



Westenergie AG - Eurotest

Test report

No.: 20_389-5

Version: 1/1

Customer : Hauff-Technik GmbH & Co. KG
Robert-Bosch-Str. 9
89568 Hermaringen

Test object : Earthing wall bushing

Type : HEA ND M16

Manufacturer : Hauff-Technik GmbH & Co. KG

Date of receipt : 01.02.2021

Date of test : 10.02.2021

Applied test regulations : - By prescription of the manufacturer
- According to DIN EN 50522 (VDE 0101-2):2011-11, Annex D

Test carried out : Short circuit tests on an earthing wall bushing with 5 kA/1 s

Test result : The earthing wall bushing, type HEA ND M16 of the manufacturer Hauff-Technik GmbH & Co. KG **passed** the short circuit tests with 5 kA/1 s by prescription of the manufacturer according to DIN EN 50522 (VDE 0101-2):2011-11, Annex D. The maximum allowed temperature of 300 °C was not reached. No damage was visible at the test object after the tests.

Specialist testers : Alexander Herbst; Ahmet Karakavak; Christoph Pieper

Dortmund, 12.03.2021



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Report No. 20_389-5 contains 8 pages and 3 annexes.

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Summary

The Westenergie AG, Eurotest carried out short circuit tests with 5 kA/1 s on an earthing wall bushing manufactured by Hauff-Technik GmbH & Co. KG by prescription of the manufacturer according to DIN EN 50522 (VDE 0101-2):2011-11, Annex D.

Result:

The earthing wall bushing, type HEA ND M16 of the manufacturer Hauff-Technik GmbH & Co. KG **passed** the short circuit tests with 5 kA/1 s by prescription of the manufacturer according to DIN EN 50522 (VDE 0101-2):2011-11, Annex D. The maximum allowed temperature of 300 °C was not reached. No damage was visible at the test object after the tests.

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1 Applied test regulations

By prescription of the manufacturer according to

DIN EN 50522 (VDE0101-2):2011-11

Earthing of power installations exceeding 1 kV a.c.;

German version EN 50522:2010

Prescription of the manufacturer:

- Short circuit test with 5 kA/1 s
- Maximum allowed temperature: 300 °C
- No visible damage

2 Technical data of the test object

Test object: Earthing wall bushing
Type: HEA ND M16
Manufacturer: Hauff-Technik GmbH & Co. KG
Concrete block: WU – concrete C 25/30

3 Test and measuring equipment

Equip.-No.	cal.	Equipment	Type	Manufacturer
ET-811	*	Fibre Optic Isolated Digitizing Sub-system	GEN7t	HBM
ET-533		50 kA high-current test equipment	GDPN 5000/12 Sp	SIEMENS
ET-651	*	Digitizing Oscilloscope	DL750	Yokogawa
ET-556	*	Digital sampling microhmeter	DSM 200	T&R Test Equipment Limited
ET-1025	*	High current measurement system	HSM-S	RWE Eurotest GmbH

*) Measuring equipment is calibrated based on national and international reference standards. Calibration certificates can be inspected on request.

Table 1: Test and measuring equipment

The measurement uncertainty of the measuring instruments has been calculated and is archived by Eurotest. Documents can be inspected on request.

4 Tests carried out and results

The Westenergie AG, Eurotest carried out short circuit tests with 5 kA/1 s on an earthing wall bushing manufactured by Hauff-Technik GmbH & Co. KG by prescription of the manufacturer according to DIN EN 50522 (VDE 0101-2):2011-11, Annex D.

The test objects were connected with 240 mm² copper cables to the test transformer. One cable was connected to the earthing bushing, 1 cable was connected to a flat steel angle, mounted in the cross connector.



Figure 1: Test setup

The temperatures of the test objects were measured with 0,5 mm NiCr-Ni-Thermocouples (See figure 2). The measuring points were: T01 at the flange, T02 at the core material, T03 at the flange and T04 at the cross connector .

