

## Standards for determining which rated capacity Super lifting clamp to use when 2-point lifting:

The maximum rated capacity of a lifting clamp differs in ratio to the lifting angle. As shown in the following table, when the lifting angle increases, the amount of load on the lifting apparatus (lifting clamps) and the sling wire ropes increases, and makes it necessary to decrease the rate of loading. While paying special attention to the lifting angle, **always** use the appropriate rated capacity lifting clamps and sling wire ropes!

### CORRELATION BETWEEN THE LIFTING ANGLE AND THE RATED LOAD WHEN 2-POINT LIFTING

Type (Item no.)						Lifting Angle						
Vertical lifting clamps(SVC-H,SVC-E,SVC-L,SVC)						0°	30°	45°	60°	90°	120°	
Lateral, horizontal lifting clamps(HLC-H,HLC-U,GVC-E)												
Structure clamps(HLCS,HLC)												
Screw cam clamps(SCC,SJC)												
Lifting hook(HHC,HHC-G)												
Rate of loading →						100%	96%	92%	86%	70%	50%	
Rated capacity (2 pcs)						Maximum applicable load for 2 lifting clamps (ton)						
○	○	○	○	○	○	0.5 × 2 pcs = 1 ton	1	0.96	0.96	0.86	0.7	0.5
				○		0.75 × 2 pcs = 1.5ton	1.5	1.44	1.38	1.29	1.05	0.75
○	○	○	○	○	○	1 × 2 pcs = 2 ton	2	1.9	1.8	1.7	1.4	1
				○		1.5 × 2 pcs = 3 ton	3	2.9	2.8	2.6	2.1	1.5
○	○	○		○		2 × 2 pcs = 4 ton	4	3.8	3.7	3.4	2.8	2
○	○	○	○	○	○	3 × 2 pcs = 6 ton	6	5.8	5.5	5.2	4.2	3
○	○	○		○		5 × 2 pcs = 10 ton	10	9.6	9.2	8.6	7	5
				○		6 × 2 pcs = 12 ton	12	11.5	11	10.3	8.4	6
○						10 × 2 pcs = 20 ton	20	19.2	18.4	17.2	14	10

- ★ The above table gives values for lifting angles ranging from 0° to 120°. For increased safety (with the lifting clamps and sling wire ropes), when 2-point lifting or 4-point lifting we strongly recommend that the lifting angle be kept within 60°
- ★ When lifting with 2 or more lifting clamps (when lifting at 2 or more points), **always** use lifting clamps of the same rated capacity!

#### Examples when 2-point lifting a 5.5 ton steel plate with the following lifting angles (0° and 60°)

##### When the lifting angle is 0° (lifting vertically):

- (1) In column 0° of the above table, 6 ton in the 6<sup>th</sup> row is the smallest value over 5.5 ton.
- (2) Next, in the 6<sup>th</sup> row determined in the above (1), you will find "3 ton x 2 pcs = 6 ton" under column "Rated capacity (2pcs)".

2 pieces of 3 ton lifting clamps should be used in this case.

##### When the lifting angle is 60° (5.5 ton steel plate as above):

- (1) In column 60° of the above table, 8.6 ton in the 7<sup>th</sup> row is the smallest value over 5.5 ton.
- (2) Next, in the 7<sup>th</sup> row determined in the above (1), you will find "5 ton x 2 pcs = 10 ton" under column "Rated capacity (2 pcs)".

2 pieces of 5 ton lifting clamps should be used in this case.

In this case, **do not** use a combination of 1 piece of 3 ton lifting clamp and 1 piece of 6 ton lifting clamp! (The total rated capacity of the 2 pieces of lifting clamps (9 ton) is sufficient, but there will be a 4.3 ton load on each lifting clamp, and the 3 ton lifting clamp will be overloaded, which is extremely dangerous.)