

**Project: 20180004**

**Date: 13.06.2018**

Würth Industrie Service  
GmbH & Co. KG  
Industriepark Würth  
Drillberg  
97980 Bad Mergentheim



**Reference No.:** 20180004

**Inspector:** Mr. Caliper

**Item code:** 414641040

**Department:** TQL

**Item description:** SCR-HEX-ISO4014-10.9-(ZFSHL)-M10X40

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**Supplier:** -

## **Investigation report**

### **1) Object of investigation**

The above named article is examined metallographically for the following characteristics according to the DIN EN ISO 898-1 (see figure 1 to 2):

**Inspection characteristics:**

- 90% martensite in the core area
- De- and carburization
- Laps on the thread
- Delta-Ferrite

**Other inspections / specifications:**

### **2) Realized investigations and results**

The specimen is prepared for the microstructure analysis in a longitudinal- and cross section and contrasted with 3 % alcoholic nitric acid.

**Result:**

The tested samples of the above named article fulfill the requirements of the marked characteristics according to the DIN EN ISO 898-1.

The microstructure contains approx. 90% martensite (see figure 1).

No de- or carburization was found (see figure 2).

No laps were detected on the thread (see figure 2).

**Note:**

None

### 3) Documentation

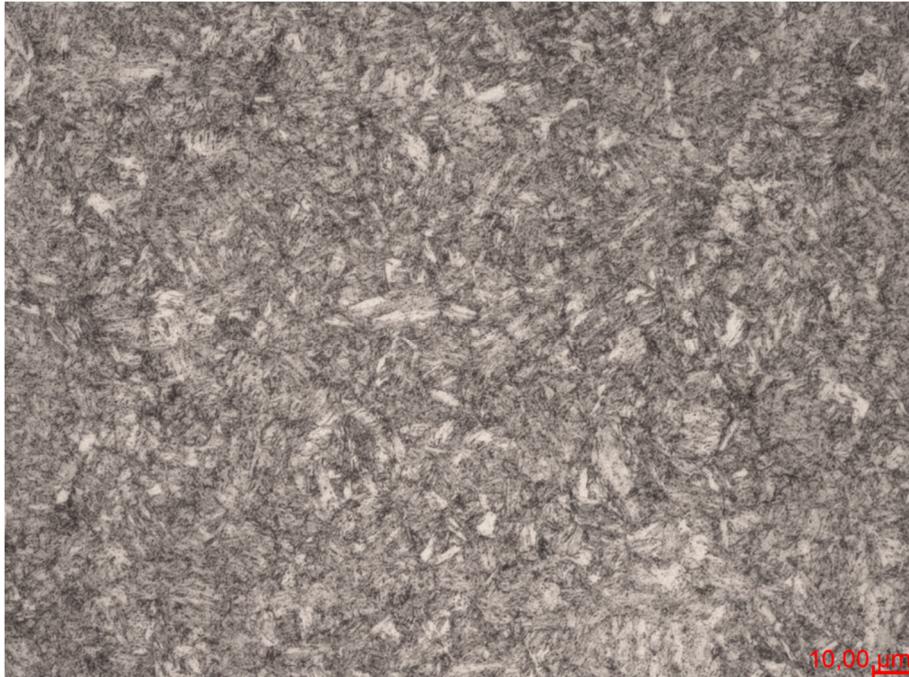


Figure 1: Core area, on shank, sample 4, cross section, etched with 3% HNO<sub>3</sub>, Zeiss Axio Imager/500x

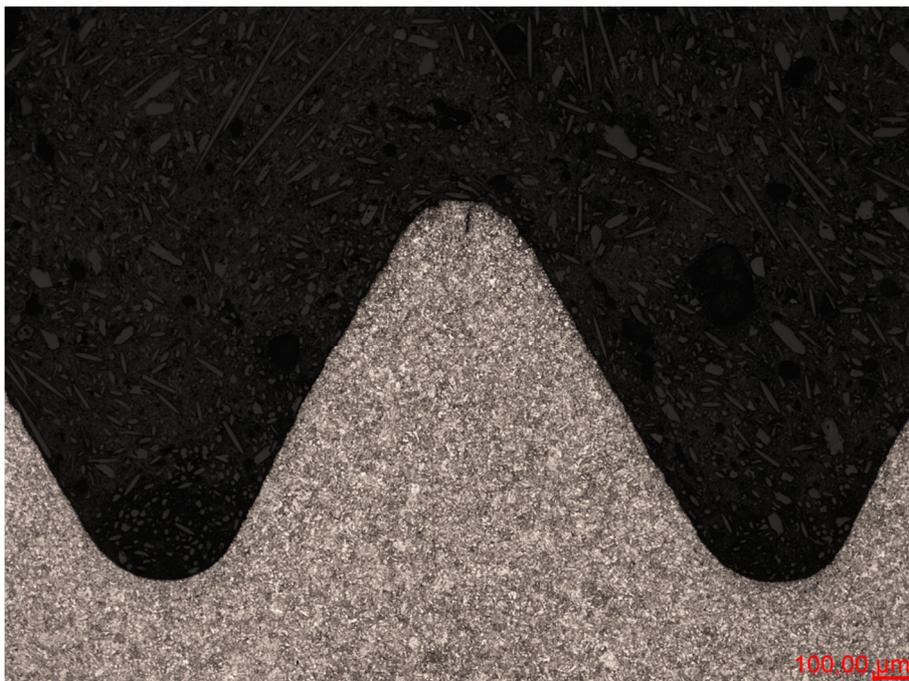


Figure 2: Border area, on thread, sample 4, longitudinal section, etched with 3% HNO<sub>3</sub>, Zeiss Axio Imager/50x