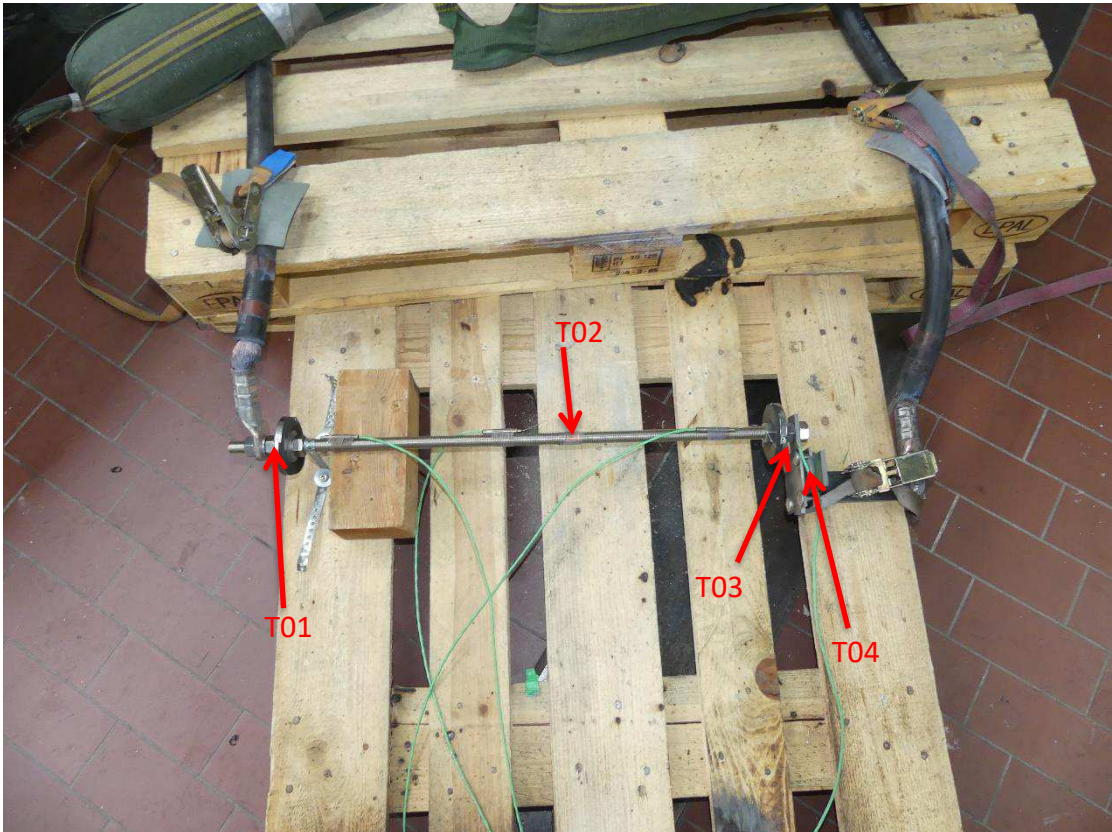


Figure 2: Positions of the thermocouples

The results of the short circuit tests are given in table 3.

Test	I_{RMS} [kA]	t [s]	I^2t [MA ² s]	Maximum measured temperatures [°C]			
				T01:	T02:	T03:	T04:
1	5.294	1.002	28.09	22.7	230.0	32.1	59.8
2	5.290	1.001	28.02	17.4	230.4	32.3	60.2

