

# Operating Manual

## pewag profilift

### 1. AOR Lashing point

AOR Lashing points serve to secure components/loads by means of hoisting means, for instance chain suspensions, to enable handling activities to be performed safely. The present operating manual includes information on how AOR Lashing points types are safely used.

### 2. Intended Use

The AOR Lashing points are intended for attachment to steel, aluminium or non-ferrous metal structures and components. They serve to connect the structures and components to hoisting means used for handling. The AOR Lashing points must exclusively be used

- as prescribed by their permissible load carrying capacity
- within the temperature limits prescribed
- with appropriate screws/bolts (refer to Chapter 5)
- firmly attached to the components to be lifted
- occasionally turning or rotating loads
- Continuous or long term turning or rotating is not allowed

### 3. Safety Notes

- Operators must read and fully understand this operating manual
- Mounting and removal must exclusively be carried out by authorized persons
- Additionally the specific provisions issued locally in the country where the items are used must also be observed
- Make sure to use AOR Lashing points free from defects
- Never use worn-out, bent or damaged AOR Lashing points
- Never make structural changes to AOR Lashing points (e.g. by welding, bending).
- Never stay under lifted loads
- Never subject AOR Lashing points to loads higher than their specified carrying capacity
- Do not use force when mounting/positioning the AOR Lashing points
- Do not start lifting before you have made sure that the load has been correctly attached
- Make sure nobody stands or walks under or near suspended loads



- Never move a suspended load over persons
- When lifting loads make sure your hands or other body parts do not come into contact with the suspension gear
- Never cause a suspended load to swing
- Make sure AOR Lashing points are mounted above the load's centre of gravity
- The mounting location of the points on the component must be suited for the forces admitted via the lashing point to be safely absorbed without the component suffering deformation

### 4. Product Description

AOR Lashing points are marked with nominal carrying capacity (WLL) in tons or nominal size of the chain. This indication only applies to the lifting point itself and not to the overall load or suspension gear used.

The AOR Lashing points are in conformity with Machinery Directive 2006/42/EG and marked with the CE symbol.

The AOR Lashing points have been type tested.

AOR Lashing points have a safety factor of min. 4 relating to their load capacity.

## 5. Characteristics

Code	Working load limit [t]	Fastening torque [Nm]	Usable thread	Screw dimension
AOR 10	3.15	170	M16 x 25	M16 x 45 DIN 7984-10.9
AOR 13	5.3	350	M20 x 36	M20 x 60 DIN 7984-10.9
AOR 16	8	950	M30 x 50	M30 x 80 DIN 7984-10.9
AOR 22	15	1,900	M36 x 53	M36 x 90 DIN 7984-10.9
AOR 26	21.2	2,100	M42 x 67	M42 x 100 DIN 7984-10.9 – Special
AOR 28	25	2,400	M45 x 67	M45 x 110 DIN 7984-10.9 – Special
AOR 32	31.5	3,200	M56 x 88	M56 x 135 DIN 7984-10.9 – Special
AOR 34	32	3,200	M56 x 88	M56 x 135 DIN 7984-10.9 – Special

## 6. Mounting

Make sure the attachment faces are flat and dry and the tapped hole is made perpendicular to the attachment face. Mount the lifting point so that

- no areas of danger are created,
- structural parts cannot cause the suspension gear to be deflected when the load is lifted
- the suspension gear cannot be damaged, e.g. by sharp edges

The useful depth of the thread must enable the AOR Lashing points to be safely screwed in. Make sure the tapped hole is arranged at right angle to the attachment face on the component. The depth of thread „L“ in the component must at least be as follows:

$L = 1 \times d$  in steel

$L = 1.25 \times d$  in castings

$L = 2 \times d$  in aluminium

$L = 2.5 \times d$  in aluminium-magnesium alloys

(where L = depth of thread; d = thread diameter)

Make sure the threads of the lifting point and in the component are clean and dry.

Tighten the screws at the tightening torques specified in Chapter 5. If the AOR Lashing points are to remain on the component make sure to use liquid agents to secure and safeguard the screws. In case of through-bolting secure the nuts by suitable locking means.

## 7. Application

The attachment link must always be freely movable. It must not rest on or be supported by other structural parts. When attaching the components make sure the position of the lashing point always enables forces to be exerted in longitudinal direction. Check the correct positioning of the AOR Lashing points each time the load is lifted, especially when the load is applied parallel to the screw-on surface. The permissible carrying capacity of the AOR Lashing points reduces at elevated temperatures. The reduced carrying capacity figures shown in the following table shall only apply for short-term use at the temperatures indicated. In case the points shall be used under the influence of chemicals please consult with the manufacturer.

Temperature range [°C]	Remaining carrying capacity
-20 °C up to 100 °C	100 %
100 °C up to 200 °C	85 %
200 °C up to 250 °C	80 %
250 °C up to 300 °C	75 %

## 8. Maintenance

Check the AOR Lashing points visually at regular intervals. The results of the inspection shall be entered into a register to be prepared when the lifting point is first used.

This register includes characteristics of the lashing point as well as identification particulars (Statement of compliance/ Inspection certificate).

An inspection must be carried out at least once a year or more frequent if the AOR Lashing points are in heavy-duty service. After three years at the latest the AOR Lashing points shall be examined for cracks.

The condition of lashing point and its components must be documented during these inspections. When making repairs to AOR Lashing points note down the cause of the defect and the remedial action that has been taken.

Immediately stop using AOR Lashing points that show the following defects:

- deformation
- cuts, notches, cracks, incipient cracks
- AOR Lashing points cannot freely rotate or turn
- AOR Lashing points have been heated beyond permissible limits
- severe corrosion
- wear exceeding 10 %, e.g. in the suspension link diameter area
- identification marks are unreadable
- defect screws/bolts

Only use original spare parts and original screws and bolts because these are made to meet special requirements. If defects are detected make sure to repair the lashing point before it is used again.

## 9. Storage

Store the AOR Lashing points in dry space at temperatures between 0 °C and +40 °C.

Secure lashing points by applying suitable screw locking means to prevent screws from working loose.

All informations of this documentation were checked and verified carefully.

The pewag austria GmbH. assumes no liability for failures or damage may caused by the usage of this information.

An important prerequisite for the commissioning is that this operational instruction manual has been fully read and understood.

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