Furthermore, diversion from the prescribed lifting plan can cause undesirable tilting of the slab. The cantilevered section should therefore be supported by 2 element supports during erection. This will appear on the number plan where necessary.

CANTILEVERED SIDES:

SL-decks with cantilevered sides risk an undesirable tilting of the slab. The cantilevered section should therefore be supported by 2 element supports during erection. This will appear on the number plan where necessary.

LOADING:

Avoid overloading erected slabs. Be aware that SL-decks will not attain full bearing capacity before they are fully joined with neighboring slabs.

INCLINED EDGES:

Due to camber at delivery, SL-decks will be supported at the end of each slab. Any wrongfully unsupported sections must be instantly rectified as the designed support conditions must be attained during erection.

GENERAL:

After erection of SL-decks and before casting, any potential differential camber properties between adjoining elements are inspected. Any undesirable differences can be rectified by increasing the support heights or by moderately pressing up or loading the slabs.

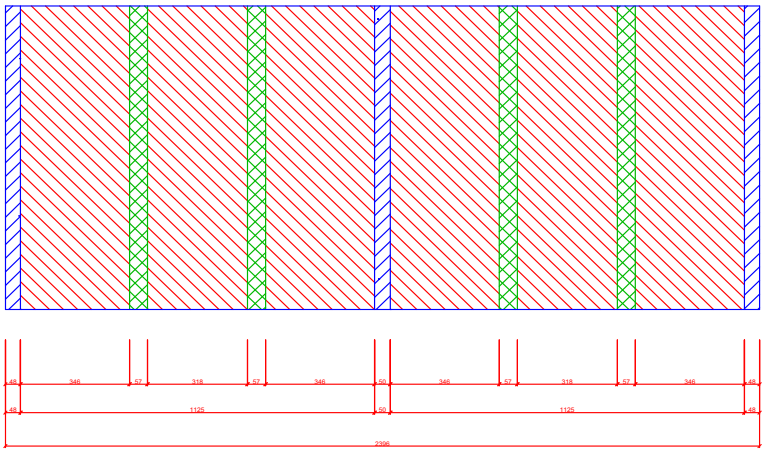
Provided that major recesses or openings in the slabs are desired after erection, a diamond drill is to be used, as hammer tools can damage the slabs due to the prestressing of the slabs. Location of tendons and rebars must be respected while drilling in SL-decks.

DRILLING AND ATTACHMENTS IN THE UNDERSIDE:

Attachments to the bottom side of the SL-deck can be carried out with a variety of solutions depending on the intended load. The illustration below shows a specification of the bottom side material composition.

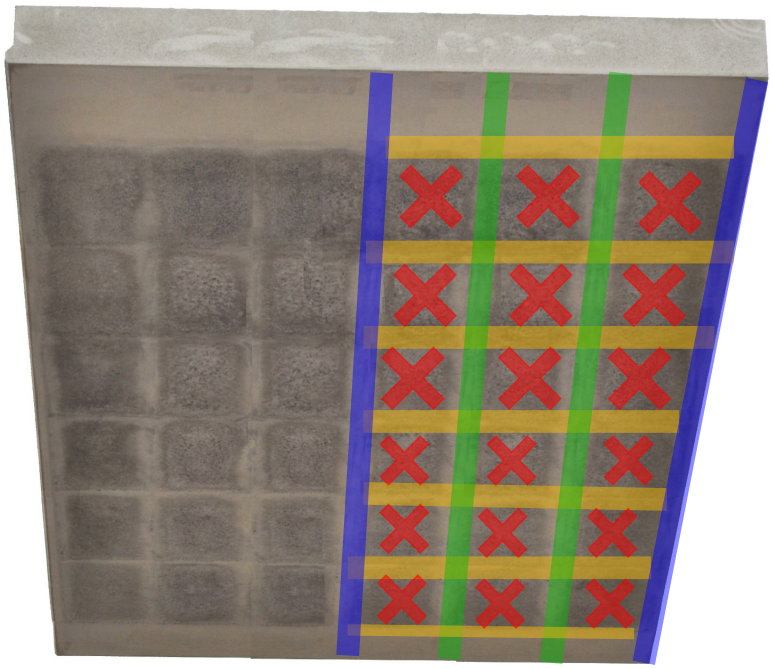
For attachments to zones with light aggregate concrete (LAC), please refer to the document “Pull-Out Test in LAC Zones in SL-Decks” on the Downloads-section of the webpage.

Specification of material composition and location of reinforcement



Underside of SL-decks - attachment zones

Visual illustration of material composition and location of reinforcement



Zone with LAC concrete – refer to instruction for attachments in LAC blocks

Ordinary concrete + prestressed strands around 42mm

20-30mm LAC concrete, then ordinary concrete + mild reinforcement around 52mm

20-30mm LAC concrete, then ordinary concrete + prestressed strand around 60mm

Grey areas in the ends are solid concrete

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