

Lifting Appliances

Principles Relating to Rope Drives

Supervision during Operation

DIN
15 020
Part 2

Hebezeuge; Grundsätze für Seiltriebe; Überwachung im Gebrauch

As it is current practice in standards published by the International Organization for Standardization (ISO), the comma has been used throughout as a decimal marker.

This standard incorporates technical safety stipulations within the meaning of the Law on Technical Equipment, see Explanations.

This standard has been drawn up in collaboration with the Hauptverband der gewerblichen Berufsgenossenschaften, Zentralstelle für Unfallverhütung (Federation of Industrial Employers' Liability Insurance Associations, Central Office for Accident Prevention), Bonn, and with the Bundesverband der landwirtschaftlichen Berufsgenossenschaften, Hauptstelle für landwirtschaftliche Unfallverhütung (Federation of Agricultural Employers' Liability Insurance Associations, Central Office for Accident Prevention in Agriculture), Kassel.

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1 Scope

This standard applies to the supervision during operation of rope drives, the calculation and construction of which is described in DIN 15 020 Part 1.

2 Purpose

This standard contains recommendations relating to the competent execution of the maintenance and supervision work associated with rope drives in use. This work is intended to safeguard the safety and reliability of the lifting operation, and to prolong the service life of the rope drive components (wire ropes, rope end attachments, rope drums, rope pulleys, compensating pulleys).

3 Wire ropes

3.1 Condition prior to laying

Wire ropes must not exhibit any corrosion, damage or excessive soiling. Wire ropes coated or sheathed with plastic are not admissible, because the supervision described in Section 3.4 cannot be carried out on such ropes.

The data relating to the length tolerance of wire ropes contained in DIN 15 020 Part 1 must be complied with.

3.2 Laying

When renewing a wire rope, make sure that the new wire rope is of the same type and strength as the replaced one in the as-new condition. 1) In addition, the rope drive

must be reeved in the same way as it was reeved with the original wire rope. In particular, make sure that the end attachments of the new rope are fastened in the same way as in the case of the original rope. In cases of doubt, the details contained in operating instructions, prescriptions and standards are decisive.

If the piece of rope required is cut off a length of rope from stock, make sure that the rope structure cannot become slack in the course of time at the separating cut (e.g. by flash butt welding or by serving with wire at both ends).

When pulling the wire rope off the reel, or when uncoiling it from a coil, and when mounting it into the rope drive, make sure that the wire rope is neither untwisted nor twisted more tightly, as otherwise the rope formation will be disturbed, and rope loops, knots and kinks may ensue.

Every time a new wire rope is laid, make sure that the grooves in the rope drums, rope pulleys and compensating pulleys will match the rope diameter (see Section 5).

- 1) If a different wire rope is destined to be laid, then the suitability of such a wire rope in respect of the existing rope drive must be demonstrated in accordance with DIN 15 020 Part 1. If any additional data have been incorporated in the operating instruction manual of the lifting appliance by the manufacturer, then such additional information must also be taken into consideration.

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Explanations on pages 8 and 9

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Translation
Fachtechnisches Übersetzungsinstitut
Henry G. Freeman, Düsseldorf