Installing KK Lifting System

DESIGNERS | PRECAST PLANTS | USERS

The KK Lifting System components are installed either on the construction site or in a precast plant. KK Accessories should be used to facilitate the installation process. Lubricating the KK FR outside and inside prevents concrete or dust pollution from affecting the recess item.

Ensure that the surroundings and environmental conditions are dry and clean for installation. Environmental pollution of all kinds should be avoided or minimized at all times. For easier removal, all installation items, such as KK FR or KK FM, should be lubricated.

The following must be taken into account prior to installing any type of lifting system:

- All workers fulfill the requirements of the documentation and are familiar with it
- The limitations of applications and restrictions are known
- The design assumptions are defined and known

During installation of any type of lifting system, the installation tolerances specified by the manufacturer must be complied with. The installation tolerances for vertical and horizontal positions are given in *Figure 29*, which shows that the insert can incline a maximum of 2.5° in either direction and angle tolerance must remain within 5° of tolerance towards the insert axis.

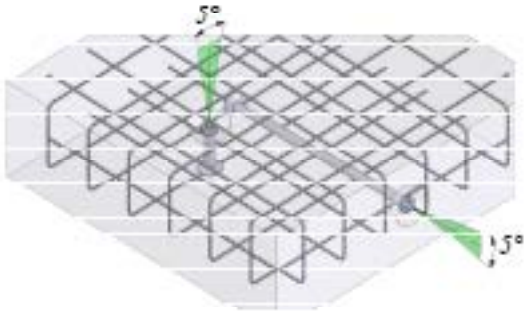
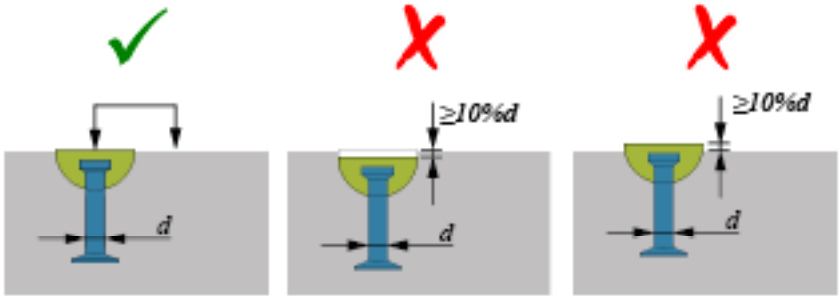


Figure 29. Angle tolerances for installation.

Installation into concrete elements requires the insert to stay in its initial position. If the insert moves out of place, *Table 19* defines the permitted installation tolerances for all inserts.

Table 19. Installation tolerances for KK Lifting Inserts.

Load Class	10% of d [mm]
1.3	±1.0
2.5	±1.4
4.0	±1.8
5.0	±2.0
7.5	±2.4
10.0	±2.8
15.0	±3.4
20.0	±3.8
32.0	±5.0



PLEASE NOTE:
The tolerances given in *Table 19* are to be considered for recessed installation with KK FR and KK FM.

For installation purposes, no special marking accessories must be used. The insert is to be fixed into the formwork using Installation Accessories (KK FR or KK FM). The rotation symmetric shape of the fixing items and inserts facilitates installation. No special assembly direction need be considered.

