



WINCHES

SERVICE BULLETIN – SB 88-106

**SB 88-106**

## **Measurement of Brake Ring Thickness**

2018-11-27

Rev. B

# **1 Scope and Target Group**

### **⚠ WARNING**

- ✓ Always refer to the user manual for additional information and safety warnings.
- ✓ Only perform this task if you are qualified to carry out the steps described below.
- ✓ Always make sure that the tasks described in this bulletin are intended for the equipment you are working on.
- ✓ If you are unsure about the workflow, steps or qualification, contact your TTS aftersales service contact.

### **Your aftersales service contact:**

TTS Marine GmbH  
An der Reeperbahn 6  
D-28217 Bremen  
Germany

Telephone: +49(421) 520 08-0  
Telefax : +49(421) 52008-749  
E-Mail: [service@ttsgroup.com](mailto:service@ttsgroup.com)

## 2 Purpose

This inspection sheet is intended to describe the measurement process of the brake ring attached to the rope drum of TTS winch ships equipment and to be used to record the respective measured values.

**NOTICE**

Use this template for one winch only!

Please mark the respective winch on the deck layout (see figure 1) using a highlighter or similar.

## 3 Measuring the Brake Ring

Ship details	Information	Comments
Hull-No.		
Winch-No.		Please mark winch on deck layout below (figure 1) <i>Gear case side + warping head side - please refer to figure 1+4</i>
IMO-No.		
Ship name		
Date of measurement		
Person in Charge		

