

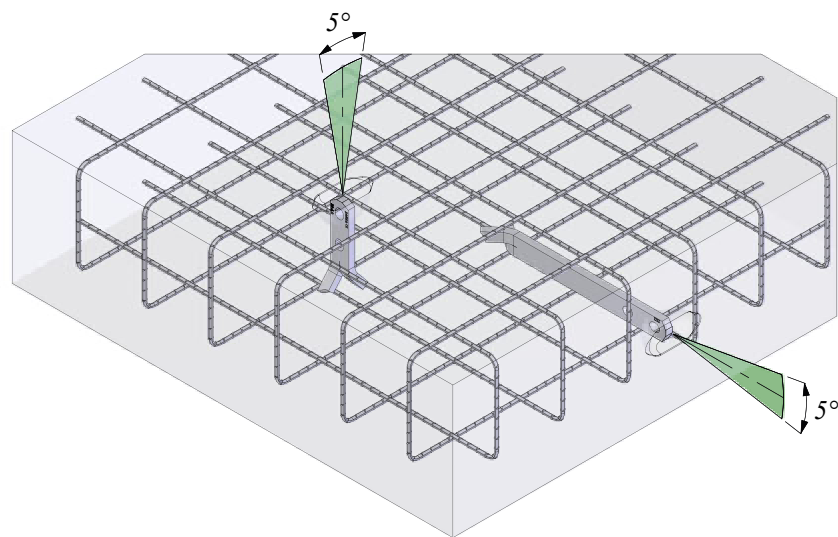
Installing RR Lifting System

RR Lifting System components are installed either on the construction site or in a precast plant. RR Lifting Accessories should be used to facilitate the installation process. Lubricating the outside and inside of recess items prevents concrete or dust pollution from affecting the usability. 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 RR-RF and RR-PF 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 56*, 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 56. 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 32* defines the permitted installation tolerances for all inserts.

Table 32. Installation tolerances for RR Lifting Inserts.

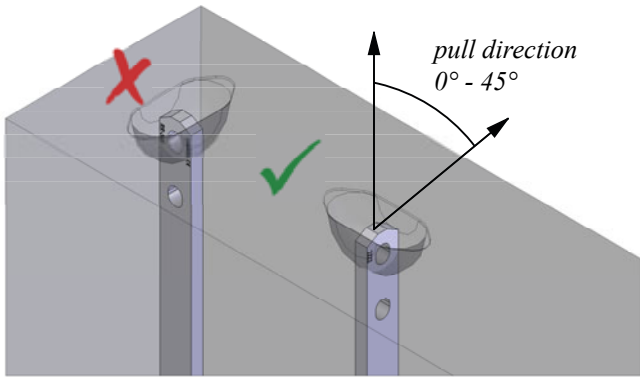
Load class	Tolerance "k" [mm]			
0.7 + 1.4	±1.0			
2.0 + 2.5	±1.5			
3.0+4.0+5.0	±2.0			
7.5 + 10.0	±2.5			
12.5 + 14.0	±3.0			
17.0 + 22.0 + 26.0	±4.0			



PLEASE NOTE:
The tolerances given in *Figure 56* are to be considered for recessed installation with RR-RF and RR-PF.

For installation purposes, no special marking accessories must be used. The insert is to be fixed into the formwork with installation accessories (RR-RF, RR-PF and RR-FS and RR-HP). The fixation items RR-HP and RR-FS facilitates installation. The oval shape of the recess item RR-RF and RR-PF requires a special assembly direction towards the pull as shown in *Figure 57*.

Figure 57. Correct assembly direction toward the pull.

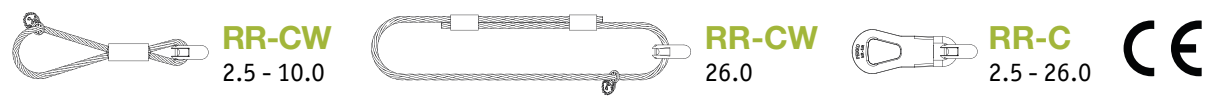


The oval recess geometry results in multiple hoisting directions, which are possible for the system. Be sure to have right installation direction when installation procedure happens. Consider the safe working loads and load directions according *Table 5* for RR-SA, *Table 7* for RR-HA, *Table 8* for RR-EA, and *Table 18* for RR-PA Lifting Inserts. The overview of possible load directions which results from installation procedure are given in *Table 33*.

Table 33. Possible load directions on RR Lifting Inserts resulting from installation.

Axial pull in direction of Lifting Insert axis	Lateral pull perpendicular to the Lifting Insert surface	Lateral pull parallel to the Lifting Insert surface	Diagonal pull, lateral component perpendicular to the Lifting Insert surface	Diagonal pull, lateral component parallel to the Lifting Insert surface

