

## Installing WRA Lifting System

The WRA Lifting System's components are installed either on the construction site or in a precast plant. 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.

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 23*, which shows that the insert can incline a maximum of 2.5° in either direction and angle tolerance must stay within 5° of tolerance towards the insert axis.

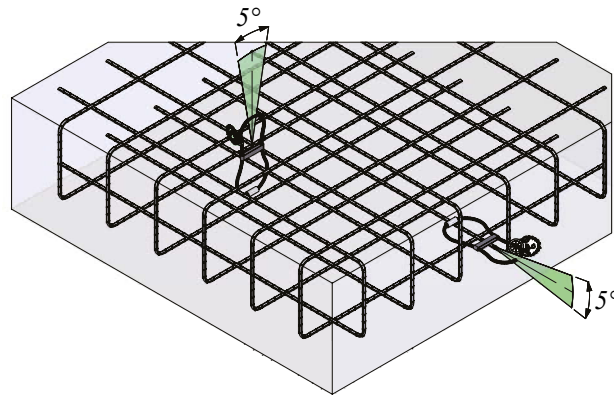
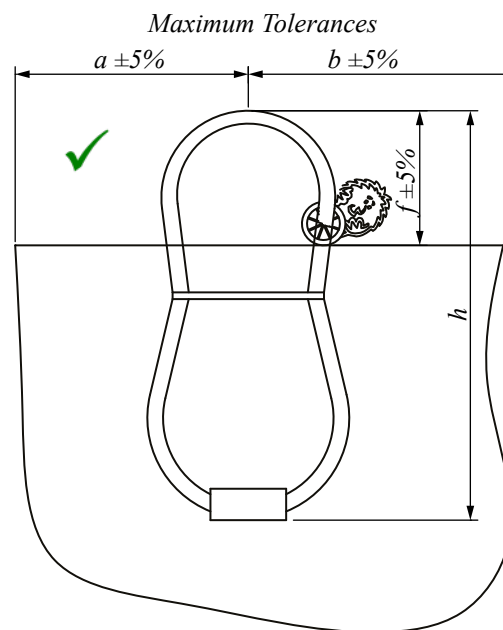


Figure 23. Angle tolerances for installation.

Installation into concrete elements requires the insert to stay in its initial position. *Table 13* defines the permitted installation tolerances for all inserts.

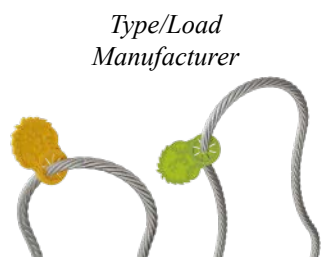
Table 13. Installation tolerances for WRA Lifting Inserts.

Item No.	5% of $f$	5% of $a$	5% of $b$
	[mm]	[mm]	[mm]
WRA-0.8Z	3	10	21
WRA-1.2Z	3	11	23
WRA-1.6Z	3	11	23
WRA-2.0Z	4	14	28
WRA-2.5Z	4	16	33
WRA-4.0Z	5	17	34
WRA-5.2Z	5	18	37
WRA-6.3Z	5	20	40
WRA-8.0Z	6	22	45
WRA-10.0Z	6	28	56
WRA-12.5Z	7	30	60
WRA-16.0Z	8	32	64
WRA-20.0Z	9	39	78
WRA-25.0Z	10	42	85



## WRA Lifting System

### 1. Selection

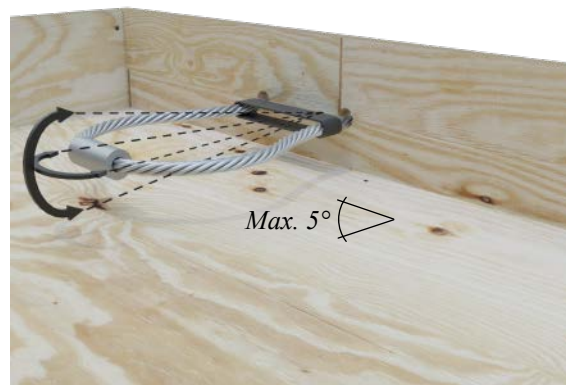
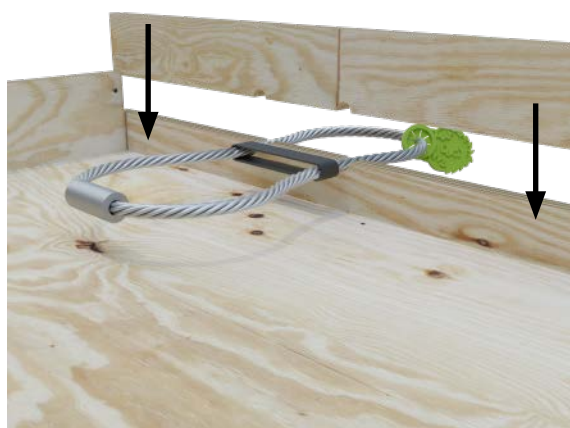


