

# SHACKLE MANUAL

## GENERAL

- Shackles are used in lifting and static systems as removable links to connect wire rope, chain and other fittings.
- The Working Load Limit(WLL/SWL) should be applied in a straight pull and overloads must not be made.
- Screw pin shackles are mainly used for non-permanent applications and Bolt-type shackles are preferably used for long term or permanent applications.
- Chain shackles are used mainly on one-leg systems whereas Anchor shackles on multi-leg systems.
- Ensure that the pin is correctly screwed into the shackle eye, then secure using a wrench or other suitable tool.
- Make sure that the shackle is supporting the load correctly under WLL, i.e. along that axis of the shackle body centerline, avoid bending loads, unstable loads and do not apply overloads.
- Avoid from acidic fluid, chemical solution and steam for maintaining good condition.
- Remove the loads when the shape of shackle is changed more than 5% comparing to the original, and replace the shackle.

## CAUTION

### Before Use

- Be sure to use personal protection equipment. (Such as footwear, gloves, crash helmet, etc.)
- The work place must always be well lit.
- Remove dangerous articles from the area before work.
- The specification, use condition and use method of the product should be checked and the products should be used in a proper way.
- Check the products for any defect, wearing or deformation. Use only the product whose safety is assured.

### Using

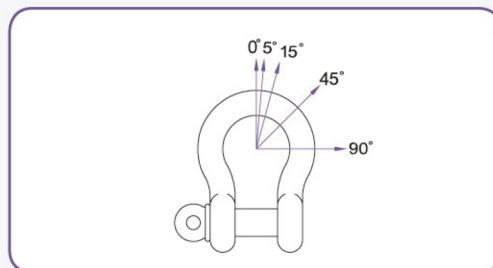
- Always follow the rules carefully. (Overloading & Improper use can result in injury.)
- Products over the 15kg weight must be used with an appliance tool. (Forklift, cranes, hoists, etc.)
- Where applicable, it is important to locate out of the danger zones.  
(A falling load may cause serious injury or even death.)
- Never repair, alter, rework, or reshape a hook by welding, heating, burning, bending or grinding.
- Side loading or shocking may cause product's deformation or breaking.

### After Used

- After used products, should be inspected with elongation, wear and defect. If they are founded something wrong, must discard immediately.
- In case of founding something wrong from products, should be checked of the load, working condition, and over-load.

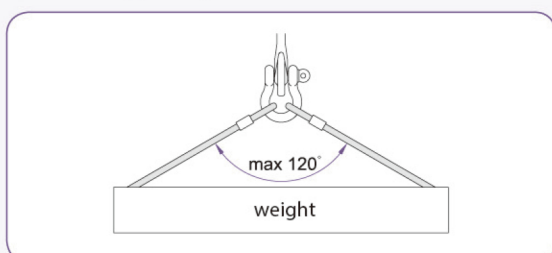
## ■ Installation for Angular Loading

From in-line	Adjusted Working Load
~ 5°	100% of SWL
6 ~ 15°	85% of SWL
16 ~ 45°	70% of SWL
46 ~ 90°	50% of SWL
91° ~	WRONG



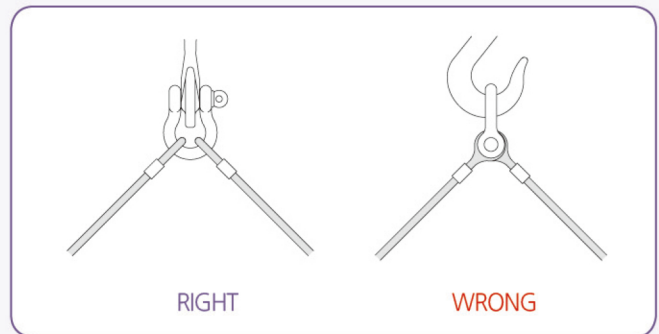
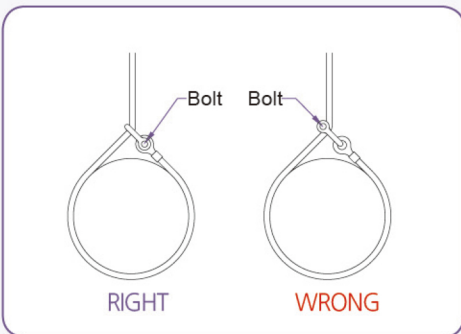
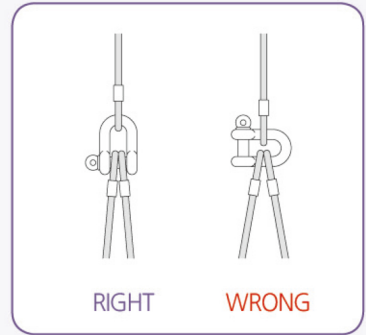
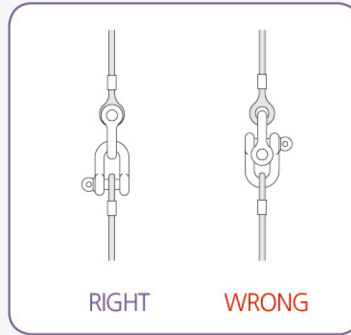
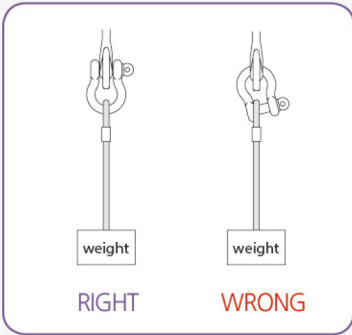
- It is better to use avoiding side loading, it should be followed the above table in case of angular lifts.
- Side loading is only in case of Anchor shackles.

## ■ Multi-leg slings

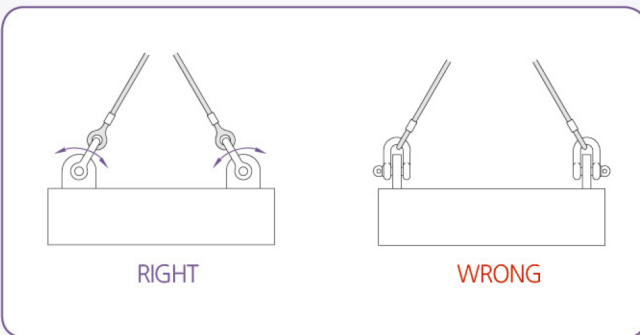


- When a shackle is used to connect two slings to the hook of a lifting device, Anchor shackle must be assembled with the slings in the shackles body and the hook engaged with the shackle pin. The angle between the slings should not exceed 120°.

■ Safety Use



- Avoid moving or rotation the shackle pin.
- If necessary, use a shackle with bolt/nut type shackle.



- Make sure that the chain shackle is supporting the load correctly, along the axis of the shackle body centerline.