RR Lifting System



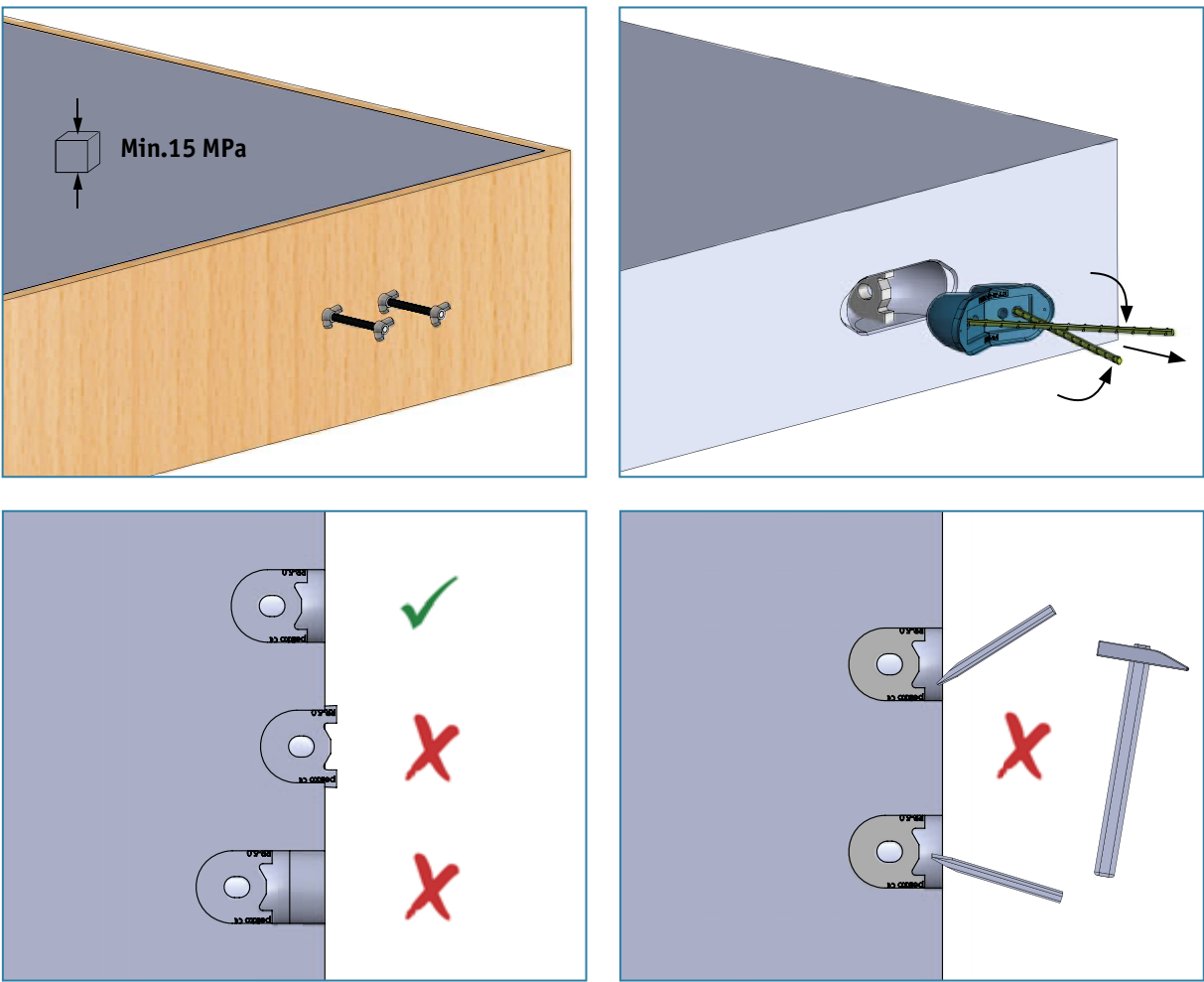
1. SELECTING

RF/PF

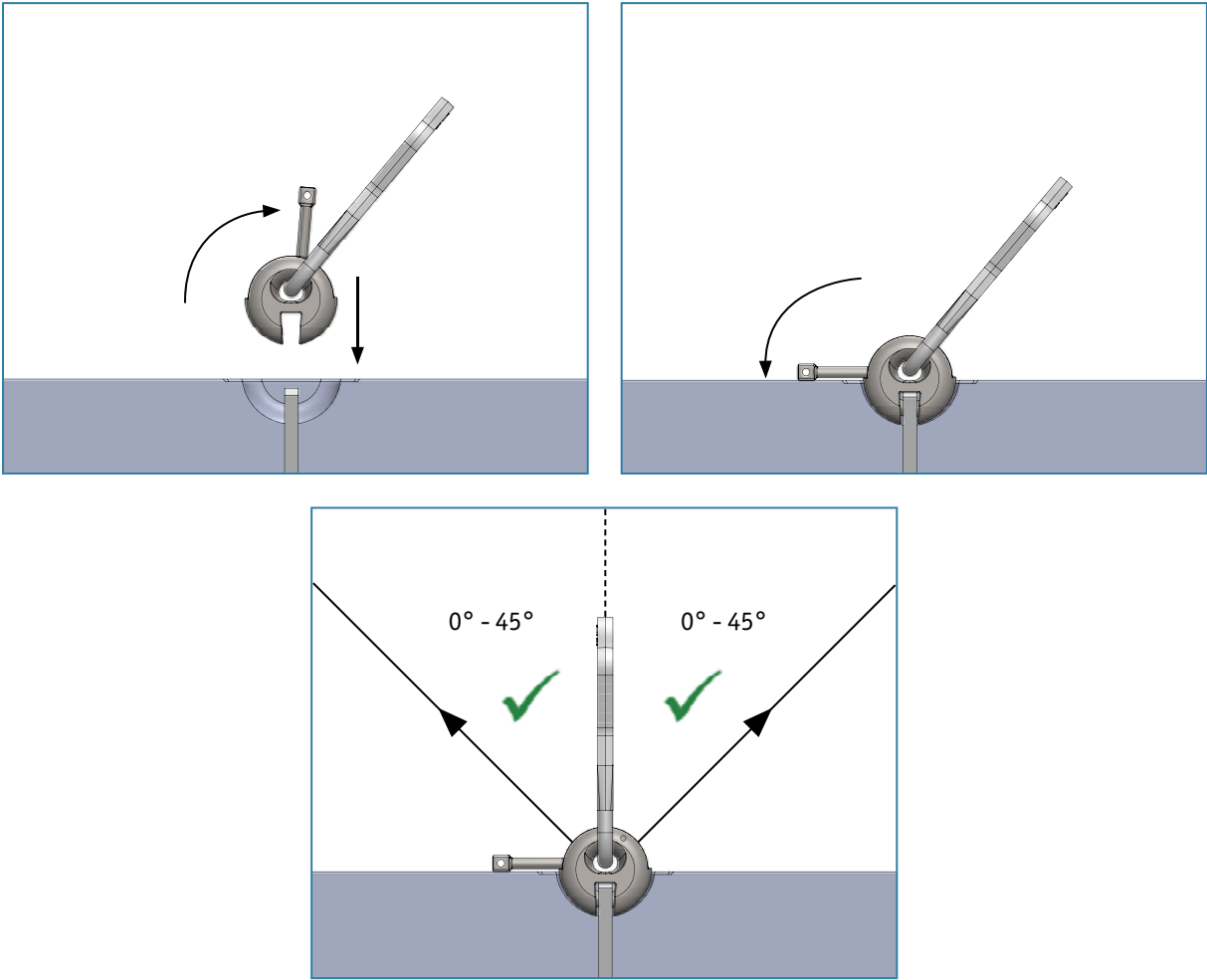
Type/Load
Manufacturer

Load Class [t]	RR-RF and RR-PF Colour
2.5	Orange
5.0	Black
10.0	Green
26.0	Blue

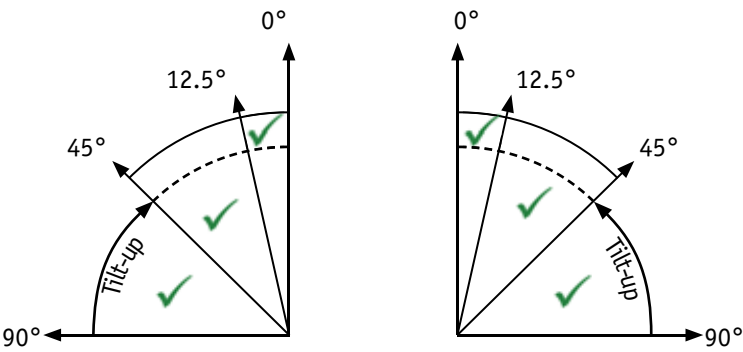