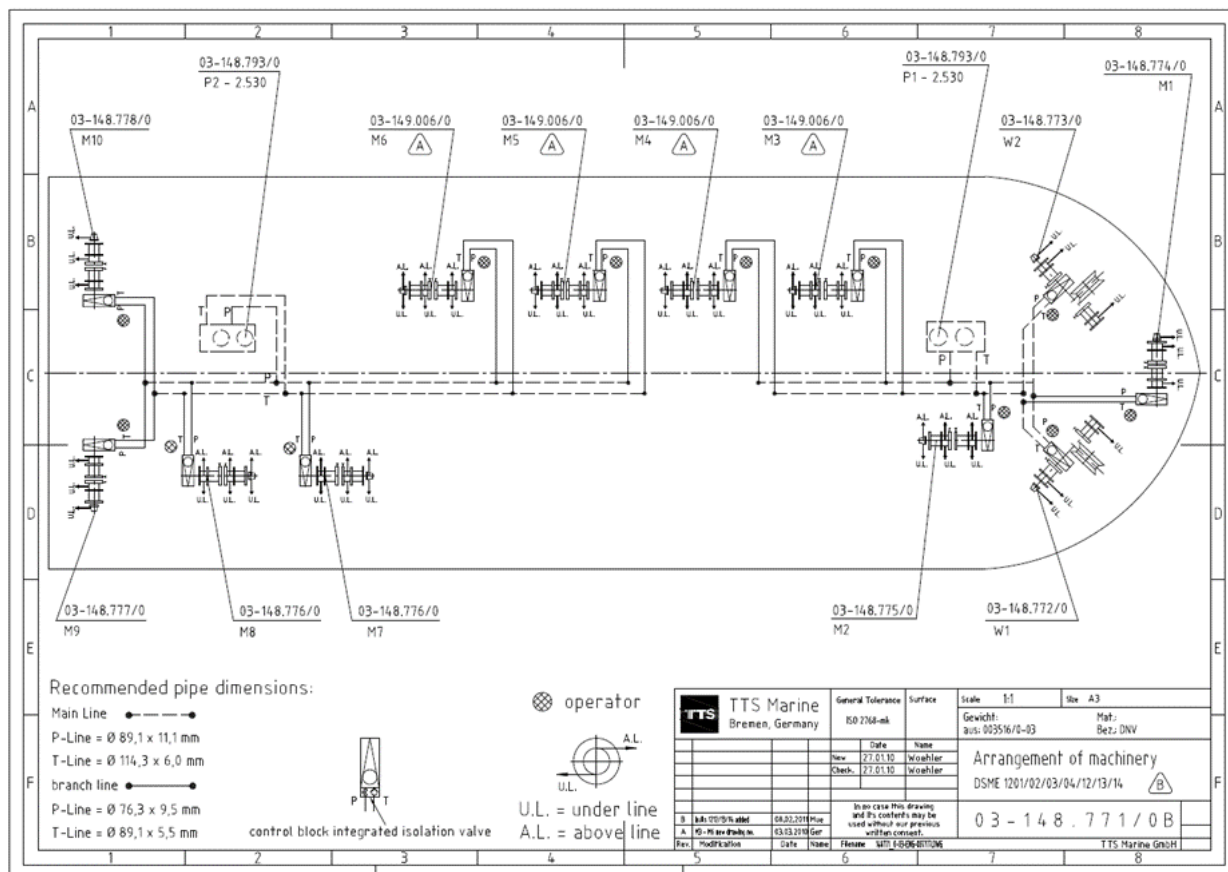


Figure 1: Arrangement of Deck Machinery

### 3.1 Measured values:

The inspector is requested to measure the following values of the brake ring:

1. Actual material thickness of the brake ring,
2. Roundness of the brake bring.

### NOTICE

Values are only to be measured in metric system [mm].

### 3.2 Measuring procedure :

The following figure 2 shows a rope drum of the CHS-Mooring winch applied on the DSME Valemax hulls (1201 – 12/13/14) of Anglo Eastern Ship Management Hkg.

