Warnings and Instructions for Use

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Always check our website www.globalropefittings.com to make sure that you have the latest version of our Warnings and Instructions for Use.

General

Our AQUALLINE products are among the strongest and most efficient in today's market and therefore the best choice for a wire rope termination. The installation and operation of our products should always be carried out by qualified and competent personnel. The pouring, installation, operation, and inspection are the sole responsibility of the user.

For the correct and safe implementation of our products, it is essential that the warnings and instructions listed here are closely followed. Incorrect use may create an unsafe situation, which could result in damage to equipment, inflict serious injury, or even cause death.

Generally, for all AQUALLINE products the following guidelines must be observed

- Always carefully inspect all products and parts before use.
- Never use a product showing nicks, gouges, cracks, sharp edges, or any signs of wear and tear of more than 5% of the nominal dimensions to the bow, pin holes, pins, bolts, or other parts of the AQUALLINE product. This includes discoloration from excessive heating.
- Make sure all markings are legible as these contain essential information regarding the use, such as wire rope size and traceability, e.g. batch number.
- Never use a product after being overloaded, side-loaded or shock-loaded.
- Only original (spare) parts should be used in an AQUALLINE socket assembly (i.e. AQUALLINE wedges, pins, bolts, etcetera).
- Never interchange AQUALLINE products and parts with non-AQUALLINE products and parts.
- Do not modify or re-use any part. Never do any repairs, reshaping, or welding on an AQUALLINE product. Always consult Global Rope Fittings.

Spelter Sockets

Our AQUALLINE Spelter Socket terminations have an efficiency rating of 100%, based on the nominal strength of the wire rope. This is limited by the Minimum Breaking Load (MBL) of the sockets. The MBL values are specified in our product datasheets, which can be downloaded from our website at www.globalropefittings.com or can be requested by email at sales@globalropefittings.com.

All AQUALLINE Spelter Sockets are made from high-quality cast steel and are suitable for low temperature environments. The minimum operating temperature for general applications is -46°C (-40°C for our Anchor Pendant Sockets). The material has an impact value of 50J at -20°C Charpy-V.

Never use a wire rope with a diameter that deviates from that stated in the product datasheets.

Key considerations for socketing

- Socketing should be carried out by qualified and competent specialists.
- When using white metal or zinc, pre-heat the socket basket, but never expose a socket to a temperature of more than 350°C (660°F).
- Always read and fully understand the instructions and the warnings provided by the resin manufacturer.
  - Sockets should be at ambient (or room) temperature. Do not heat the sockets prior to pouring.
  - Poured sockets should not be moved for at least 15 minutes after the resin in the socket has gelled.
  - If possible, we recommend the assembly to be proof tested at 40% of the MBL of the used wire rope at least 1 hour after the resin in the socket has gelled.
- For a complete overview of the minimum requirements for socketing we refer to DIN EN 13411-4:2011-06 and ISO 17558:2006-09.

Specific guidelines for our Adjustable Open Spelter Sockets (AOSS)

- Before installation, always grease the Connector Fitting's threading, by lubricating it through the grease nipple on the front of the Adjustable Open Spelter Socket (1).
- Use lubricant for high-pressure contact surfaces (EP3 or EP4).
- Re-grease after every 100 hours of use.
- Regularly check if all safety screws, bolts, and nuts are still properly in place.
- For disassembly, first remove the Connector Fitting from the socket (see images below):
  - Remove the hexagon bolt on the side of the socket by unscrewing the nyloc nut with washers (2).
  - Then, turn the Connector Fitting just enough to see the two safety screws through the slot hole (3).
  - Unscrew the safety screws.
  - Make sure to keep all parts together and handle the Connector Fitting with care to avoid damages to the thread.