2. INSTALLATION



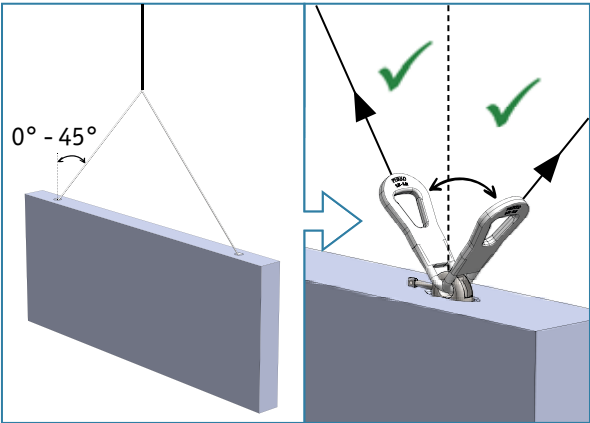
RR-CW, RR-C



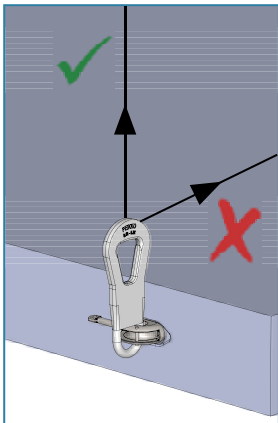
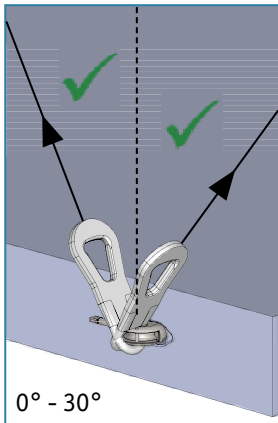
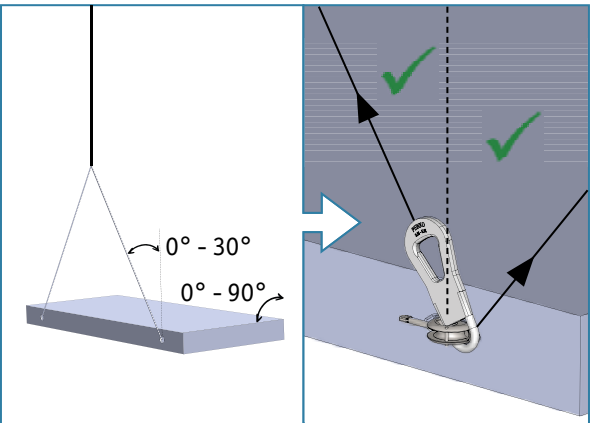
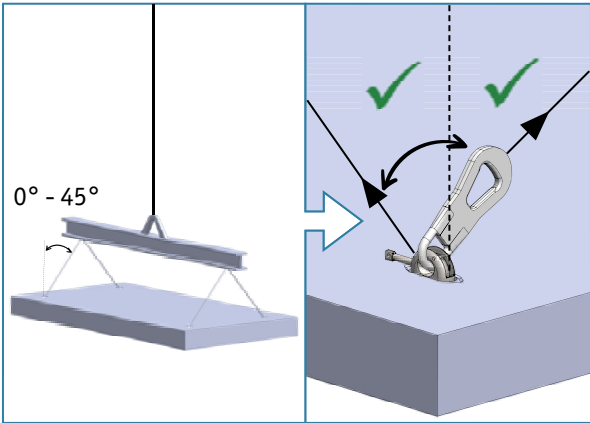
3. LIFTING