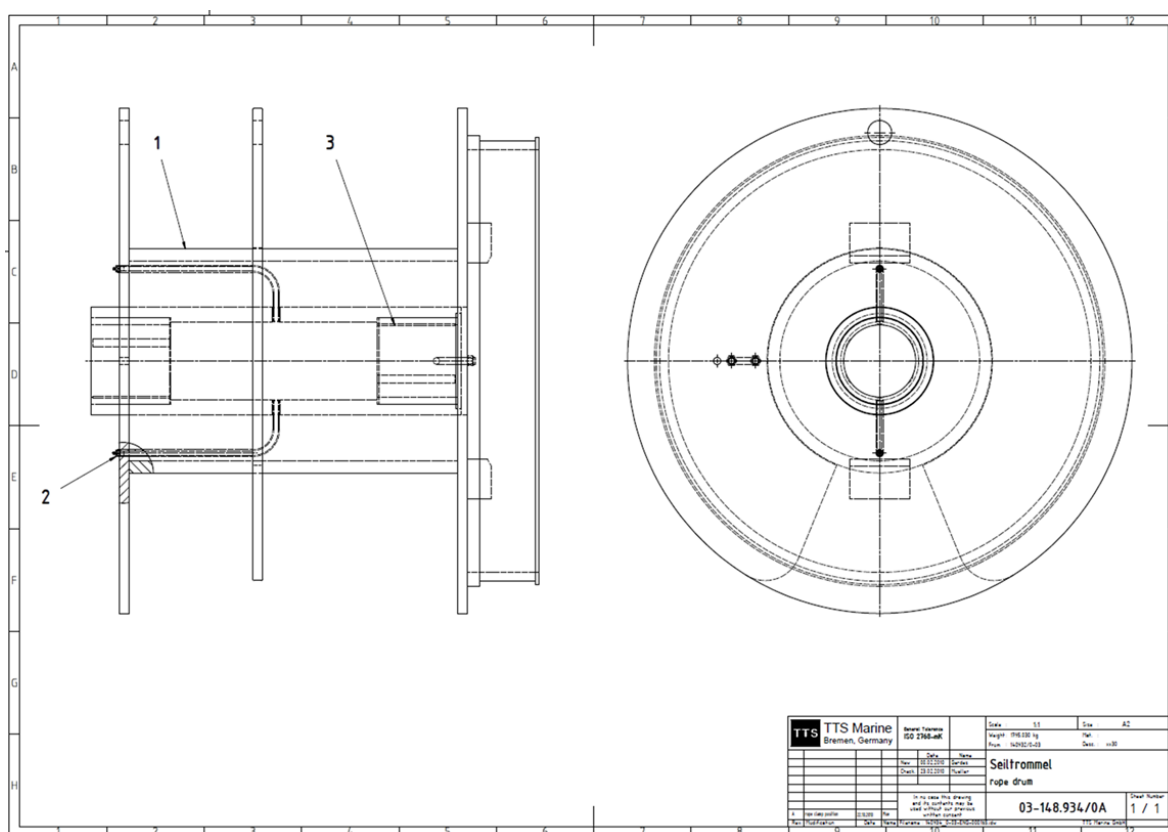


Figure 2: Rope drum of CSH mooring winch

### 3.3 Measurement of actual thickness of brake ring

#### NOTICE

Refer to figure 3 for further information.

- Turn the rope drum into a position (start position) so that you have free access from the points 2 – 3 – 5 – 6 to the shaft.
- Mark the rope drum clockwise with the counting 1 – 2 – 3 – 4 – 5 – 6 at approximately 0° - 45° - 135° - 180° - 225° - 315°.  
For marking we recommend to use tape and permanent marker.
- Turn the rope drum clockwise for each position no. 1 up to no. 6 to the area, where the brake lining is **not** covering the brake ring and start to measure with marking no. 1 following.
- Measure the actual value of the material thickness of the brake ring at this position.

**NOTICE**

We recommend to use only one of the displayed (calibrated) tools for measuring the material thickness of the brake ring at all 6 positions.

- i. Micrometer gauge with exchangeable anvils – range  $\geq 0-100$  [mm] – accuracy 0,01 [mm]
- ii. Brake disc caliper gauge with tip – range  $\geq 0-75$  [mm] – 0,01 [mm] → preferably with digital readout
- iii. Hole-/gripping circle (caliper) – range  $\geq 0-120$  [mm] – accuracy 0,1 [mm]

**NOTICE**

Please perform at least 3 measurements with the same reading prior to note down the 4th reading in order to ensure repeat accuracy of the measurements for each marking.