KK 1.3 – 32.0, KKR 1.3 – 15.0

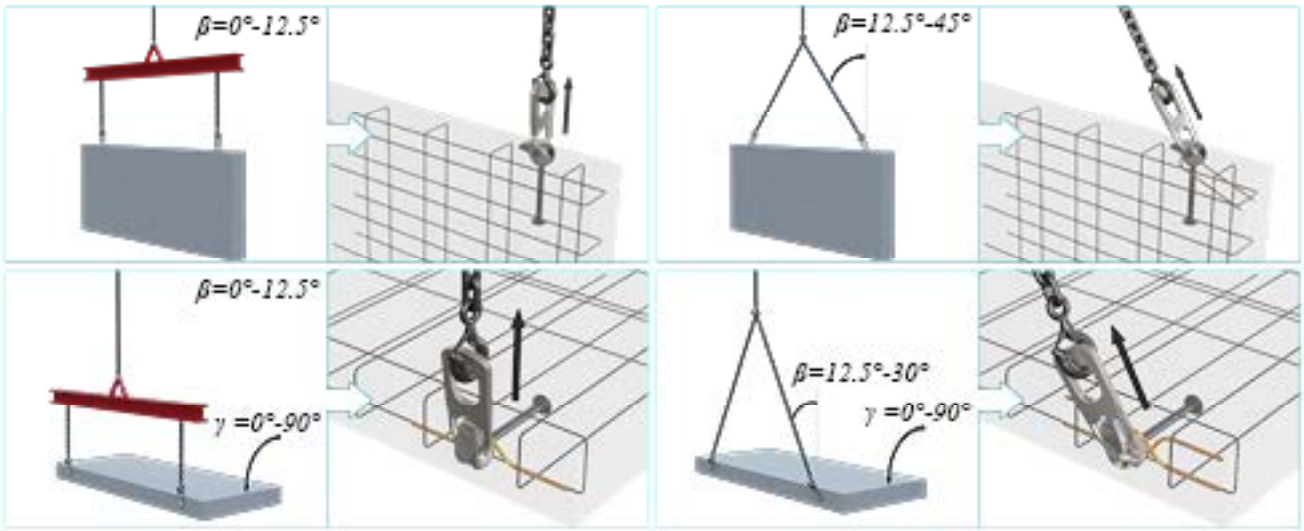
1. Selection

Load Class [t]	KK FR Color
1.3	Blue
2.5	Yellow
5.0	Blue
7.5	Red

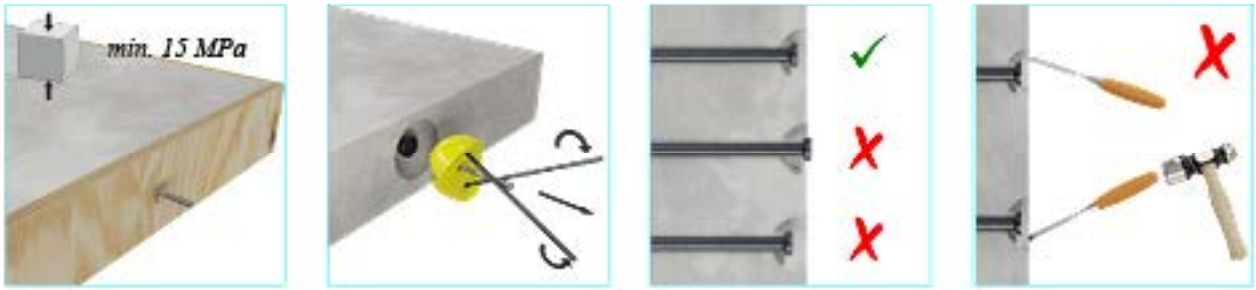
Load Class [t]	KK FR Color
10.0	Yellow
15.0	Gray
20.0	Black
> 32.0	Gray