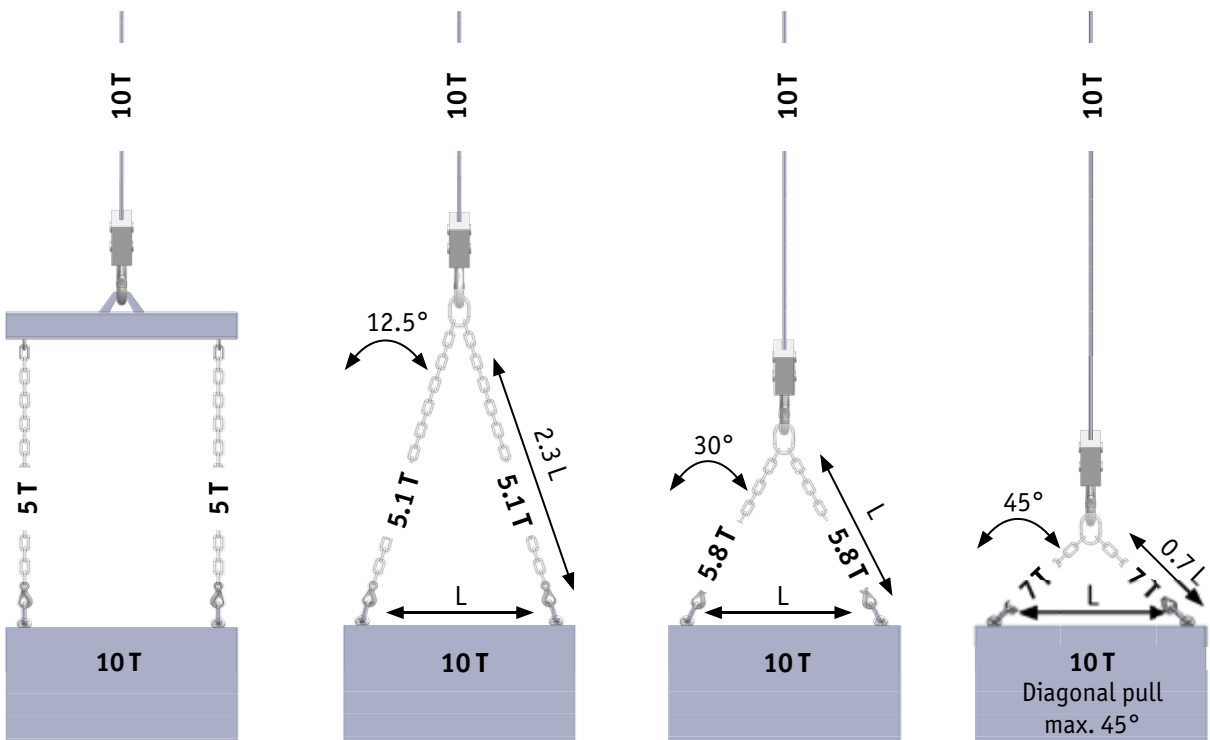
4. CASTING



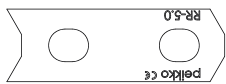
RR-CW, RR-C



5. LIFTING ANGLE INFLUENCE



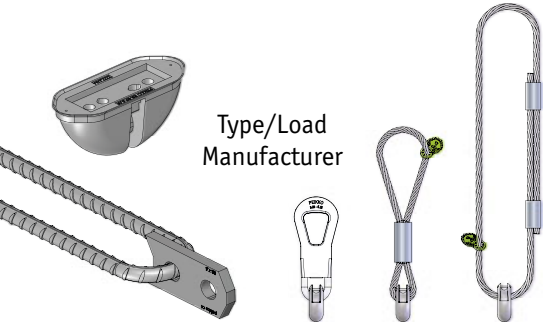
RR Lifting System



HA



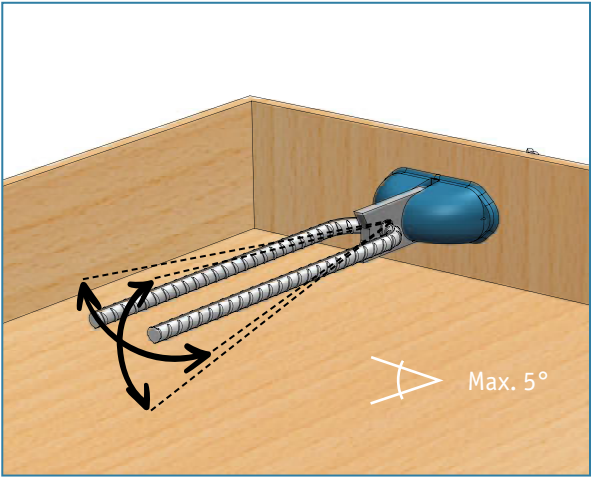
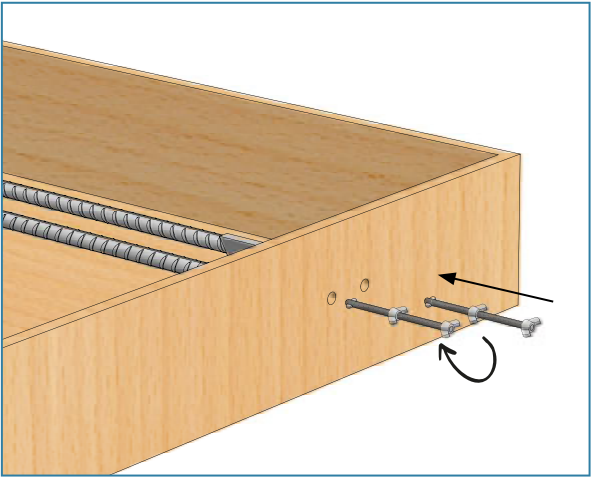
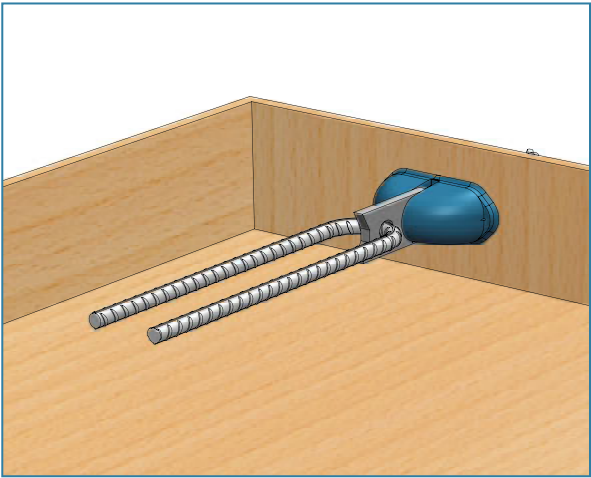
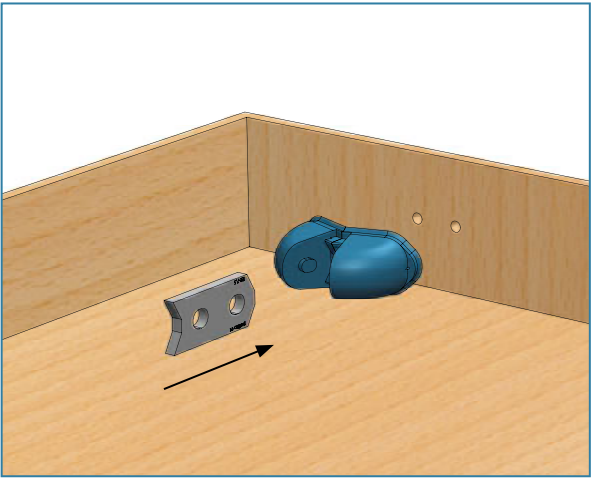
1. SELECTING



Type/Load
Manufacturer

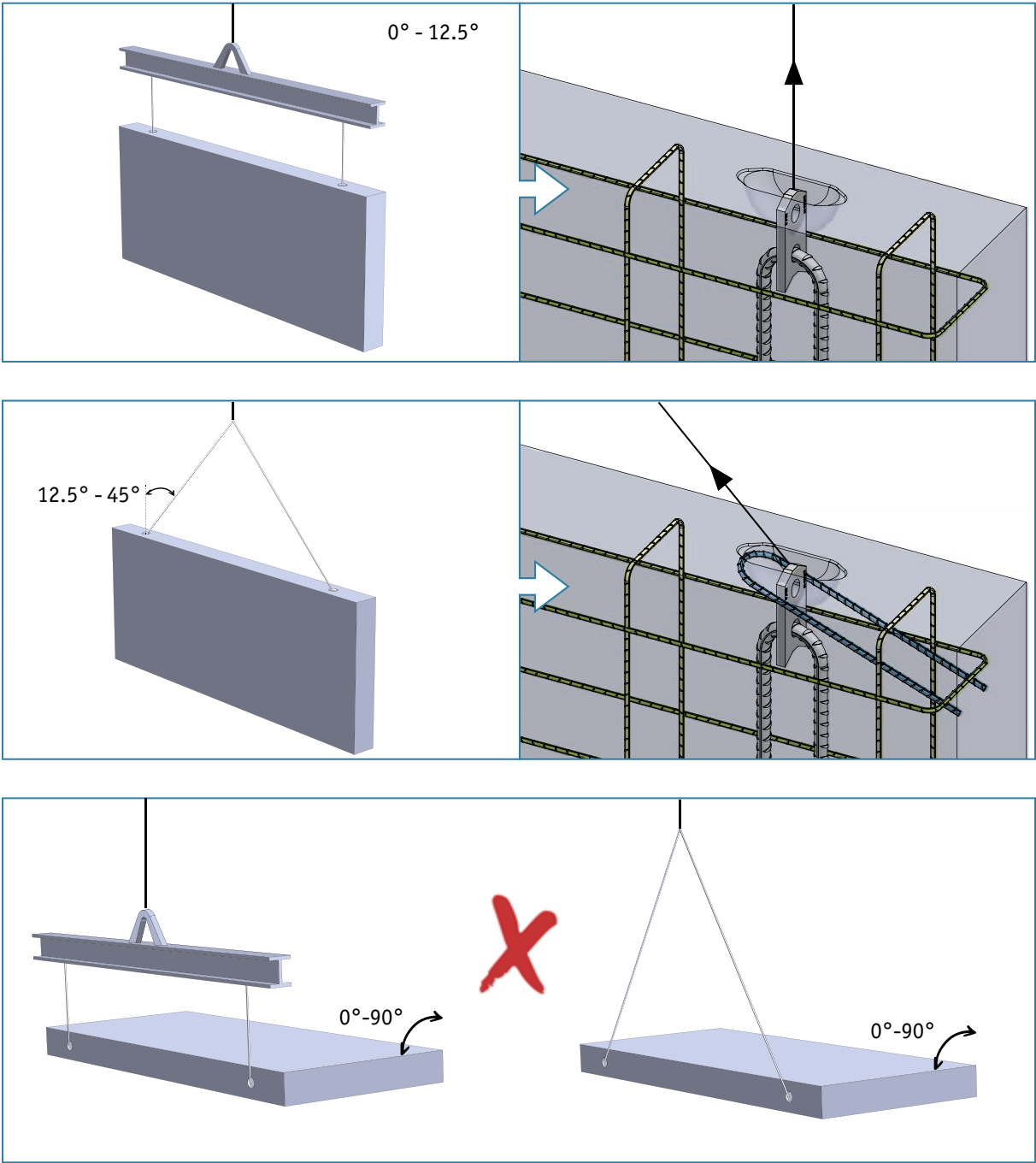
Load Class [t]	RR-RF and RR-PF Colour	
2.5	Orange	
5.0	Black	
10.0	Green	
26.0	Blue	

