FAQ

CENTA flexible couplings

As part of our Omnicare service, Everllence PrimeServ provides parts and service for CENTA flexible couplings. This document gives valuable information regarding classification, documentation, inspection of components, maintenance intervals, operating conditions, and replacement of components.

What is a CENTA flexible coupling?
A flexible coupling is a mechanical element composed of metal and rubber elements. It is installed on 4-stroke engines and connects two shafts together to transmit torque while allowing for some degree of misalignment and angular movement. It reduces the stress and wear on the shafts and other components in the system by reducing the vibration and noise.

What are the risks of not maintaining CENTA flexible couplings?

- Exposure of the drive train and all connected system components to stresses beyond their limits
- Premature wear and tear on components in the drive train
- Failure of the bearings in driving and driven parts
- In case of failure, the waiting time for the rubber component replacement can be more than eight weeks

What services does Everllence PrimeServ offer?

- Annual inspection and renewal for the CENTAX and CENTAMAX product line
- Alignment checks, including foundation of engine arrangement or propulsion line
- Replacement of resilient mountings
- Original spare part kits and replacement parts with short delivery time

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Classification Society Certificate

Can I do classification of the rubber element onboard?
All products will be delivered with material certificates according to class requirements. A class certificate is required for all IMO installations, such as propulsion and auxiliary equipment. When class certification is required, it will normally be done by CENTA before shipment.

What are the class guidelines regarding changing rubber elements only for a class certified coupling?
The class society approves the rubber elements separately and upon replacement a new certificate for the rubber element will be issued.

Do I need a new classification certificate when exchange the rubber element for marine application? Why is that needed?
Yes, all marine applications which have an IMO number are obliged to follow the classification rules. Classification and certification provide assurance that the vessel and its components have been designed, constructed, and maintained in compliance with established safety standards, according to the environmental and international standards. Besides that, in the event of an incident or accident, the classification and certification will help to establish liability and insurance coverage.

Do I need a new classification certificate when exchange the rubber element for a landed based power application?
No, the classification certificate is only applicable for marine applications.

Technical documents

I don't have documentation of the coupling onboard; how can I obtain it?
Check the serial no. on the hub of the coupling or the imprint on the rubber element and contact Everllence.

Where can I find the serial numbers of the CENTA coupling?
The serial number can be found on the hub of the coupling.

Where can I find the correct tightening torque for my coupling?
Refer to the original assembly and operation manuals of the product or contact Everllence.

Where can I find the installation manual and drawing for the coupling?
Normally these are kept with the ship files/documentation kept onboard. Everllence can provide product specific manuals on demand.

Coupling Inspection

Cracks have been detected in the rubber element; do I need to replace the rubber immediately? How long can I wait before replacing?
Refer to the original assembly and operation manuals of the product. Further details are given in our brochures on rubber inspection. If in doubt, please contact Everllence for evaluation of the findings.

How can I check the condition of my CENTALINK?
Refer to the original assembly and operation manuals of the product.

What is the effect on connected machinery (engine, generator, gearbox, etc.) when running with old rubber elements where the characteristic properties have changed due to aging?
Prior to first installation, a TVA calculation is done by CENTA or the machinery manufacturer to ensure correct operation. Operational conditions and aging will impact the properties (such as dynamic torsional stiffness) of the rubber. These changed characteristics of the rubber will affect the adjacent machinery and eventually affect loads, vibrations, noise, etc. that were initially compensated for by the specified rubber elements.

How do I determine which components of a coupling needs replacement and which parts do not?
The key wear items are the rubber elements that need to be checked with each inspection. Always refer to the original assembly and operation manuals of the specific product for detailed description of further wear items.

How can I determine if the rubber element is damaged? How do I determine if it needs to be replaced?
Refer to the original assembly and operation manuals of the product. Further details are given in our brochures on rubber inspection. If in doubt, please contact Everllence for evaluation of the findings.

How often should I inspect the coupling / rubber element?
If there are no individual guidelines from the driveline supplier, we recommend these inspection intervals:

- 1st after 1,000 operating hours
- 2nd after 4,000 operating hours
- Thereafter every 6,000 operating hours or annually, whichever comes first

I have less than 50,000 running hours, less than 10 years operation and permanent setting is outside proposed limits, do I need to replace the rubber element? Why? If yes, can you give me some feedback related to the expected lifetime?
Check the condition of the coupling with reference to the operation manual and inspection guidelines. The rubber material of the coupling is a natural product and will suffer from ageing effects. To guarantee the performance and functionalities of the coupling in a drive train, the wear parts are recommended to be exchanged according to the instructions in the manual and on the rubber inspection.

Operating conditions

What are the basic components of a CENTA coupling? What is the role of the rubber element?
The basic coupling components are rubber element, and related screws/bolts/nuts, and hub. Depending on the application, a specific product in use may have membranes, bearing, and links.

Can the rubber elements be reconditioned at your workshop?
No, that is not possible. The +reconditioned as it will gradually deteriorate and lose its flexibility and characteristic properties.

What are the key factors that affect the life of the rubber element?
The key factors are extreme temperature, ozone, UV, chemicals, shock loads, torsional impacts, misalignment.

What can I do to extend the life of the rubber element?
Ensure favorable operating conditions by avoiding exposure to extreme temperature, ozone, UV, chemicals, shock loads, torsional impacts, misalignments.

What is the recommended lifetime of CENTALINK?
The theoretical lifetime in normal operating conditions is 10 years.

What is the recommended lifetime of CENTAMAX?
The theoretical lifetime in normal operating conditions is five years. In PTO (Power Take Off) applications, this lifetime will be reduced.

What is the recommended lifetime of CENTAX?
The theoretical lifetime in normal operating conditions is 10 years / 50,000 running hours if operating at medium speed. If operating is at speeds above 1,200 rpm the lifetime will be five years / 25,000 hours.

Replacement of components

I have a CENTAX with links (CX-L), can the links be overhauled, or do they need to be replaced together with the rubber elements?
We recommend replacing the links together with rubber elements, as stated in the reference assembly and operation instructions of the product.

I have a CENTAX coupling with bearing and will replace the rubber element, do I need to also replace the bearing and do I need to change the steel 'support' ring?
Yes.

I have a CENTAX G coupling and will replace the rubber element, do I need to also replace the membrane ring?
Membranes only need to be replaced if damaged. Refer to the original assembly and operation manuals of the product.

In which direction should the links be installed?
Links are packaged and shipped in sets. Do not mix them up and only replace links in complete sets. Each link carries labels ('hub', 'flange') on the ends defining the connection side. Every link needs to be mounted in the tensile direction of the rotation. This is also shown in the individual assembly instruction.

Should I also replace the bolts when replacing rubber elements?
Yes, it is recommended to also exchange all bolts.

Everllence

Everllence
Everllence PrimeServ Omnicare Product Center
Rivium Quadrant 75
2909LC Capelle aan den Ijssel
The Netherlands
primeserv-omnicare@everllence.com
www.everllence.com/omnicare

EVR000202EN-250600, GKM-CPH