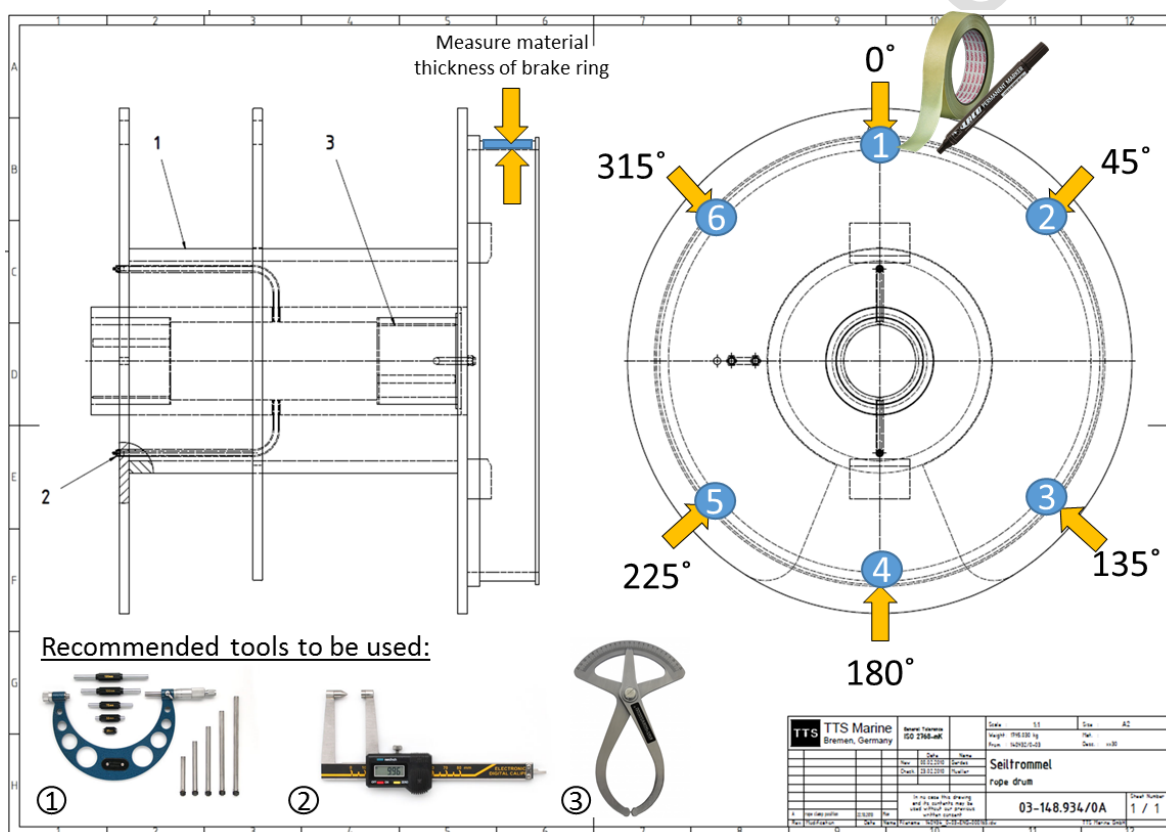


Figure 3: Clockwise markings on rope drum of CHS-Mooring winch – measure material thickness.

### 3.4 Recording

**NOTICE**

When filling in the tables please make sure that you have located the brake rings correctly. Refer to figure 4 for further information.