2. Installation

3. Reinforcement

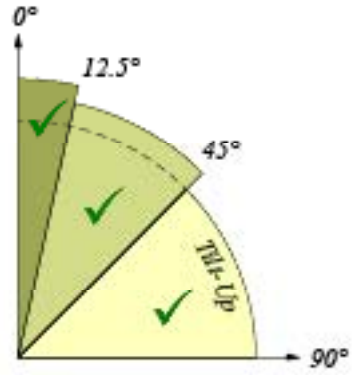


4. Casting

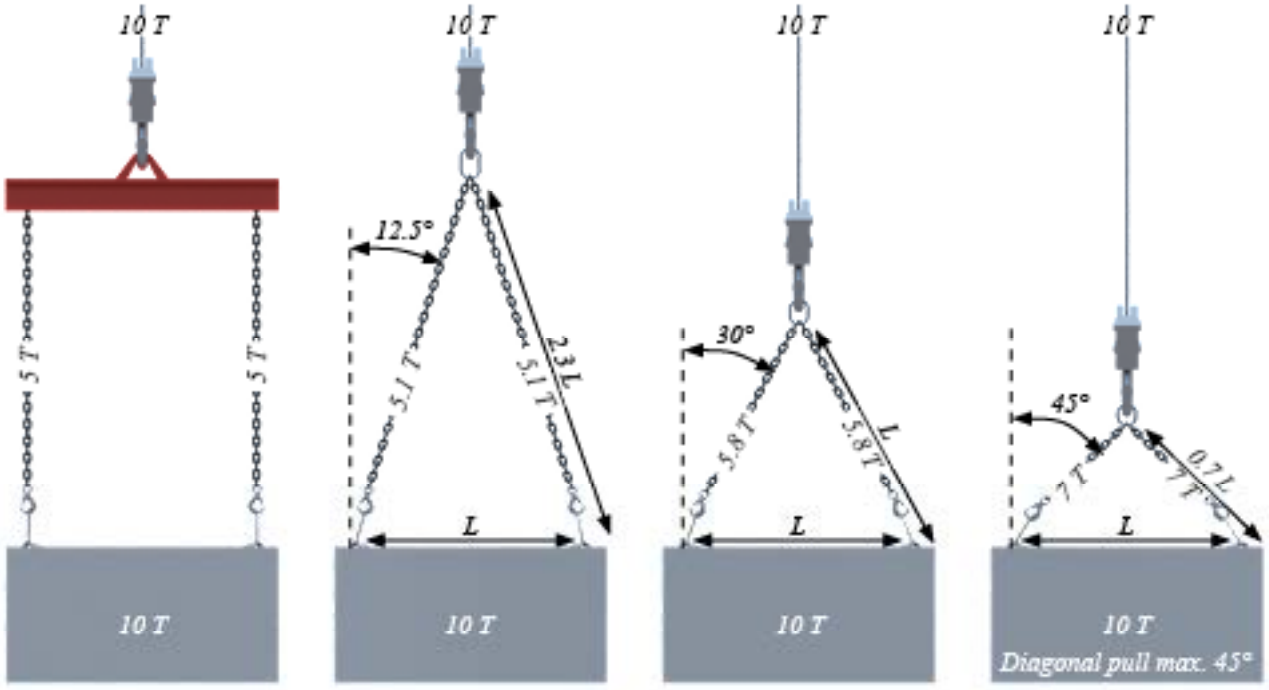


KK 1.3 – 32.0, KKR 1.3 – 15.0

5. Lifting



6. Lifting angle influence



KK SW 1.3 – 20.0 and KKR SW 7.5 – 20.0

1. Selection

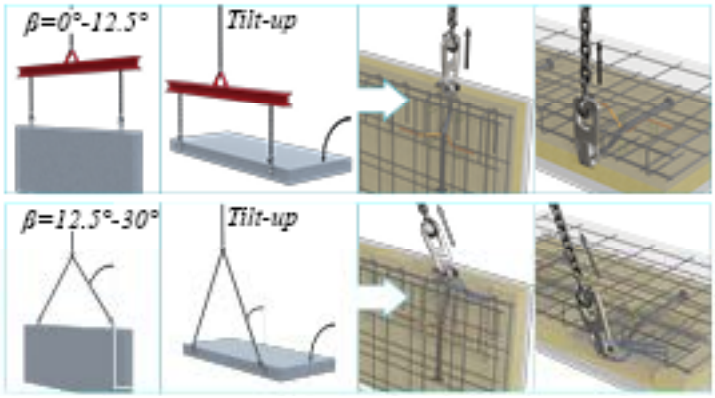
Load Class [t]	KK FR Color
1.3	Blue
2.5	Yellow
5.0	Blue
7.5	Red

