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## Report on the examination of calculation documents

**Customer:** WITTUR Electric Drives GmbH  
Offenburger Straße 3  
01189 Dresden - Germany

**TÜV Equipment:** 2751922

**Subject of examination:** Traction sheave shaft for Lift machines,  
types xSG-SF.X

**Scope of order:** Examination of the calculation of the traction  
sheave shaft

Date: 2017-05-10

Our reference:  
IS-FT1-DRE/

**Specification:** DIN 743-1: 2012-12 - Calculation of load capacity  
of shafts and axles

This Document consists of  
2 Pages.  
Page 1 of 2

**Scope of examination:**

- Examination of the calculations to ensure compliance with the specifications
- Examination of the calculation results
- Examination of the calculation documents to ensure compliance with the data in the drawings

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**Expert:** Dipl.-Ing. Thoralf Mührel  
Sachverständiger

The test results refer exclusively  
to the units under test.





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## 1. Calculation documents

The following technical documentation was subject of the examination:

- Calculation documents SF\_FE\_0117.docx, pages 1 to 9, dated 2015-03-14 incl. Annexes.
- Drawing 620 502 X00 (revision Äm 25/17, 2017-02-10).

## 2. Technical Data

The data which are of relevance to the calculation are specified as follows in the calculation document SF\_FE\_0117.docx:

- |   |          |
|---|----------|
| – max. axle load (center of traction sheave): | 26,0 kN  |
| – max. magnetic pull:                         | 0,8 kN   |
| – Rated torque (operating type S3):           | 594,0 Nm |
| – Holding brake torque (operating type S3):   | 450,0 Nm |
| – Emergency braking torque:                   | 900,0 Nm |
| – Traction sheave weight:                     | 13,3 kg  |
| – Rotor weight:                               | 20,8 kg  |
| – Brake weight:                               | 10,0 kg  |

## 3. Examination result

The calculations submitted were drawn up in compliance with the specification.

The values determined in the safety verification calculation could be confirmed by performing a control calculation.

The data in drawing no. 620 502 X00 comply with the values relevant for the calculation.

## 4. Remarks

The evaluation did not cover the verification of the calculations for the rotor hub – shaft connection respectively of the traction sheave – shaft connection as well as of the lifetime of the bearings.

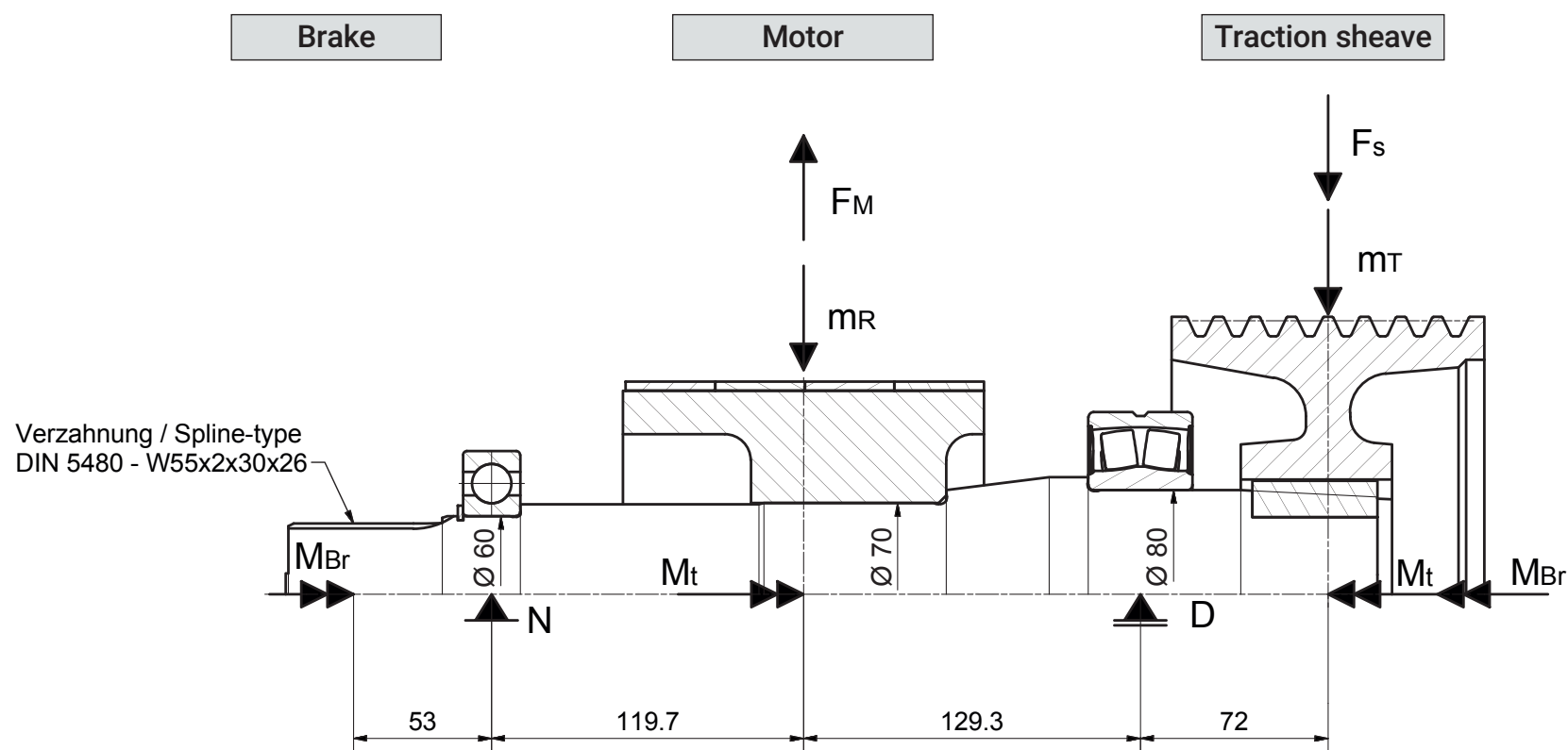
The expert

A handwritten signature in blue ink, reading 'Thoralf Mührel'.

Thoralf Mührel



# Traction sheave shaft (Annex - calculation of the shaft)



Werkstoff: Stahl DIN EN 10083-2 - C45  
Material: steel DIN EN 10083-2 - C45