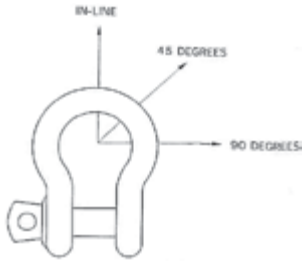
Technical Information

2006/42/EC highlights the responsibility of the manufacturer, distributor and end user of lifting gear.
Gunnebo Industries shackles are specified, monitored and documented in compliance with the most stringent requirements for the product concerned. A certified ISO 9001:2008 to 9001:2015 system is an evidence of our quality standard. See website or user instructions for assembly instructions. Meets listed current specifications and standards at time of publication of this catalog.

Instructions For Safe Use

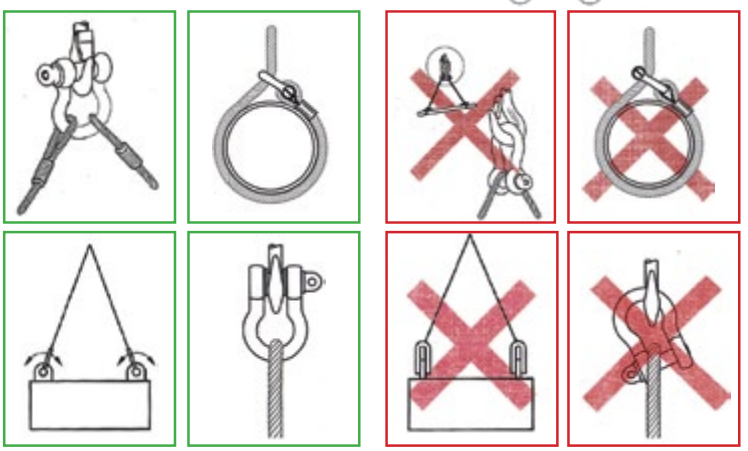
1. The user is obliged to keep a valid Test Certificate for any shackle being used in a lifting operation.
2. Before use each shackle should be inspected to ensure that:
   - all markings in the body and the pin of the shackle are legible and in compliance with the relevant Test Certificate.
   - the shackle pin is of the correct type.
   - the body and pin are not distorted or unduly worn.
   - The body and pin are free from nicks, cracks, grooves and corrosion.
   - If there is any doubt with regards to the above criteria being met, the shackle should not be used for a lifting operation.
3. It is important to ensure that the pin is safely locked after assembly. For repeated lifting between inspections of the gear, it is recommended to use a safety bolt type shackle with nut and split-pin - the user must ensure that the split-pin is fitted, to prevent the nut from unscrewing during use.
4. Incorrect seating of a pin may be due to a bent pin, damaged threads or misalignment of the holes. Do not use the shackle under these circumstances, but refer the matter to a competent person (i.e. dealer, manufacturer)
5. Shackles should be fitted to the load in a manner that allows the shackle body to take the load in a straight line along its centerline to avoid undue bending stresses which will reduce the load capacity of the shackle. When using shackles in conjunction with multi-leg slings, due consideration should be given to the effect of the angle between the sling legs. When a shackle is used to secure the top block of a set of block and tackle the load on this shackle is increased by the value of the hoisting effect.
6. To avoid eccentric loading of the shackle it is recommended to center load on pin. as far as possible over the total length of the pin or to use loose spacers.
7. Never modify, repair or reshape a shackle by welding, heating or bending as this will affect the nominal WLL.
8. Never heat treat a shackle as this may affect the WLL.



Side loads should be avoided as the products are not designed for this purpose. If side loads cannot be avoided, the following reduction factors must be taken into account:

Reduction for side loading

Load angle	New Working Load Limit
0°	100% of original WLL
45°	70% of original WLL
90°	50% of original WLL



Avoid applications where, due to load movement, the shackle pin can rotate

Shackle must be loaded in straight direction

Temperature

If extreme temperature situations are applicable, the following load reductions must be taken into account.

Reduction for elevated temperatures

Temperature:	New Working Load Limit
-20 - 200° C	100% of original Working Load Limit
200 - 300° C	90% of original Working Load Limit
300 - 400° C	75% of original Working Load Limit
> 400° C	not allowed