Load Class [t]	KK FR Color
7.5	Red
10.0	Yellow
15.0	Gray
20.0	Black

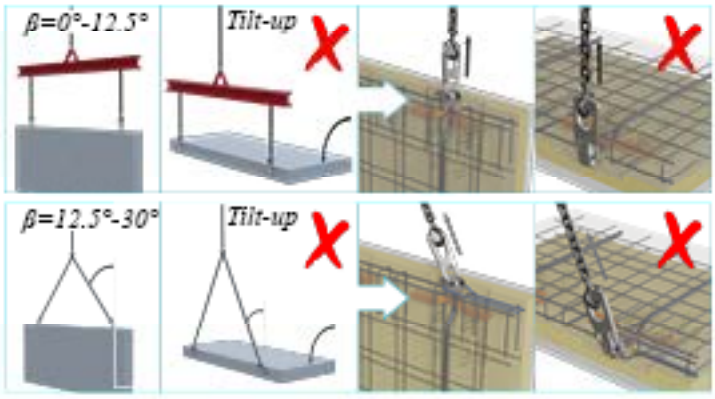
2. Installation

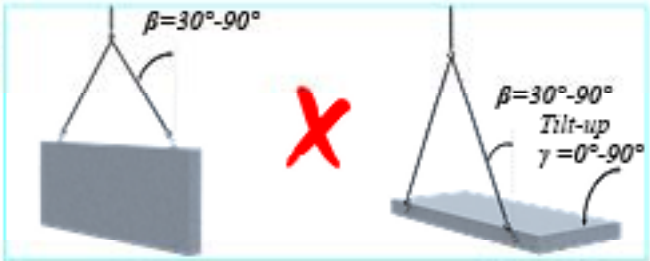
3. Reinforcement

KK SW



KKR SW

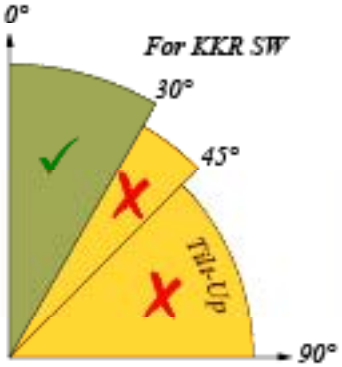


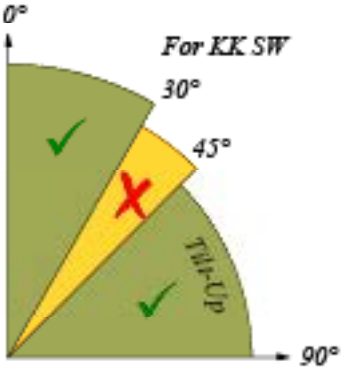


KK SW 1.3 – 20.0 and KKR SW 10.0 – 20.0

4. Casting

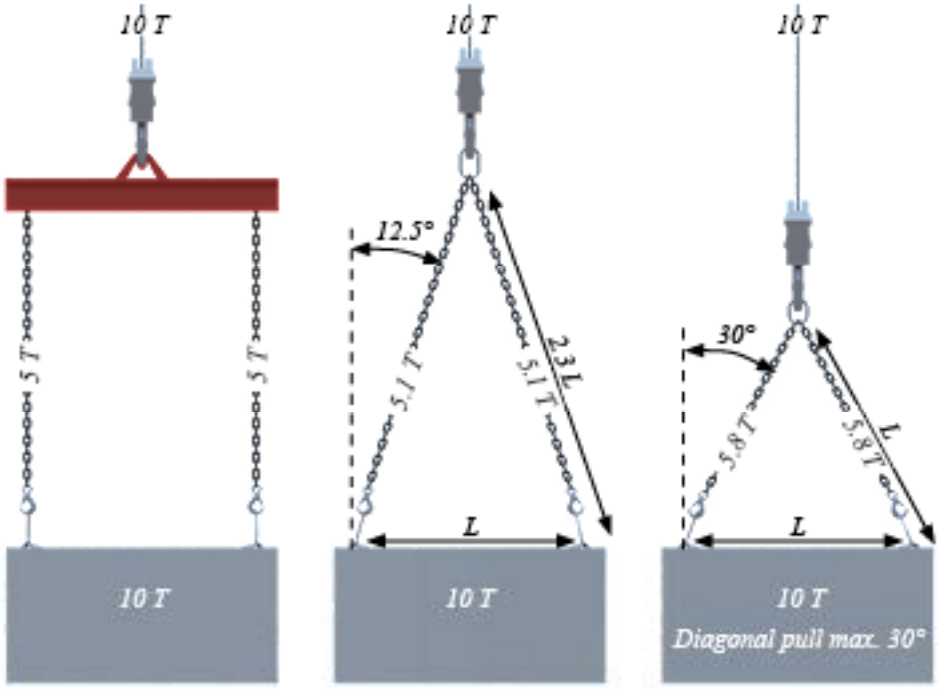
5. Lifting





β= 0° - 12.5° for KK SW
β= 12.5° - 30° with Corbel for KK SW
β= 0° - 30° for KKR SW