Load Class	Color
800	White
1500	Red
1600	Purple
2000	Light Green
2500	Black
4000	Green

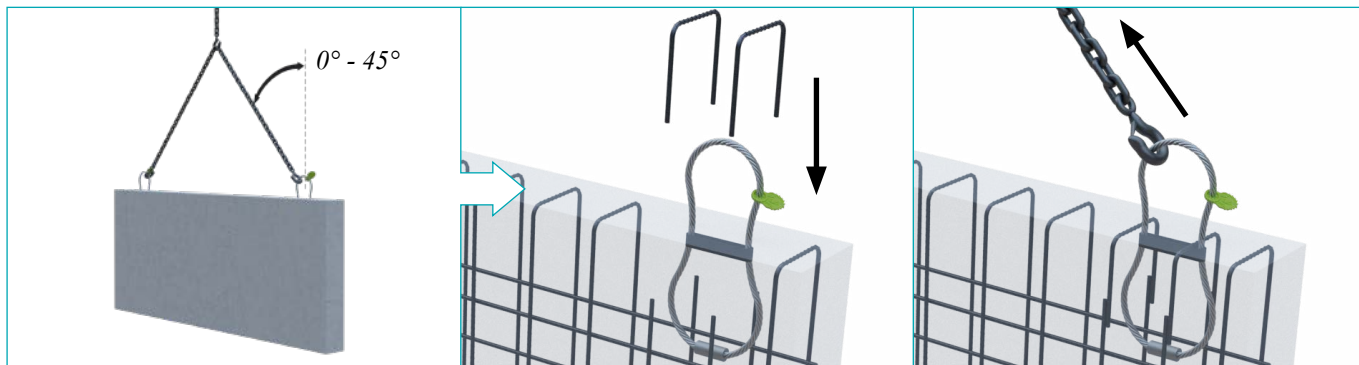
Load Class	Color
5200	Yellow
6300	Light Blue
8000	Gray
10000	Metallic Pink
12500	Yellow
16000	Lilac

Load Class	Color
20000	Beige
25000	Brown
28000	White
32000	Black
>37000 - 99000	Orange

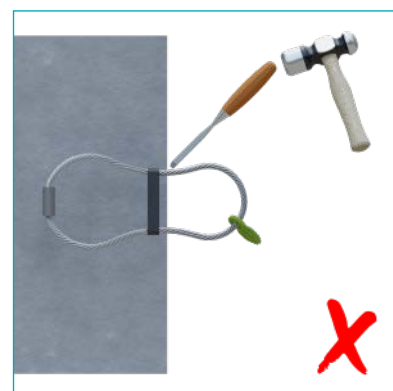
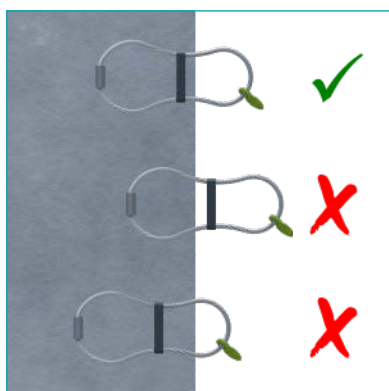
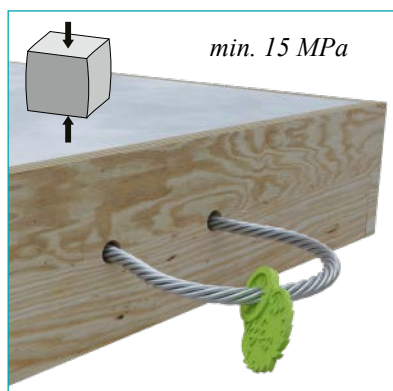
### 2. Installation