2. INSTALLATION



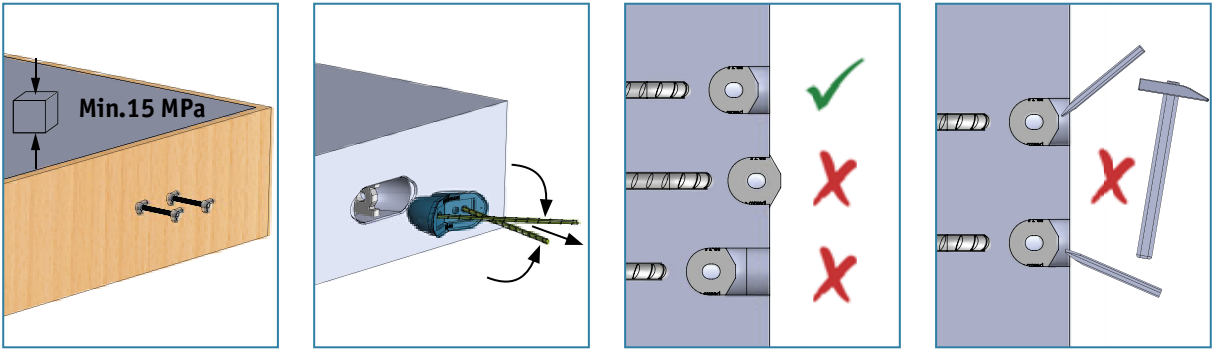
3. REINFORCEMENT

HA

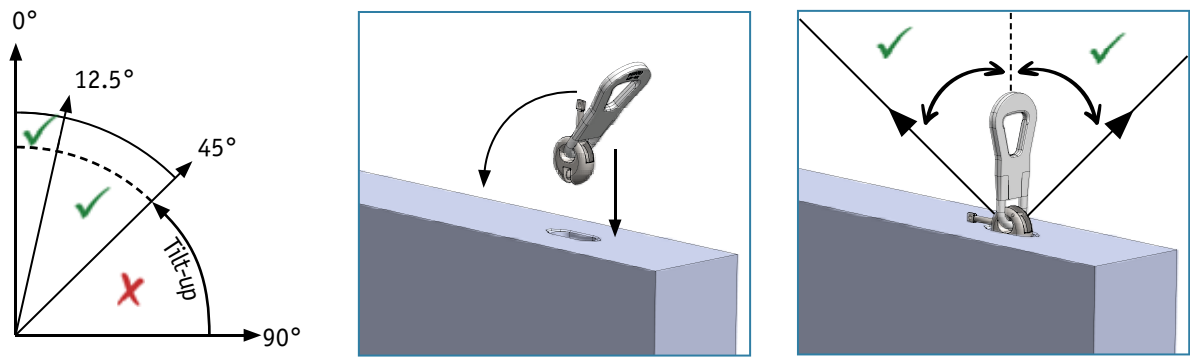


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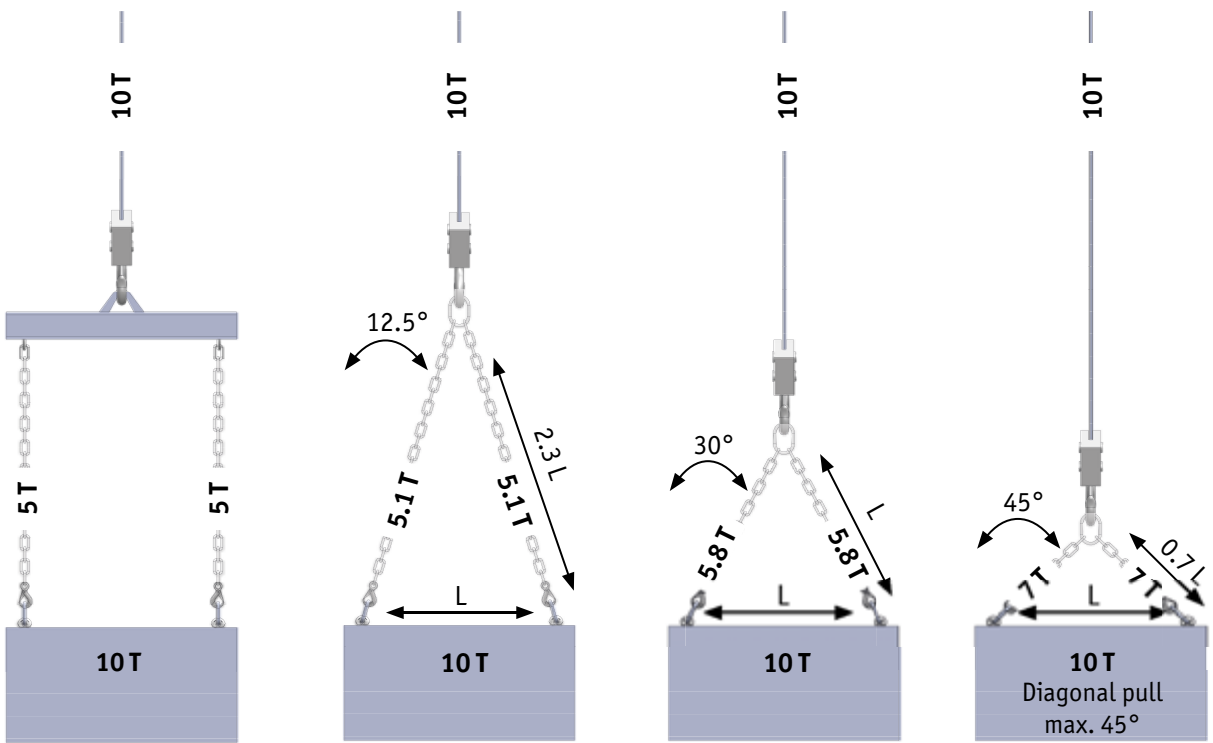
HA