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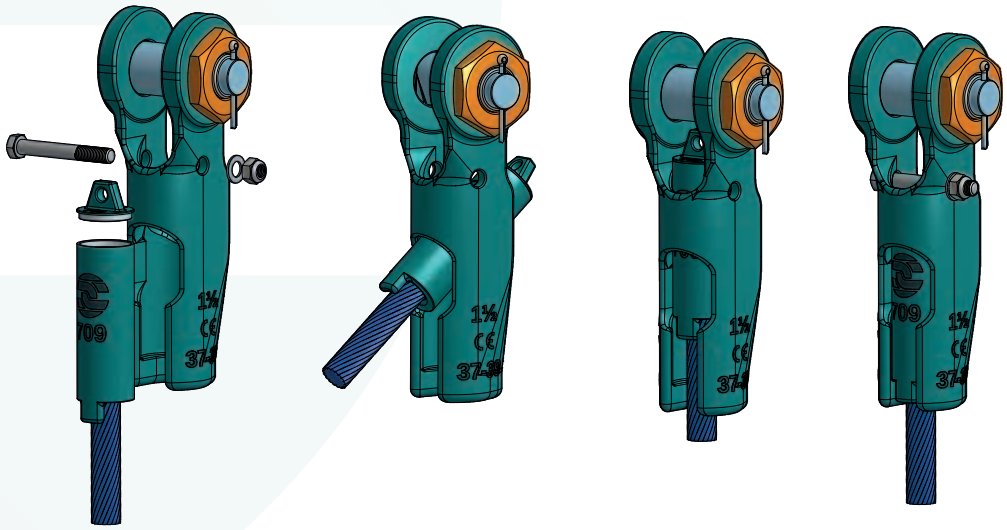
- For the socketing:
  - Make sure the conical house of the Connector Fitting is clean and free of dust, paint, or grease.
  - The end of the wires stays below the threaded holes of the safety screws but should be as high as possible up in the cone of the Connector Fitting.
- As soon as the resin is cured, the complete unit can be reassembled:
  - Insert the Connector Fitting in the Adjustable Open Spelter Socket.
  - Screw the safety screws in place.
  - Adjust the length of the assembled Adjustable Open Spelter Socket.
  - Secure the assembly with the hexagon bolt.

Specific guidelines for our Adjustable Turnbuckle Sockets (ACTS & AOTS)

- These are identical to the Adjustable Open Spelter Sockets, with the only distinction that each Adjustable Turnbuckle Socket contains ***two*** Connector Fittings, which means that all actions involving the Connector Fitting should be duplicated.

Specific guidelines for our Fast Connector Sockets (FCS)

- AQUALLINE Fast Connector Sockets have an efficiency rating of 100% when used with a maximum rope grade of 2160 N/mm2 and a fill factor between 59% and 78%.
- Each Connector Fitting is equipped with an anti-rotation device to avoid spinning in the socket.
- During socketing, make sure that the resin fully reaches the wire inlet at the bottom of the socket.
- After socketing, a thread-locking adhesive should be used to secure the Connector Cap to the Connector Fitting.
- The eye on the Connector Cap is designed to easily reeve the Connector Fitting with the wire rope into the block or crane. The eye should never be used as a lifting device.



Specific guidelines for our Open DIN Sockets (ODS)

- Our AQUALLINE Open DIN Sockets meet the performance requirements of the DIN 83313 norm and exceed the required MBL. For the exact MBL values we refer to our product datasheet.

Specific guidelines for our Open JIS Sockets (OJS)

- These AQUALLINE wire rope terminations meet the performance requirements of the JIS F 3432-1995 norm. They exceed the required MBL of this norm. The exact MBL is specified in our product datasheet.

Wedge Sockets

Our AQUALLINE Wedge Socket terminations have an efficiency rating of 85-92%, based on the nominal strength of the wire rope. They meet and exceed the performance requirements of the EN 13411-6 norm.

All AQUALLINE Wedge Sockets are made from high-quality cast steel and are suitable for low temperature environments. The minimum operating temperature for general applications is -46°C. The material has an impact value of 50J at -20°C Charpy-V.

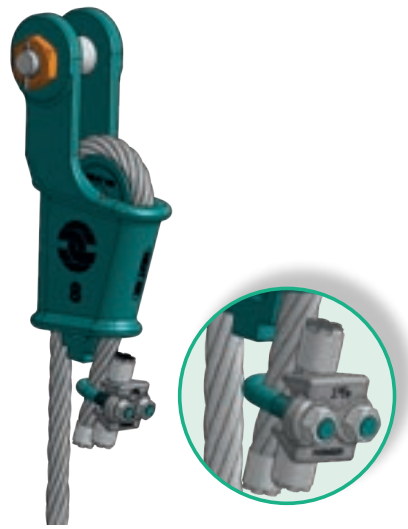
Make sure to select the correct AQUALLINE Wedge Socket for the required wire rope size. This information is specified in our product datasheets, which can be downloaded from our website at www.globalropefittings.com or can be requested by email at sales@globalropefittings.com. In case of intermediate rope sizes, always choose the next larger size AQUALLINE Wedge Socket.

Do not use a different wedge size in our AQUALLINE Wedge Socket than the size recommended for the required wire rope size. Never interchange AQUALLINE Wedge Sockets and AQUALLINE Wedges with other brands.