6. Lifting angle influence



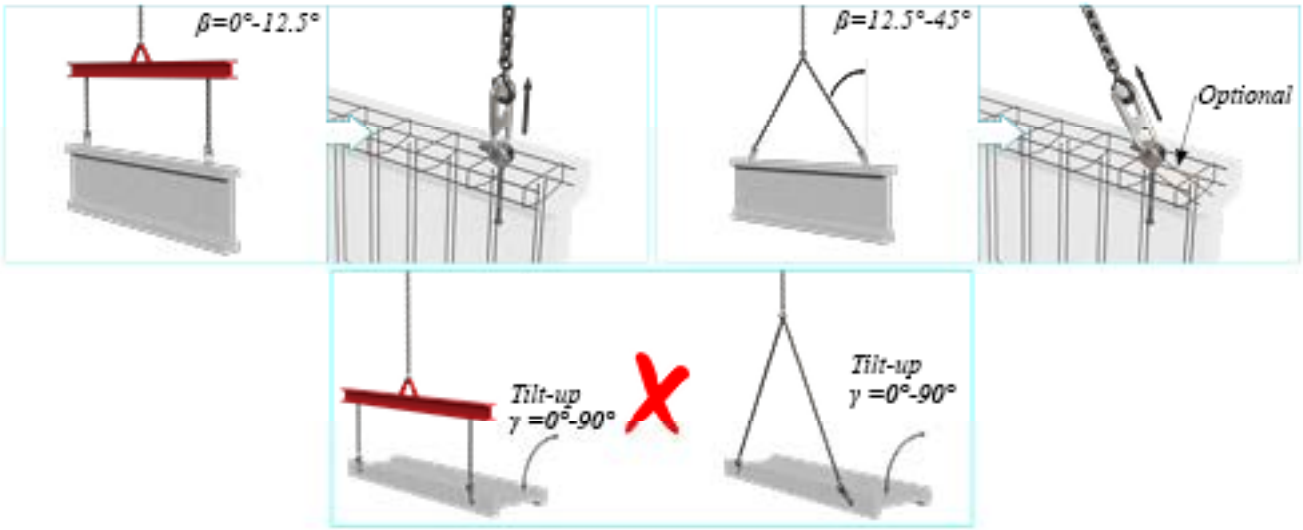
KKD 15.0 – 20.0

1. Selection

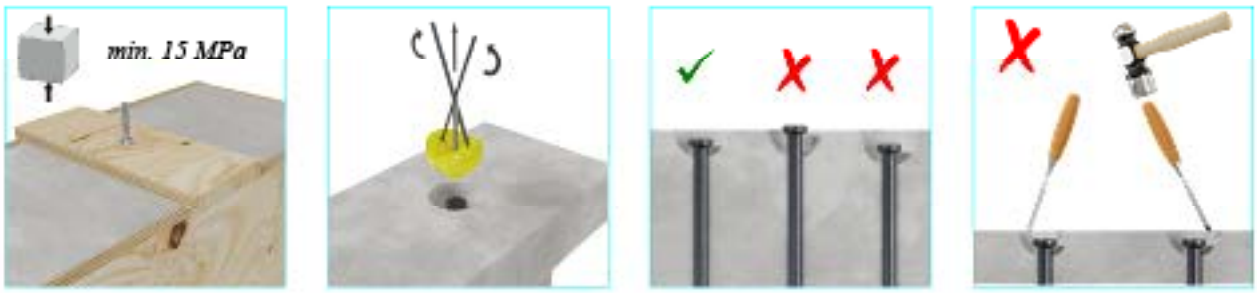
Load Class [t]	KK FR Color
15.0	Gray
20.0	Black