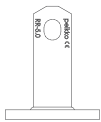
5. LIFTING



5. LIFTING ANGLE INFLUENCE



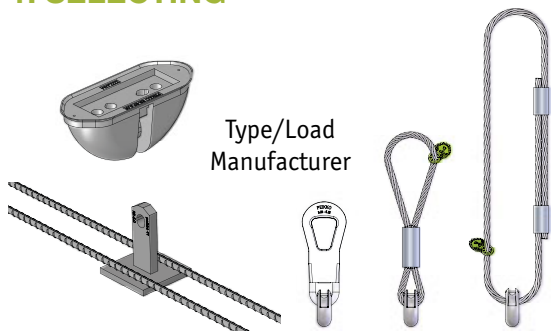
RR Lifting System







PA

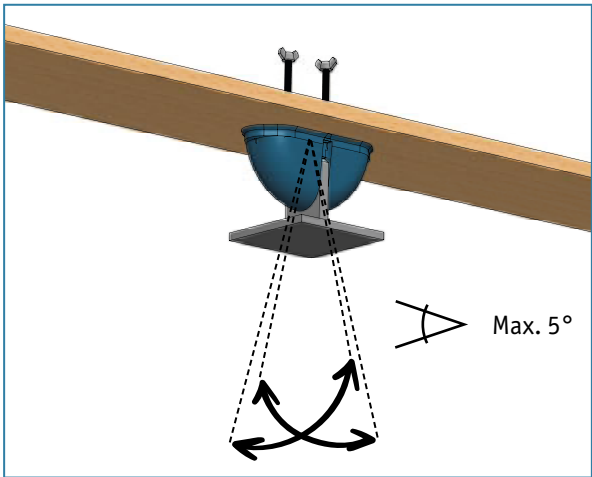
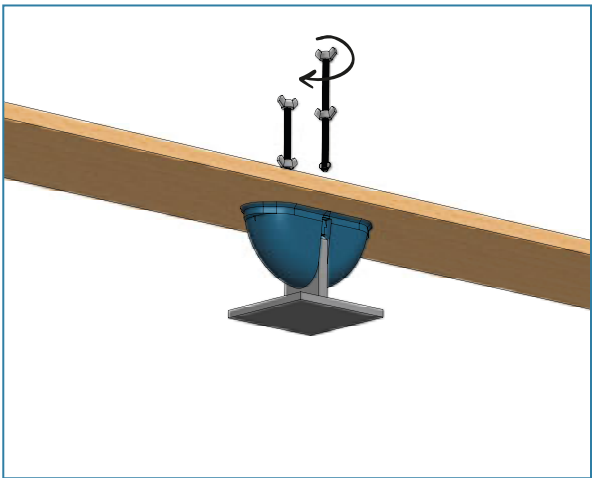
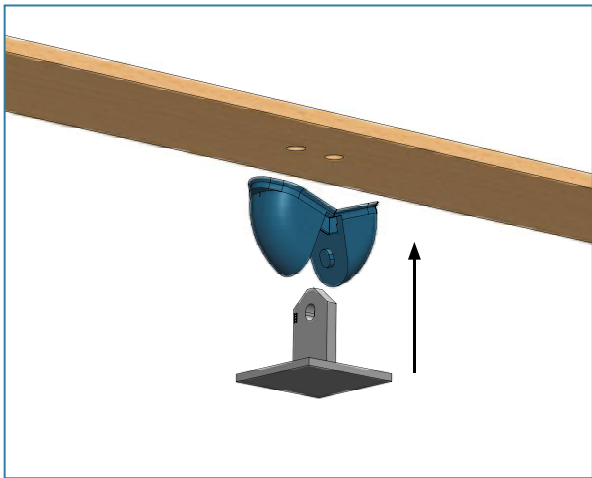


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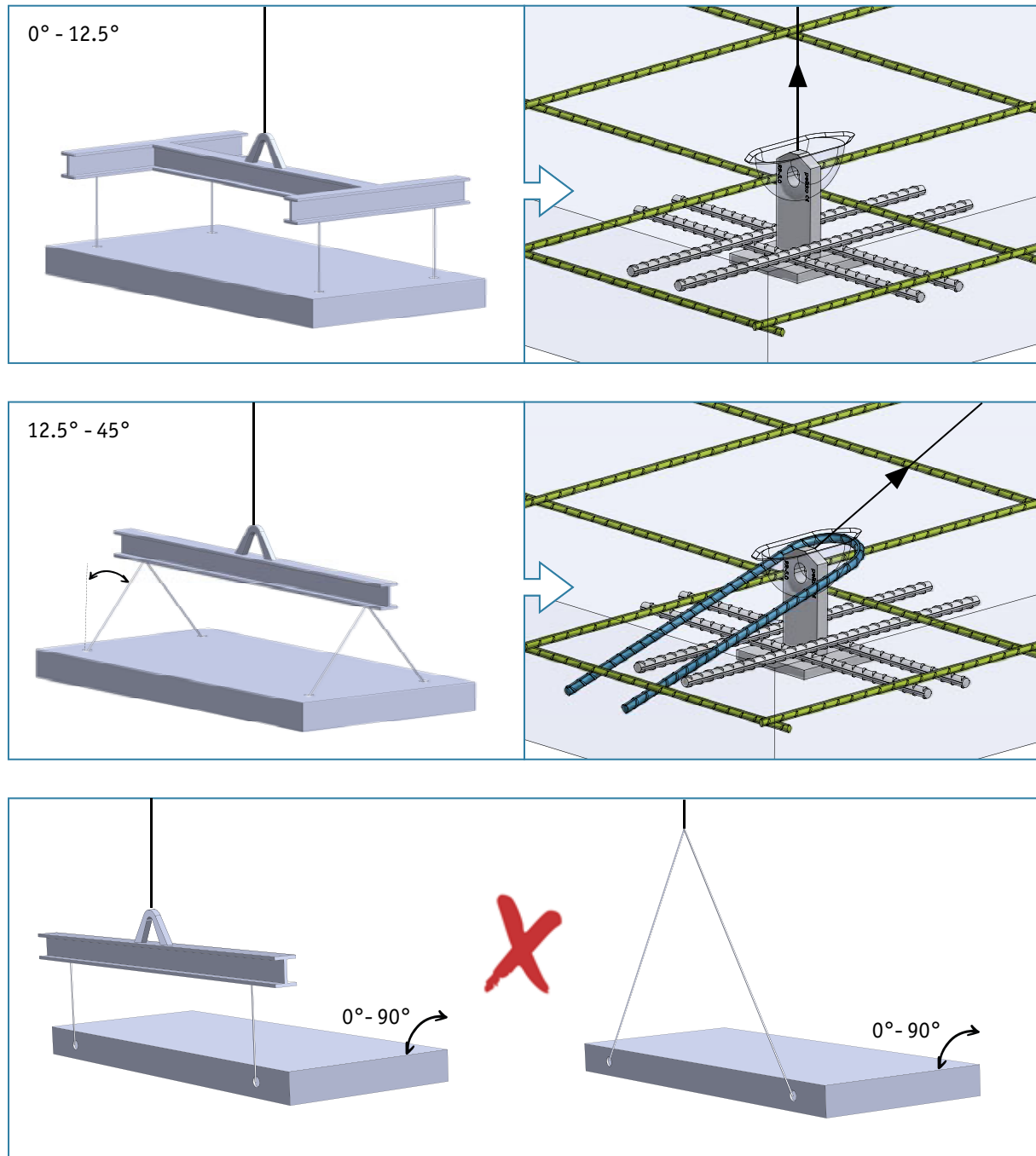
Load Class [t]	RR-RF and RR-PF Colour
2.5	Orange 
5.0	Black 
10.0	Green 
26.0	Blue 

2. INSTALLATION



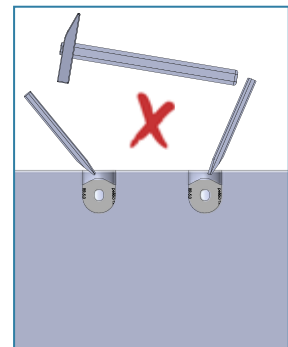
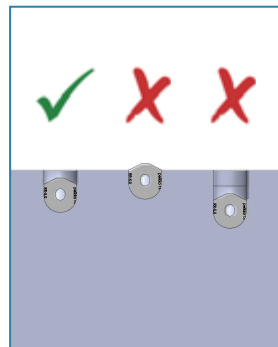
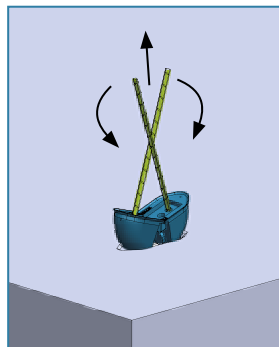
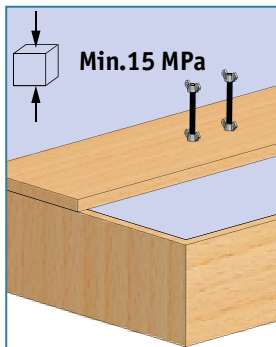
3. REINFORCEMENT