Warping Head Side      Gear Case Side

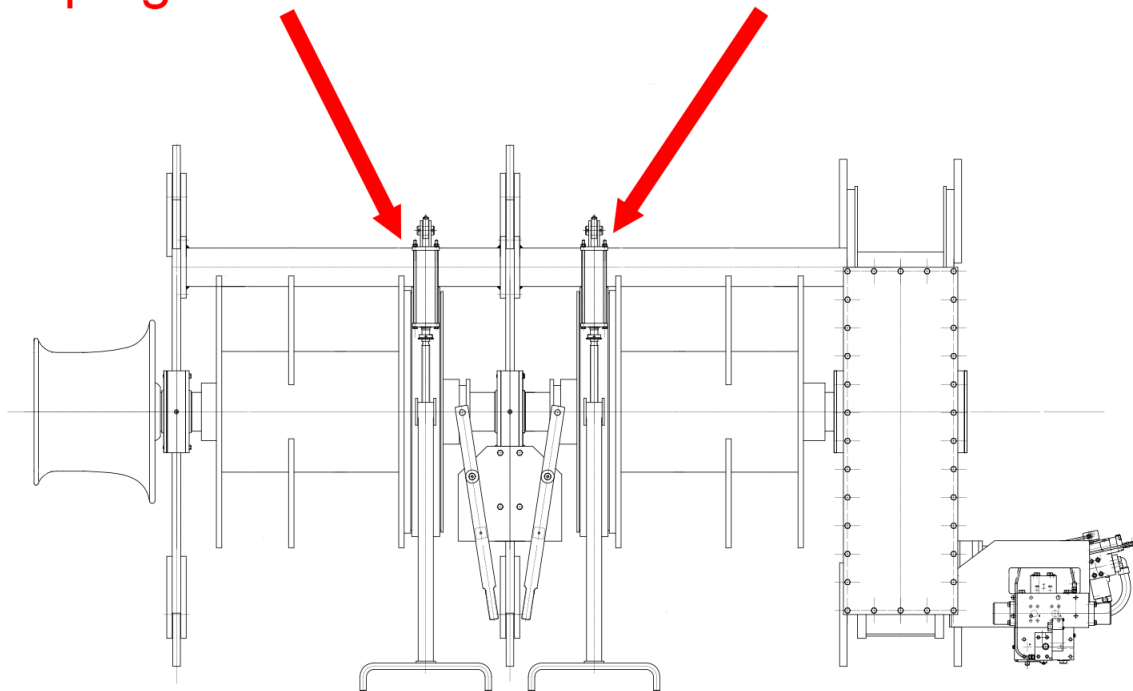


Figure 4: Position of brake rings

**Please fill-in in the following table to record the measured values. – Gear case side**

<b><u>Used Tool:</u></b>	
<b><u>Person in charge:</u></b>	
(1) Position reading [mm]	
(2) Position reading [mm]	
(3) Position reading [mm]	
(4) Position reading [mm]	
(5) Position reading [mm]	
(6) Position reading [mm]	

**Please provide photo documentation of the measured position. – Gear case side**

<b><u>Photo of used Tool:</u></b>	
Overview photo (showing marked positions)	
(1) Position photo showing reading of gauge	
(2) Position photo showing reading of gauge	
(3) Position photo showing reading of gauge	
(4) Position photo showing reading of gauge	
(5) Position photo showing reading of gauge	
(6) Position photo showing reading of gauge	

### NOTICE

Please enter the photo file name into the table above and provide the photos in a separate ZIP-file.

**Please fill-in in the following table to record the measured values. – warping head side**

<b><u>Used Tool:</u></b>	
<b><u>Person in charge:</u></b>	
(7) Position reading [mm]	
(8) Position reading [mm]	
(9) Position reading [mm]	
(10)Position reading [mm]	
(11)Position reading [mm]	
(12)Position reading [mm]	

**Please provide photo documentation of the measured position. – warping head side**

<b><u>Photo of used Tool:</u></b>	
Overview photo (showing marked positions)	
(7) Position photo showing reading of gauge	
(8) Position photo showing reading of gauge	
(9) Position photo showing reading of gauge	
(10)Position photo showing reading of gauge	
(11)Position photo showing reading of gauge	
(12)Position photo showing reading of gauge	

### NOTICE

Please enter the photo file name into the table above and provide the photos in a separate ZIP-file.

### 3.5 Measurement of actual roundness of brake ring

**NOTICE**

Refer to figure 5 for further information.

- Use the already marked positions 2 (45°) – 3 (135°) – 5 (225°) – 6 (315°), where you have free access to the shaft.
- Turn the rope drum into position no. 2 (45°) following and use a **disto (LEICA or similar)** to measure the distance from brake ring to shaft.
- Make sure that you are measuring plumb-vertical.
- Turn the rope drum clockwise for each position no. 2 up to no. 6 to the area, where the brake lining is **not** covering the brake ring. Start to measure the distance from brake ring to shaft with marking no. 2 following.

## NOTICE

Please perform at least 3 measurements with the same reading prior to note down the 4th reading in order to ensure repeat accuracy of the measurements for each marking.