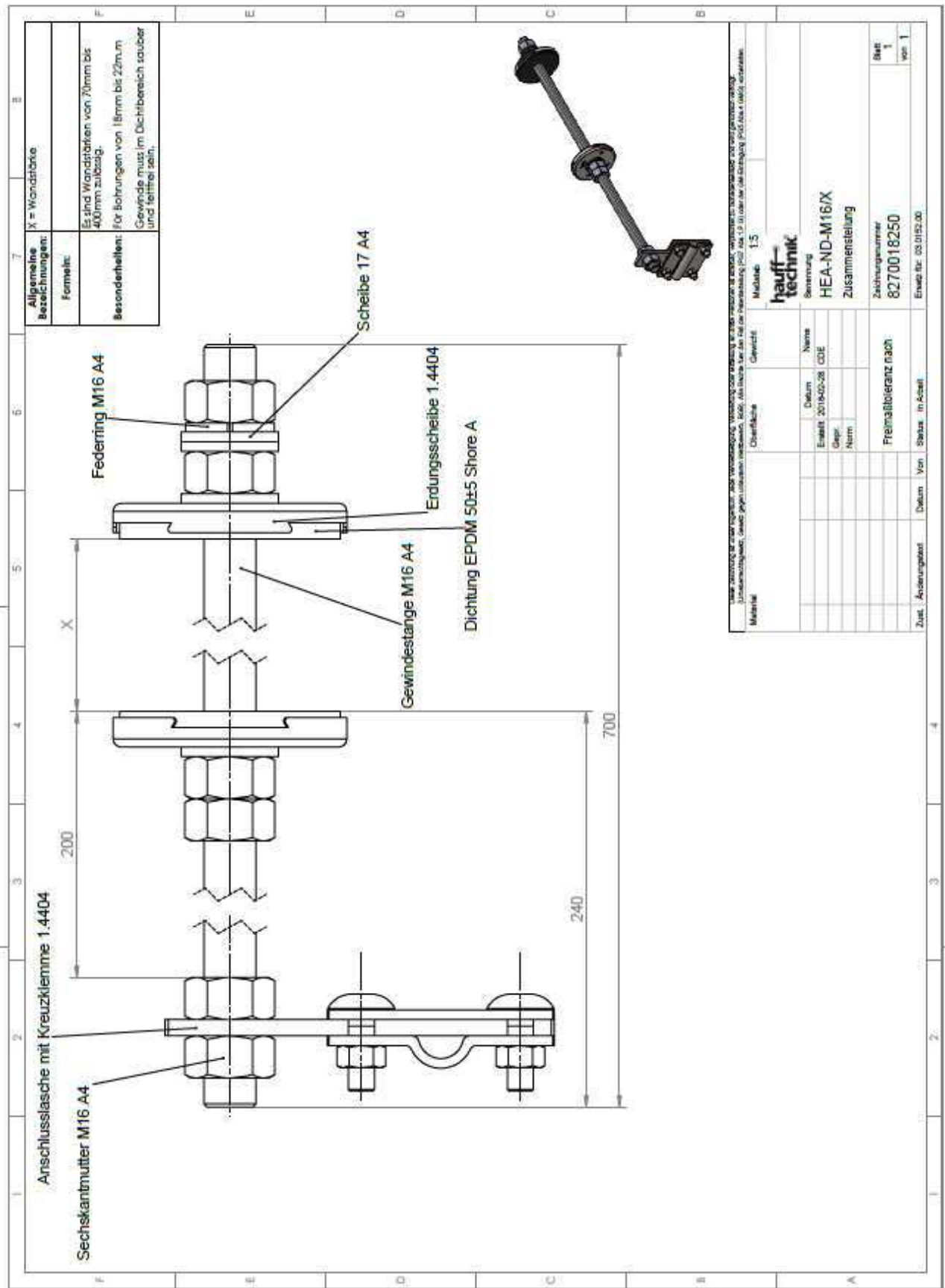
Table 3: Results of the tests

The maximum allowed temperature of 300 °C was not reached during the short circuit tests.