2. Installation

3. Reinforcement

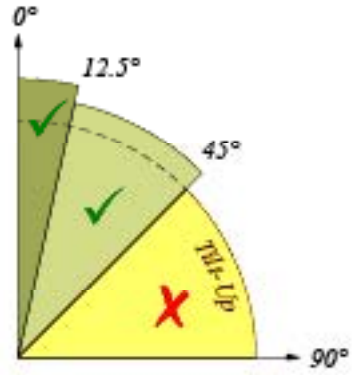


4. Casting

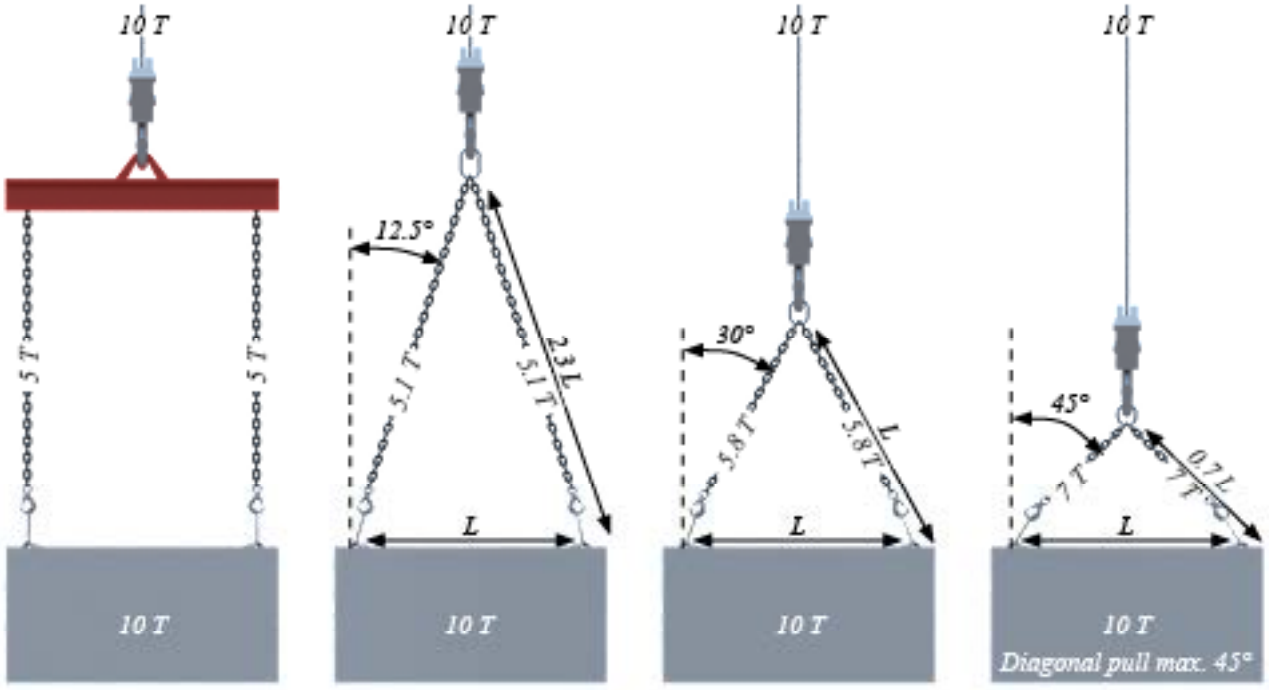


KKD 15.0 – 20.0

5. Lifting



6. Lifting angle influence



KK Short 1.3 – 32.0

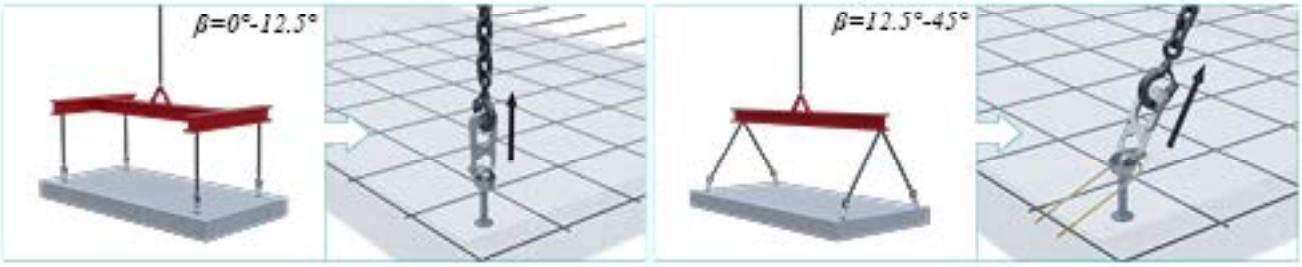
1. Selection

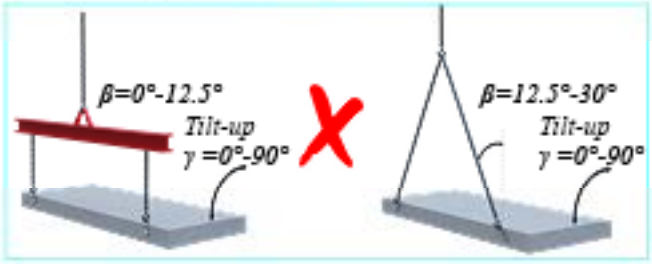
Load Class [t]	KK FR Color
1.3	Blue
2.5	Yellow
5.0	Blue
7.5	Red

