

Forestry machinery - Requirements for sling gear and deflection pulleys for forestal hauling operations

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

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| See Eesti standard EVS-EN 17822:2023 sisaldab Euroopa standardi EN 17822:2023 ingliskeelset teksti. | This Estonian standard EVS-EN 17822:2023 consists of the English text of the European standard EN 17822:2023. |
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English Version

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Machines forestières - Exigences relatives aux élingues et poulies de renvoi pour les opérations de transport forestier

Forstmaschinen - Sicherheitsanforderungen für Anschlagmittel und Umlenkrollen für die Holzzückung

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European foreword

This document (EN 17822:2023) has been prepared by Technical Committee CEN/TC 144 “Tractors and machinery for agriculture and forestry”, the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by August 2023, and conflicting national standards shall be withdrawn at the latest by August 2023.

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Introduction

When performing forestal hauling operations, tree trunks, stalks or logs, etc. need to be fastened to a towing rope using sling gear (e.g. choker chains, choker ropes) in order to haul them out of the stand. Such gear can be of various designs.

Test and condition requirements need to be defined in a standard for such sling gear so that when they are fulfilled the sling gear can absorb the forces acting on it without breaking. Sling gear for forestal hauling operations is subject to loads different from those acting on sling gear for lifting applications or cranes. It is necessary to formulate requirements for sling gear for forestal hauling operations in order to meet the needs of this situation.

1 Scope

This document specifies basic test and condition requirements for deflection pulleys and sling gear which are attached to ropes and rope end connectors in forestal applications.

It is applicable to forestal hauling operations including rope-assisted felling.

This document is applicable to the following elements, sling gear and fastening elements:

- deflection pulleys used in forestal hauling operation (see 3.22);
- choker ropes;
- choker chains;
- radio-controlled chokers;
- shackles;
- round slings/tree protectors;
- tree towing ropes;
- rope slide hooks/rope sliders/choker hooks.

It is not applicable to the following sling gear:

- the functional safety of radio-controlled chokers;
- non-sheathed tree towing ropes made of synthetic fibres;
- slings and deflection pulleys for the function and structure of mobile yarders as defined in EN 16517:2021 (e.g. for the installation of the haul-back line).

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 13889:2003+A1:2008, *Forged steel shackles for general lifting purposes — Dee shackles and bow shackles — Grade 6 — Safety*

EN 14492-1:2006+A1:2009¹, *Cranes — Power driven winches and hoists — Part 1: Power driven winches*

EN 16517:2021, *Agricultural and forestry machinery — Mobile yarders for timber logging — Safety*

EN ISO 12100:2010, *Safety of machinery — General principles for design — Risk assessment and risk reduction (ISO 12100:2010)*

ISO 19472:2006, *Machinery for forestry — Winches — Dimensions, performance and safety*

¹ As impacted by EN 14492-1:2006+A1:2009/AC:2010.

ISO 4309, *Cranes — Wire ropes — Care and maintenance, inspection and discard*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 19472:2006 and EN 16517:2021 and the following apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1

rope-assisted felling

felling operation where the tractive force of a logging winch is used to maintain the direction of felling

EXAMPLE In cases of safety felling or for felling in another direction as driven by gravity.

Note 1 to entry: This provides safety-relevant and ergonomic advantages.

3.2

choker rope

rope that is tied around the wood to be moved during hauling and held by a choker hook mounted on the hauling rope

Note 1 to entry: Choker ropes can be manufactured from steel wire or of synthetic fibres.

3.3

choker chain

short chain piece, which has a sling hook at one end and can have an insertion pin at the other end and which serves for moving wood in hauling operations while it is held by a rope slide eyelet mounted on a hauling rope

Note 1 to entry: To move wood, the choker chain is joined to a rope slide eyelet running on the hauling rope and tied around the wood to be moved during hauling.

Note 2 to entry: Choker chains have a length of approx. 2 m to 3 m.

3.4

tree towing rope

synthetic fibre or wire rope with loops at the ends, which is joined to the tree and to the rope of a logging winch

Note 1 to entry: Tree towing ropes made of synthetic fibres having a sheathing are usually used when laced.

3.5

laced application of tree towing ropes

lark's head

application in which the tree towing rope is placed around the tree forming a tightening noose usually using a shackle

3.6

two-string application of tree towing ropes

application in which the tree towing rope is placed around the tree and in which both loops of the tree towing rope are inserted in a shackle