

Date	01.02.2022	Classification	
Enterprise	Rixen Cableway GmbH	☐ OS ☒ O	☐ IS
Document No.	BU220001		☐ I
Substituted	-----		
Editor WoLu / NaAu	Kind Anlage generell	Assembly Seile	Number of pages 2

Wire

A large number of wire ropes are installed on a water ski/wakeboard system or are used as an aid for assembly and maintenance. Regardless of the regularly required inspection of the permanently installed ropes or slings by a qualified person, one must check the rope before the respective use and make sure that his "work equipment" is in order. Due to external violence or overload since the last regular inspection, ropes and slings may have been damaged in such a way that their further use can lead to bruising.

Discarding of wire ropes

The maturity of wire ropes depends on their condition. Defects can be detected during the inspection by the qualified person and during the visual inspection by the service/maintenance personnel.

Steel wire ropes are ready for removal at:

- Breakage of a strand
- Fold
- Bruises
- Aufdoldungen
- Kinks/Sounds
- Rust damage (e.B. corrosion scars)
- strong overheating (e.B. lightning)
- severe wear of the rope end connection (e.B. the press sleeve)
- emerging or damaged hemp soul
- Number of visible wire breaks according to DIN EN 13414 (Fig. 2)

Figure 1: Rope damage



Bild 2: Discarding of wire ropes due to wire breaks

typ	Number of visible wire breaks at departure maturity on a length of		
	3 d *)	6 d *)	30 d *)
Strand rope	3 adjacent wires of a strand	6	14
Cable impact rope	10	15	40
*) d = rope diameter			

Figure 3: Guideline for the assessment and classification of external corrosion



1. Beginning oxidation of the surface, can be wiped off, only superficially. Classification: 0 % of the discard maturity.



2. Wires feel rough, general oxidation of the surface. Classification: 20 % of the discard maturity.



3. Surface strongly oxidized. Classification: 60 % of the discard maturity.



4. Surface heavily eaten, wires tension-free, gaps between wires. Classification: 100% of the discard maturity

Diameter reduction

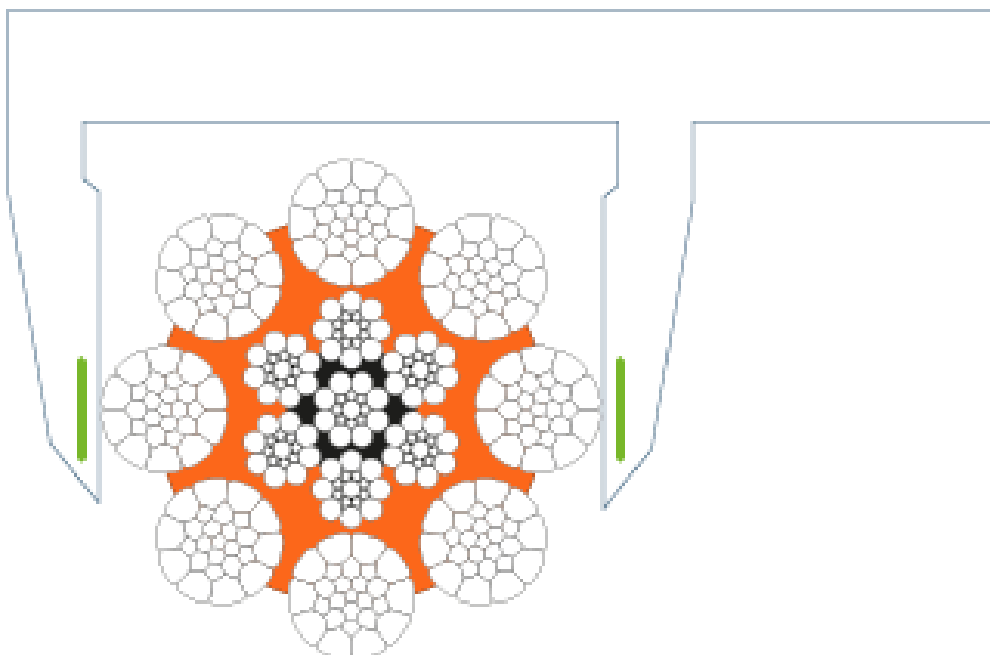
The rope diameter of a working rope is steadily reduced over its entire service life. This reduction in diameter is due to abrasion and wear and will be calculated depending on the wire rope and application. The reduction is expressed as a percentage of the nominal diameter.

For most of the ropes we use, these reference values apply:

Decrease 3.5 % of the nominal diameter = > maturity 0% (At 10 mm rope = 9.65 mm)

Decrease 7.5 % of the nominal diameter = > ready for removal 100% (for 10 mm rope = 9.25 mm)

Figure 4: Correct measurement of rope diameters



Replacement of wire ropes

When replacing wire ropes, there is always the risk of damaging or overloading the system by choosing an unsuitable rope or an unsuitable rope connection.

When replacing ropes, use only ropes approved by the manufacturer. During the exchange, this must be documented by means of a corresponding rope certificate (material certificate 2.2). Rope type, breaking strength and design must correspond to the original part! Rope or wedge clamps must be approved by the manufacturer for the corresponding application!

Damage to the rope due to incorrect installation:

Replace ropes only according to the appropriate assembly instructions. To replace the guy ropes, we recommend that you use the service of Rixen Cableway GmbH.

If you have any doubts or questions, please do not hesitate to contact our service team.

Your contact persons:

Wolfgang Lunghamer

Technischer Leiter

Tel. +49 8131-33569-7425

w.lunghamer@rixencableway.com

Phillip Hirschfeld

Service Leiter

Tel. +49 8131-33569-7426

p.hirschfeld@rixencableway.com

Please include this bulletin in the operating instructions of the system!

Thank you in advance for your understanding and for your cooperation. The Rixen service team is looking forward to a continued good cooperation.