5 Overall result

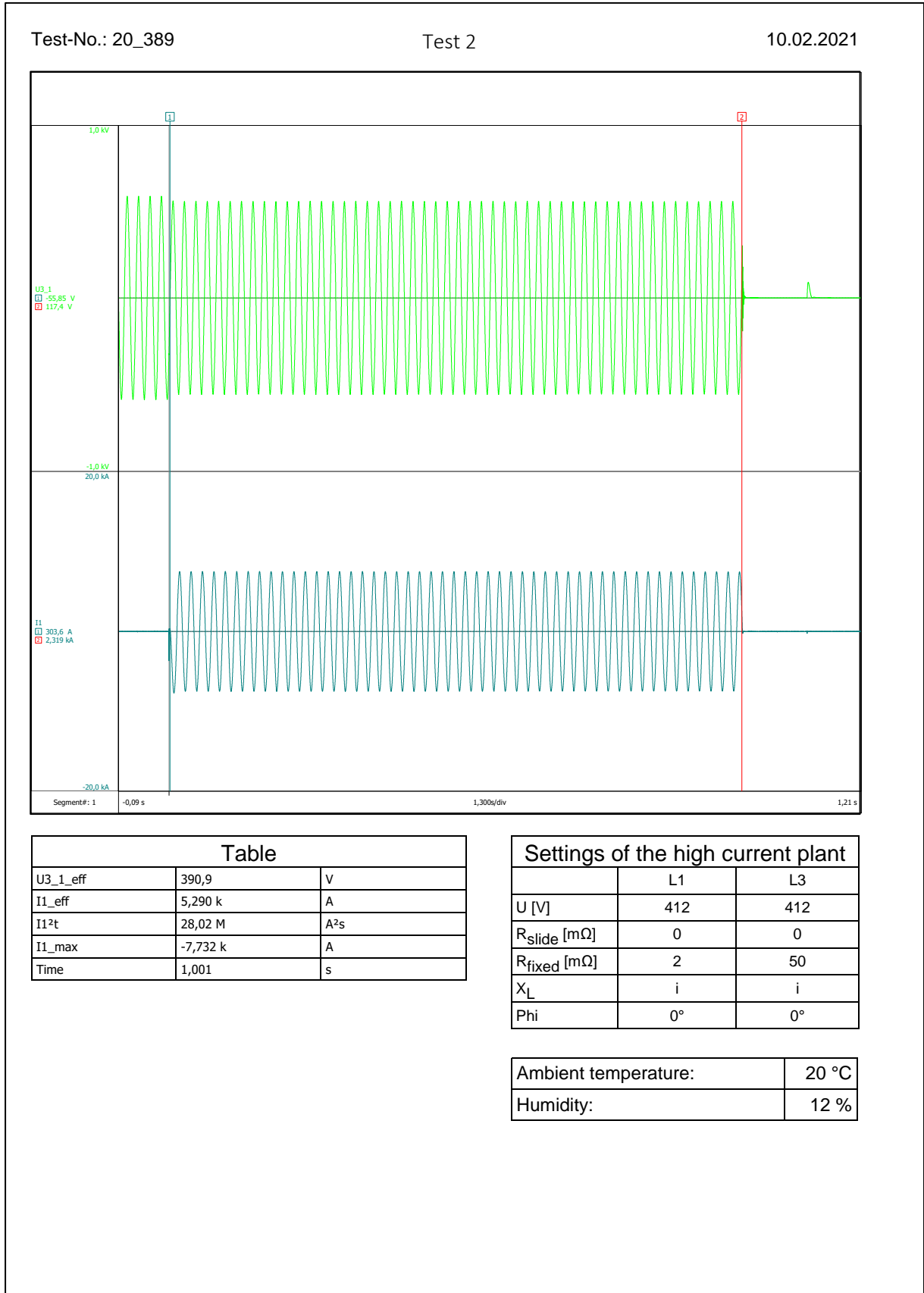
The earthing wall bushing, type HEA ND M16 of the manufacturer Hauff-Technik GmbH & Co. KG **passed** the short circuit tests with 5 kA/1 s by prescription of the manufacturer according to DIN EN 50522 (VDE 0101-2):2011-11, Annex D. The maximum allowed temperature of 300 °C was not reached. No damage was visible at the test object after the tests.