PA

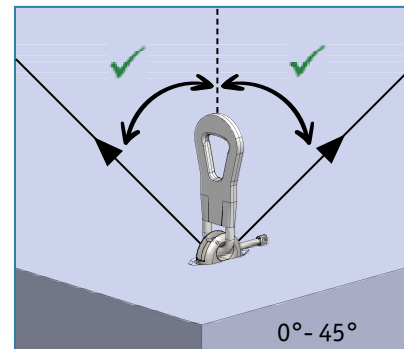
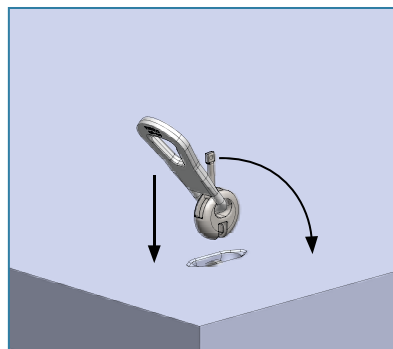
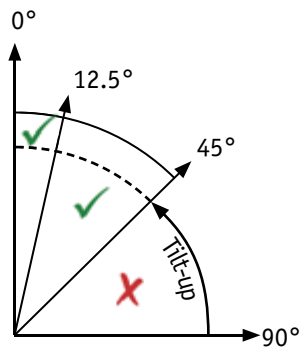


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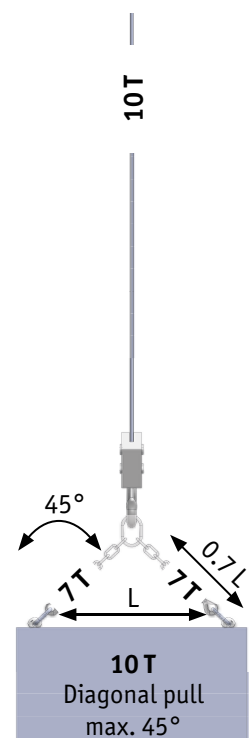
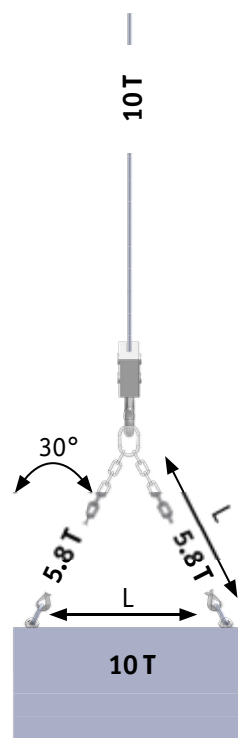
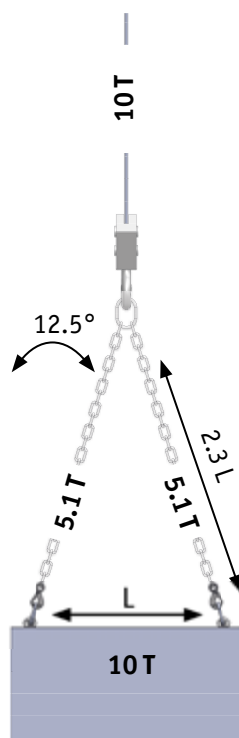
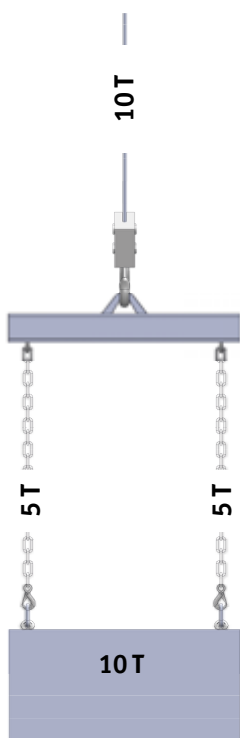
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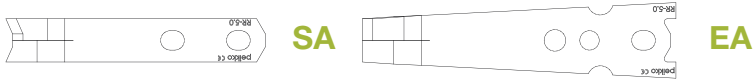
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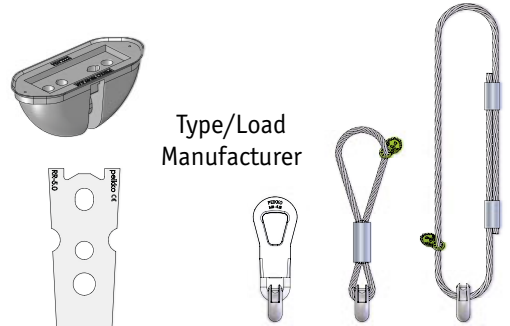
5. LIFTING ANGLE INFLUENCE