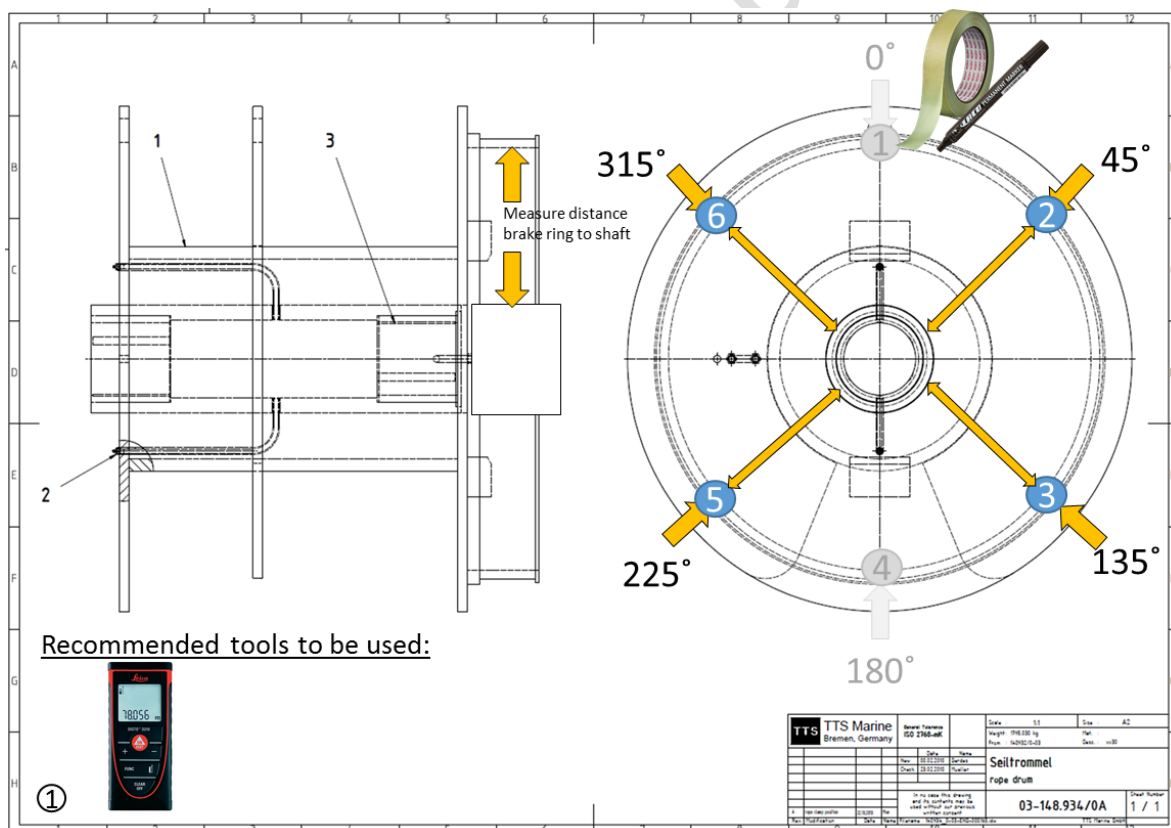


Figure 5: Clockwise markings on rope drum of CHS-Mooring winch – measure distance from brake

## 3.6 Recording

### **NOTICE**

When filling in the tables please make sure that you have located the brake rings correctly. Refer to figure 4 for further information.

**Please fill-in in the following table to record the measured values. – Gear case side**

<b><u>Used Tool:</u></b>	
<b><u>Person in charge:</u></b>	
(2) Position reading [mm]	
(3) Position reading [mm]	
(5) Position reading [mm]	
(6) Position reading [mm]	

**Please provide photo documentation of the measured position. – Gear case side**

<b><u>Photo of used Tool:</u></b>	
Overview photo (showing marked positions)	
(2) Position photo showing reading of disto	
(3) Position photo showing reading of disto	
(5) Position photo showing reading of disto	
(6) Position photo showing reading of disto	

### **NOTICE**

Please enter the photo file name into the table above and provide the photos in a separate ZIP-file.

**Please fill-in in the following table to record the measured values. – warping head side**

<b><u>Used Tool:</u></b>	
<b><u>Person in charge:</u></b>	
(4) Position reading [mm]	
(5) Position reading [mm]	
(7) Position reading [mm]	
(8) Position reading [mm]	

**Please provide photo documentation of the measured position. – warping head side**

<b><u>Photo of used Tool:</u></b>	
Overview photo (showing marked positions)	
(2) Position photo showing reading of disto	
(3) Position photo showing reading of disto	
(5) Position photo showing reading of disto	
(6) Position photo showing reading of disto	

### NOTICE

Please enter the photo file name into the table above and provide the photos in a separate ZIP-file.