- End of report -



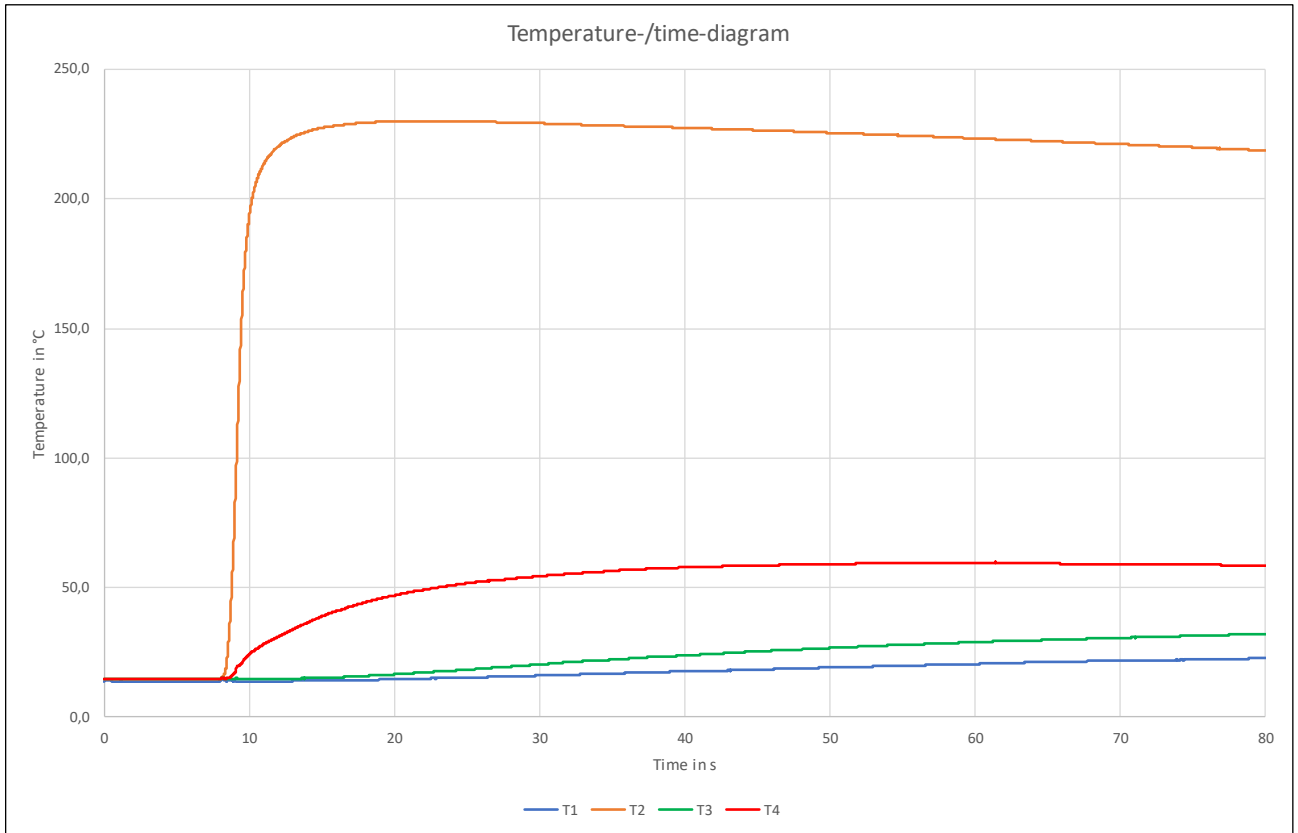
Allgemeine Bezeichnungen:	X = Wandstärke
Formeln:	
Besonderheiten:	Es sind Wanddrücken von 70mm bis 400mm zulässig. Für Bohrungen von 18mm bis 22mm. Gewinde muss im Dichtbereich sauber und fettfrei sein.

Material		Oberfläche		Gewicht		Menge	
				1,5		1,5	
hauff technik							
Name		Datum		Semester		HEA-ND-M16IX	
Erstellt: 2018-07-28		GDI		GDI		Zusammenstellung	
Gepr. Norm		Freibleiblizenz nach:		Zeichnungsnummer		Blatt	
				8270018250		1	
Zust. Änderungskat.		Datum		Von		In Arbeit	
Erstellt für: 03.01.2020							



Temperature-/time-diagrams

Test 1



Test 2