RR Lifting System

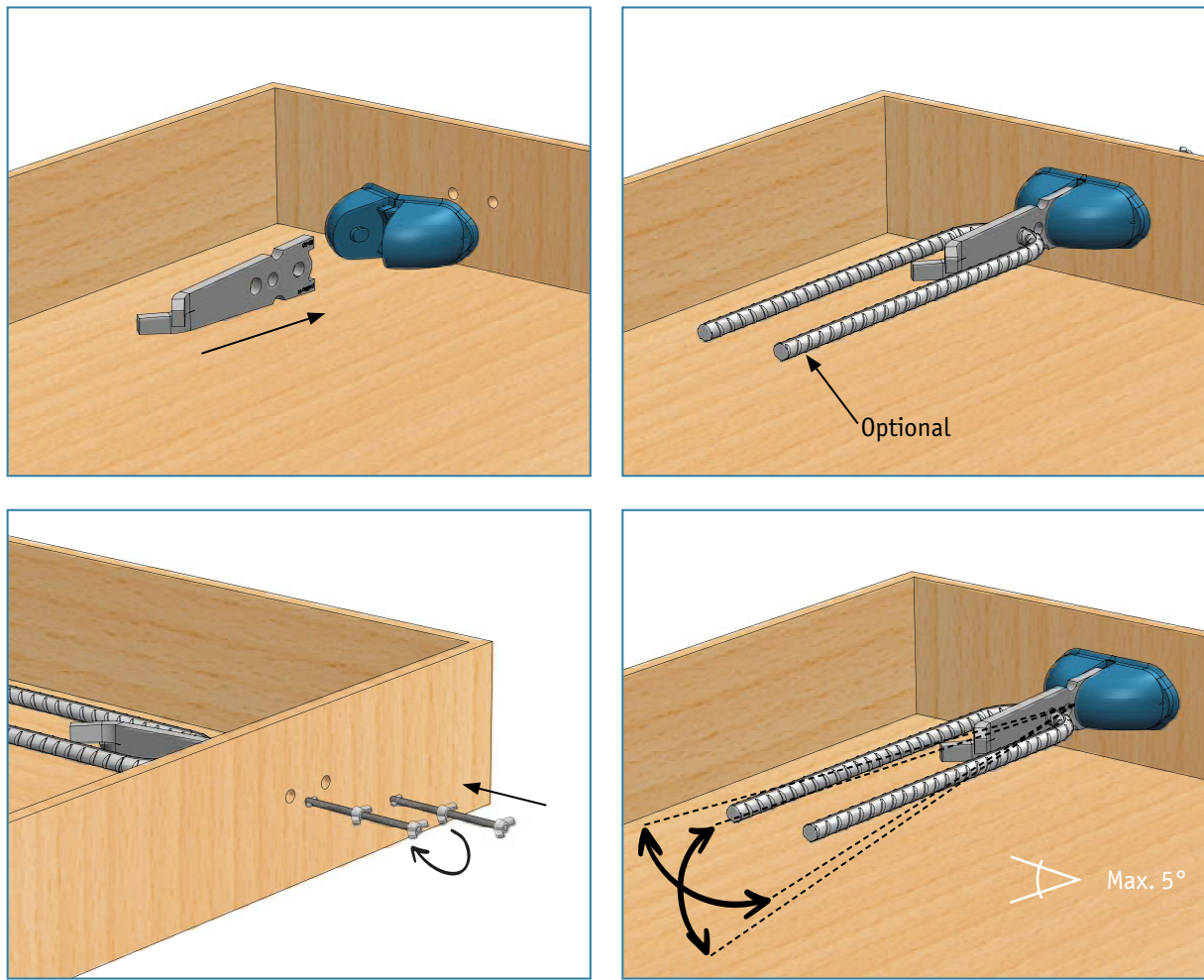


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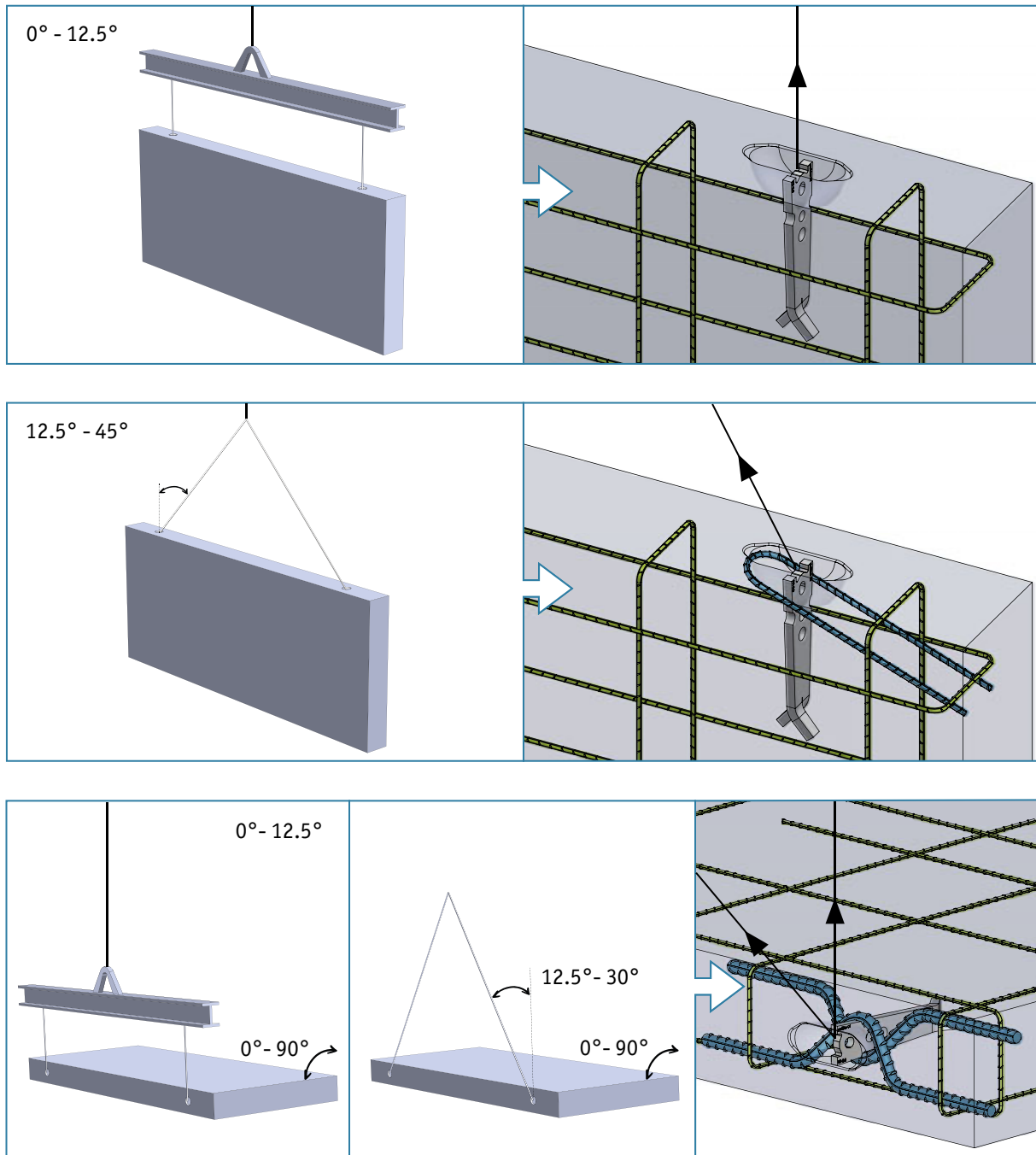
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2.5	Orange 
5.0	Black 
10.0	Green 
26.0	Blue 

2. INSTALLATION



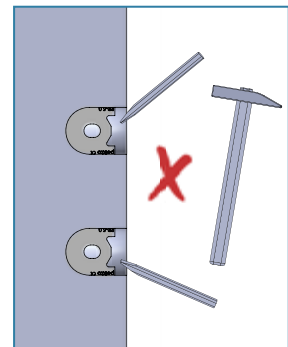
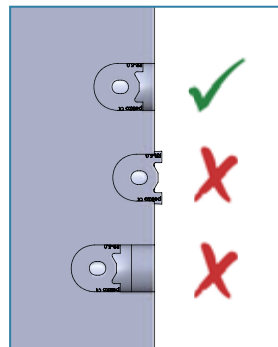
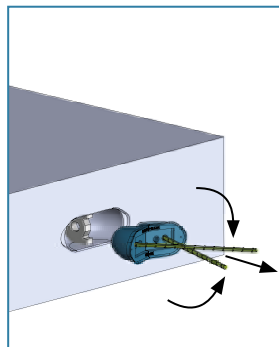
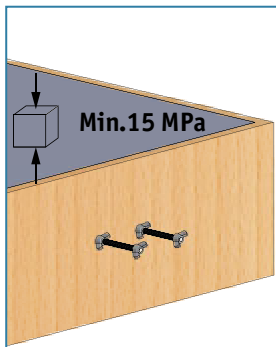
3. REINFORCEMENT

SA, EA

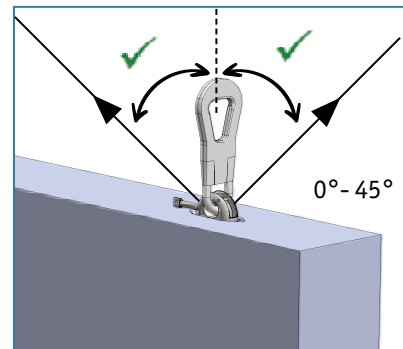
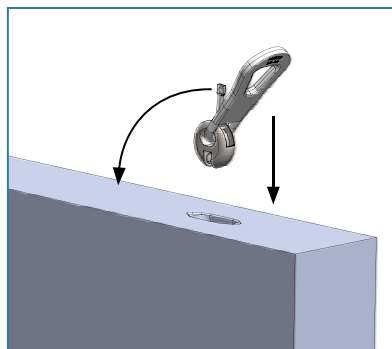
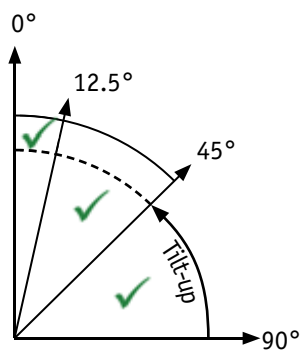


4. CASTING

SA, EA



5. LIFTING



5. LIFTING ANGLE INFLUENCE