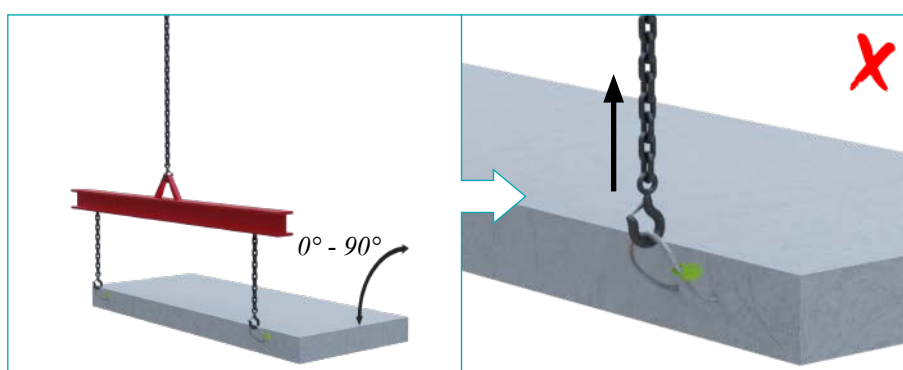
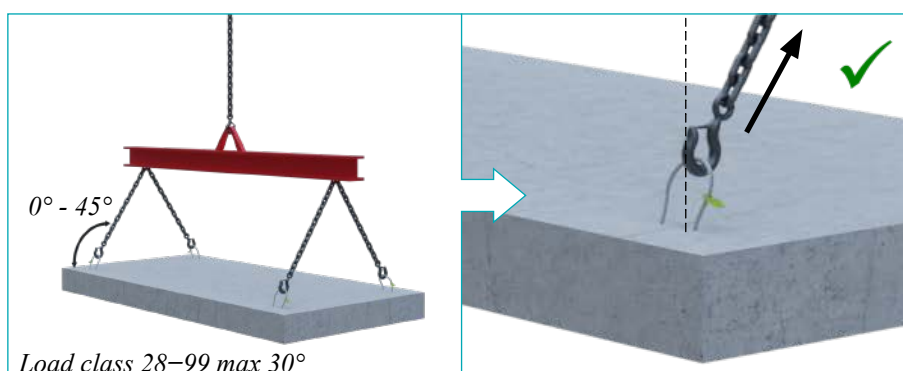
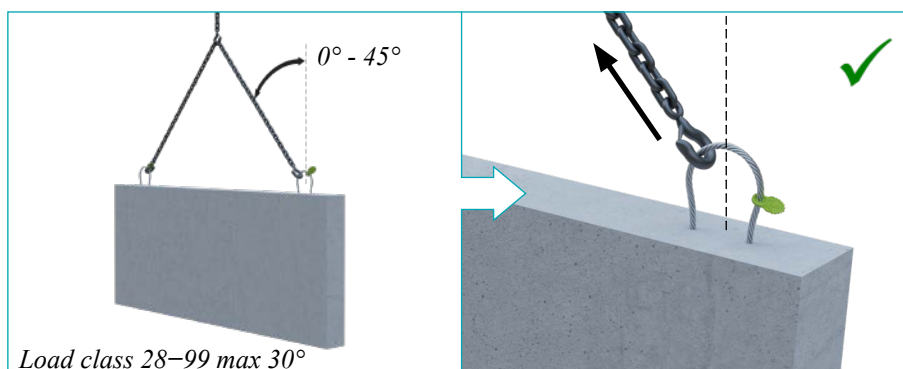
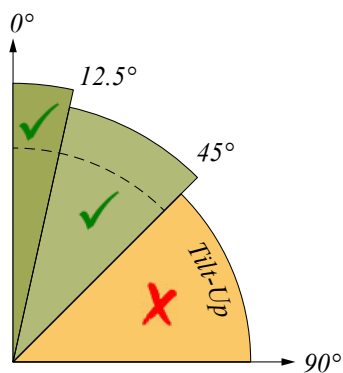
### 3. Reinforcement



### 4. Casting



## 5. Lifting



## 6. Lifting Angle Influence