Load Class [t]	KK FR Color
10.0	Yellow
15.0	Gray
20.0	Black
> 32.0	Gray

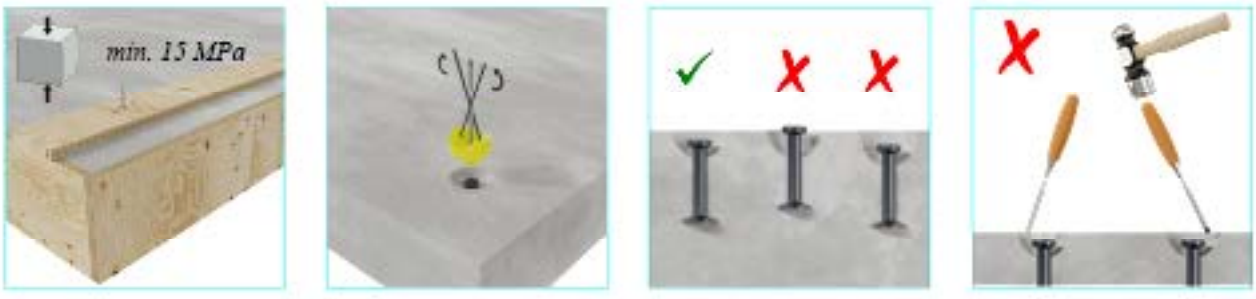
2. Installation

3. Reinforcement



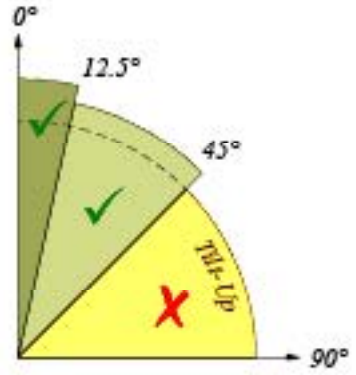


4. Casting

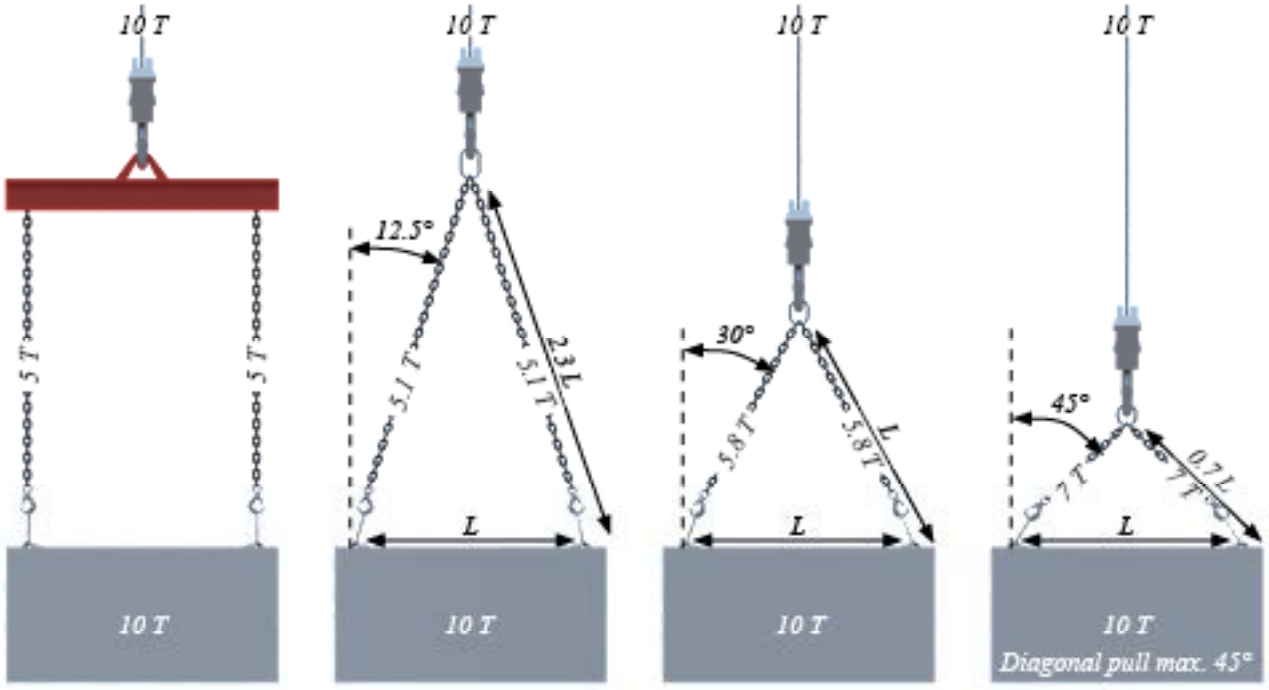


KK Short 1.3 – 32.0

5. Lifting



6. Lifting angle influence



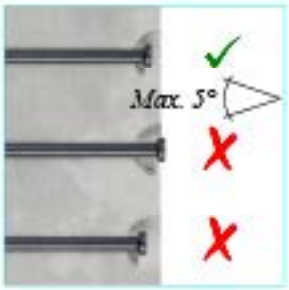
KKL 1.3 – 32

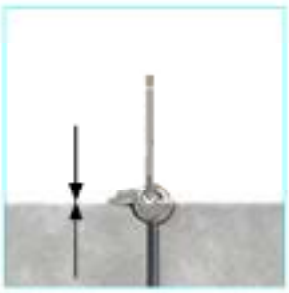
1. Selection

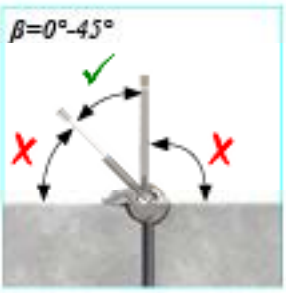
Load Class [t]	KK FR Color
1.3	Blue
2.5	Yellow
5.0	Blue
7.5	Red