Instructions for the use of the wedge sockets

- The loaded wire rope should always be mounted in the centre line of the pin (see image of correct installation below).
- Secure the dead end of the rope with a wire rope clip. Do not attach it to the loaded wire rope or to any other elements of the assembly.
- The length of the dead end should be a minimum of 6x the wire rope diameter, but never less than 150 mm (6”) for standard 6-8 strand wire rope. For rotation-resistant wire rope, the dead end should be a minimum of 20x the wire rope diameter and not less than 150 mm (6”).
- The socket must be fixed to prevent rotation.
- Before the first load, the wire rope and wedge should be hammered into the socket as deep as possible. This should be done with care and no steel hammer should be used as to avoid damage to the rope.
- After the first load, check that the wire rope and wedge are fully seated in the socket, as the rope may slip if the wedge of the socket is not properly installed.

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Specific guidelines for our Open Wedge Sockets with Integrated Tail Clamp (OWS ITC)

- Only use special AQUALLINE ITC-Wedges with our Open Wedge Socket range. Never replace these with wedges from other brands.
- Existing AQUALLINE Open Wedge Sockets can be retrofitted with an AQUALLINE ITC-Wedge.
- After the first load, check that the wire rope and wedge are fully seated in the socket and retighten the nuts from the Wire Rope Clip to the correct torque value. For the correct torque values, see our Wire Rope Clip product datasheet, which can be downloaded from our website at www.globalropefittings.com or can be requested by email at sales@globalropefittings.com.



Solid Wire Rope Thimbles

Our AQUALLINE Solid Wire Rope Thimbles (SWRT) have an efficiency rating of 90% and meet the performance requirements of the prEN 13411-9 norm.

All AQUALLINE Solid Wire Rope Thimbles are made from high-quality cast steel and are suitable for low temperature environments. The minimum operating temperature for general applications is -46°C. The material has an impact value of 50J at -20°C Charpy-V.

Select the correct AQUALLINE Solid Wire Rope Thimble for the required wire rope size; the wire rope should fit properly into the groove of the thimble. For the relevant data, download the product datasheet from our website at www.globalropefittings.com or request by email at sales@globalropefittings.com.

Wire Rope Clips

All AQUALLINE Wire Rope Clips (WRC) are forged and meet the performance requirements of the EN 13411-5 norm (Type B / Grip 2). They are suitable for the fastening and securing of static loads but should never be used for lifting applications.

Select the AQUALLINE Wire Rope Clip with the correct dimension for the required wire rope size. In case of intermediate nominal diameters of rope, always use the next larger size AQUALLINE Wire Rope Clip. More detailed information is specified in our product datasheet, which can be downloaded from our website at www.globalropefittings.com or can be requested by email at sales@globalropefittings.com.

The clips must be installed correctly and must be tightened to the correct torque value by using a torque wrench.

- The bridge of the Wire Rope Clip should always be placed on the load bearing part of the rope, except when used on an AQUALLINE ITC-Wedge or when securing a dead end of a rope for a wedge socket.
- The U-bolt must be placed on the rope tail (dead-end).
- Make sure to turn back sufficient wire rope length to ensure that the required number of Wire Rope Clips can be installed. For more detailed information on the required number of clips we refer to the EN 13411-5 norm (Table B.2.).
- For the correct torque values, see our product datasheet, which can be downloaded from our website at www.globalropefittings.com or can be requested by email at sales@globalropefittings.com.
- The first time after installation, load the assembly with a load that is equal or greater than the load in operation with a maximum of 1.25 times the Working Load Limit (WLL). Then check the torque value again and adjust it to the correct torque value specified in our product datasheet.

Heavy Duty Triangle Plates

Our AQUALLINE Heavy Duty Triangle Plates (HDTP) are suitable for commercial bow shackles that are designed according to EN 13889 or Fed. Spec. RR-C.271.

All AQUALLINE Heavy Duty Triangle Plates are made from high-quality cast steel and are suitable for low temperature environments. The minimum operating temperature for general applications is -46°C. The material has an impact value of 50J at -20°C Charpy-V.

Select the correct AQUALLINE Heavy Duty Triangle Plate based on the required Safe Working Load (SWL). Download the product datasheet from our website at www.globalropefittings.com or request by email at sales@globalropefittings.com for more detailed information.

- AQUALLINE Triangle Plates should never be side-loaded.
- The lifting eye and shackle are added for easy handling during assembly but should never be used as a lifting device in operation.