



Extend the life-time of your work class ROV cable



10 things to consider

Cables are one of the most important parts of a system in many industrial applications. It is important to purchase these cables from a quality cable manufacturer. This in itself is the first step towards a longer lifetime of a cable, however, it alone is not enough. In order to extend the lifetime of the cable, to keep downtime to a minimum, and to keep performance at a maximum, it is vital to follow some common practices for cable care and maintenance.

Extend the lifetime of your cable by considering the following 10 tips:

1

Choose a Reliable Manufacturer / Suitable Cable Design

The manufacturer plays one of the biggest roles in the expected lifetime of a cable. Thus, it is important to choose a reliable and quality-focused manufacturer that develops cable solutions. Investigate the available cable manufacturers on the market and choose the most reliable & quality minded manufacturer to build your cable. Discuss your system requirements with them and review the provided cable design. Always prioritize safety. Specify your cable requirements based on the following criteria:

- Working environment,
- Safety,
- Mechanical properties,
- Electrical/optical requirements,
- Ambient temperature.

2

Educate and Train Your Staff

Educate and train your staff on inspection, maintenance as well as cable limitations. The individual(s) performing the inspection and maintenance must be trained and have competence in executing these actions.

3

Perform Regular Inspections

Cables should undergo inspections as part of the operating procedure at regular intervals throughout their service life. It is recommended that the cable is inspected prior to important operations, shipping offshore, and storage.

Cable inspection typically consists of the following operations:

- Electrical testing (conductor resistance and insulation resistance) of conductors,
- Optical testing (attenuation),
- Visual inspection (loose wires or kinks or birdcages),
- Inspection of terminations (damaged seals, bent pins).

Always compare the results to the previous results and to the original manufacturing results.

4

Prevent Damage

During unpacking;

- Always examine the drum for signs of mishandling during shipping.
- Before removing the protective covering, secure drum with chocks to prevent it rolling away out of control. Heavy drums are difficult to stop and can cause considerable damage.
- Remove covering carefully. Do not damage the underlying cable.
- Check cable ends and/or terminations are secure before carrying out rewinding operations.
- Keep clamps used to stow terminations. These can be re-used if the cable is to be returned or put into storage.
- Visually examine the outer layer of cable for any damage.
- Inspect the cable during first winding operation following delivery.

During unloading & moving;

- Cable drums should be unloaded using a lifting bar through the drum center and a spreader bar above to prevent lifting straps from crushing the drum flanges.
 - If a forklift truck is used to lift the cable drum from underneath, it is particularly important to ensure that the forks are long enough to lift on both flanges. Always check if the forklift is capable of lifting the gross weight safely.
 - Cable drums should only be rolled in a direction that the cable is not loosened during rolling.
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5

Handle Your Cable with Care

Follow preventative maintenance schedule as provided by your cable manufacturer. Moreover, take preventive measures against the following possible cable failures:

- Impact,
- Overbending (minimum bend radius),
- Kinks,
- Snatch loads, or over loads,
- Corrosion,
- Abrasion,
- Crushing / cross-winding,
- Heat.

Some of the above issues are reduced by good cable design. The design should offer smart solutions with correct material combinations. Other preventive measures need to be applied by the customer.

6

Make Repairs on Time

Follow corrective maintenance schedule provided by your cable manufacturer. This document provides you information about “what to check if something goes wrong”. Actions for this maintenance are usually provided in Corrective Maintenance Procedure document.

7

Reeling & Installation with caution

During reeling of cables, following points must be considered:

- Cables should not be subjected to bend radii below the minimum recommended radius.
- Terminations must be stowed securely on the drum or winch before reeling.
- A fleet angle of the cable should remain within the specified range by the manufacturer.
- Cable reeling should always be done from top to top or bottom to bottom.
- Gaps in the between cable coils, crossovers or riding coils must be avoided.
- For armored cables, the direction of spooling for the first layer depends on the winding direction of the outer layer of armor wire. For right-hand Z-lay cables spool first layer right top to left top.
- Steel armored cables (and torsionally stiff cables) should be maintained under tension at all times.
- Loops or kinks should be avoided.

8

Shipping

During shipping of cables, the following points must be considered:

- Always transport drums upright.
- The drum should be wrapped to protect the cable.
- Always chock the drums across the width of the drum on both sides.
- The drum should be fixed firmly using chains through the center.

9

Store Carefully

- Do not tip drums onto the side for storage. The drum is not designed to be tipped and may break the flange. Storage in this way may cause dropped coils, which will give great difficulty in unwinding.
- Cables must be stored between -20°C and $+60^{\circ}\text{C}$.
- Cables must be stored under cover.
- Cables must be stored on a correctly sized drum or winch.
- Cables must be uniformly coiled on to the drum with no gaps or crossovers.
- Umbilical and terminations must be protected from accidental damage.
- Cable drum should be located on level ground.
- Cable drums should be wedged under the flange with chocks, front and back.
- Cable drums should be stored away from machinery or processes that produce damaging by-products.
- After storage cables should be fully inspected prior to use.

10

Keep Records

A cable log should be kept; recording: hours of use, failures, maintenance (preventative & corrective) and inspections.

About DeRegt Cables

DeRegt delivers custom-engineered cable solutions for work class ROV's. Our global service network offers round-the-clock access to specialist technical and engineering assistance with repairs, testing, terminations and inspection.



Do you want more information?
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