Load Class [t]	KK FR Color
10.0	Yellow
15.0	Gray
20.0	Black
> 32.0	Gray

2. Installation

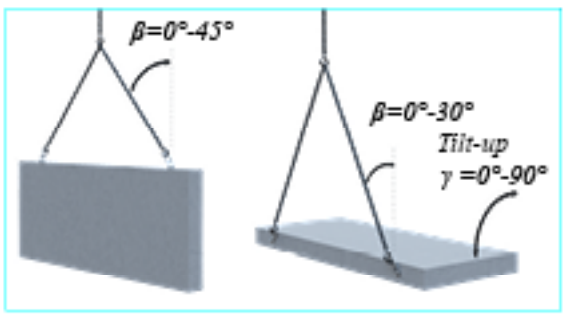




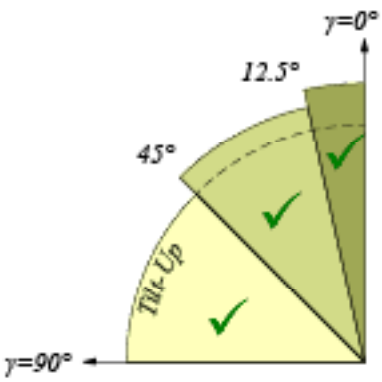


optional safety pin for applications to avoid self release

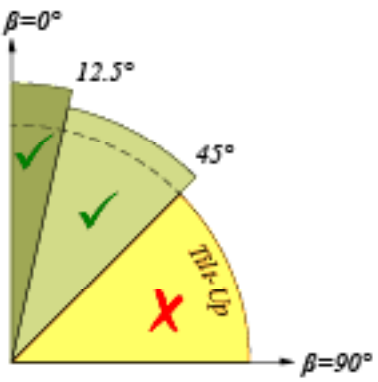
3. Lifting



Tilt-up process (β=max. 30°)

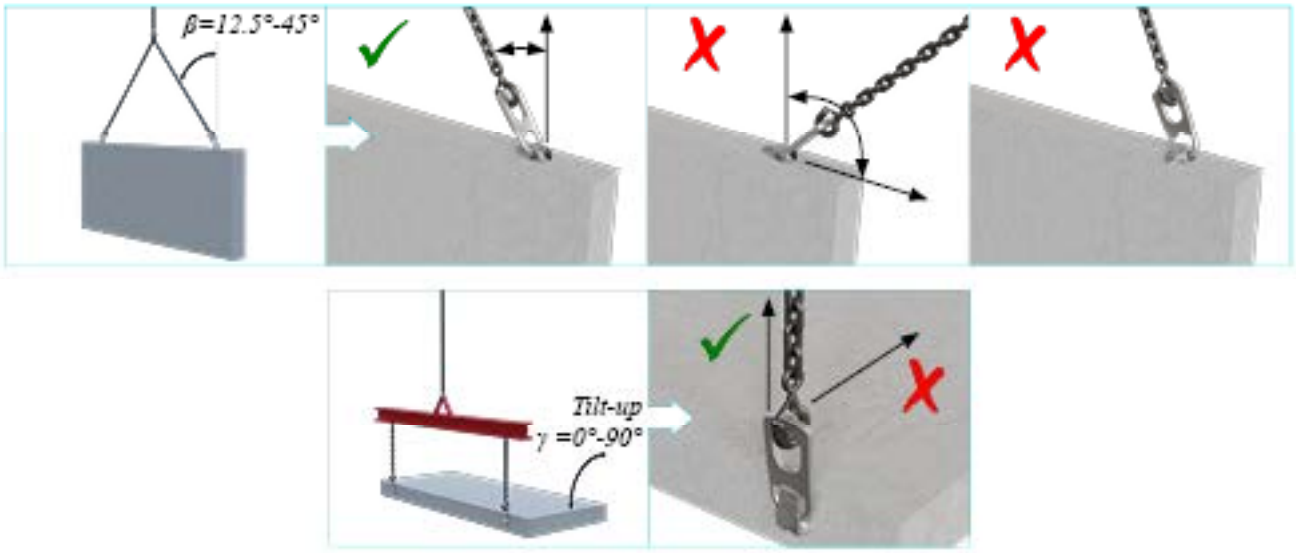


No Tilt-up process



KKL 1.3 – 32

4. Lifting examples



5. Lifting angle influence