

Test report

No. 94652022-01

Date: 2019-12-27

Client: FU LUONG HI-TECH CO., Ltd.
No. 72-36, His Mei Li, Shan Hua,
Tainan County 741
Taiwan

Commission dated: 2019-12-03

Nature of commission: To carry out type approval testing in accordance with
EN 16955:2017
class 4 on bearing elements of self-supporting energized devices for
the height adjustment of office work chairs

Test material: 100 bearing elements,
Type: E 018
Tube material: STKM12B-E-C
Wall thickness: 2,5 mm
Surface: QPQ
Produced by: FU LUONG HI-TECH CO., Ltd.
No. 72-36, His Mei Li, Shan Hua,
Tainan County 741, Taiwan

Sampling: By the client from current production

Test period: 2019-12-03 until 2019-12-27

Expert: Alireza Vahidi

Telefon Nr.: +49 911 655-5396

Telefax Nr.: +49 911 655-5404

E-Mail: alireza.vahidi@de.tuv.com

This test report comprises 3 pages and 1 appendix

The test results refer to the samples mentioned in the test report.

To be published only as complete inspection report.

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TÜV Rheinland
LGA Bautechnik GmbH
Tillystraße 2
90431 Nürnberg

Tel +49 911 655-5252
Fax +49 911 655-5505
Mail bautechnik@de.tuv.com

Geschäftsführung
Andreas Geck

Nürnberg HRB 20586

www.tuv.com



Die Akkreditierung bezieht sich auf die in der
Urkundenanlage aufgeführten Prüfverfahren

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1 Commission

The competence centre metals of TÜV Rheinland LGA Bautechnik GmbH, Nuremberg, was commissioned by FU LUONG HI-TECH CO., Ltd., to carry out type approval testing on bearing elements of self-supporting energized devices for the height adjustment of office work chairs.

The type approval test was intended to produce proof of stability class 4 in accordance with EN 16955, bearing element type E 018, tube material STKM12B-E-C, surface QPQ.

The regulations valid in the Federal Republic of Germany were applied in carrying out the commission. The scope and type of tests, as well as the evaluation of the results were based on:

- EN 16955, edition 2017
- DIN 50100, edition 2016-12
- DIN EN ISO 17638, edition 2010-03
- ISO 1099, edition 2006-04
- as well as the appropriate DIN/EN/ISO standards and regulations, each in the latest edition.

2 Carrying out of type approval testing, test conditions

32 bearing elements were taken at random from a quantity of 100 pieces and tested with a load of ± 240 Nm as load-controlled, alternating bending tests, up to a limiting value of stress cycle endured of 2×10^6 load alternations in series of eight on a hydro-pulse system (Class 1 - EN ISO 7500-1).

The samples were clamped in place using suitable devices, so that the test forces used acted parallel to the longitudinal axis of the tubes. The effective distance of the test force was 150 mm, while the test frequency was 8 Hz.

The load application elements were so designed that the total cone length of 32 mm was covered.

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Genau. Richtig.

The acceptance cones were pressed on the bearing elements in a universal test rig with a pressure load of 15 kN. To ensure the acceptance cone / bearing element connection, facing cones in accordance with illustration 2, EN 16955, with a screw starting torque of 20 Nm were used.

The free test length between the clamping units was 50 mm.

The marking according to EN 16955 chapter 8 was engraved on the bearing elements. This had no influence on the cyclic loading behaviour of the tubes, however. Such marks may be placed below the cone.

After the mechanical tests, the bearing elements were examined for cracks by a magnetic particle test.

3 Test results and appreciation

The individual results are listed in the enclosure. The result of the crack test may also be seen in the enclosure.

The test results refer to the samples as in the condition taken and tested.

The type approval testing for the bearing element type E 018 to class 4 - EN 16955 was complied with.

TÜV Rheinland LGA Bautechnik GmbH
Inspection Body for Construction Products


Dipl.-Ing. (FH) Mark Schüßler
Head of the Inspection Body


M.Sc. Alireza Vahidi
Expert

Distribution:

Customer: by Mr. Junjie Lu: Junjie.Lu@tuv.com

Inspection Body: alireza.vahidi@de.tuv.com

Results of fatigue tests in alternating bending area on bearing elements

Tube type: E 018
 Class 4 – EN 16955:2017
 Wall thickness: 2,5 mm
 Tube material: STKM12B-E-C
 Surface: QPQ

Serial sample no.	Serial bearing element no.	Cone coverage %	Alternating bending moment M_a Nm	Load alternation achieved 10^6	Result of crack test
1	1	100	± 240	2,000	No cracks
	2	100	± 240	2,000	No cracks
	3	100	± 240	2,000	No cracks
	4	100	± 240	2,000	No cracks
	5	100	± 240	2,000	No cracks
	6	100	± 240	2,000	No cracks
	7	100	± 240	2,000	No cracks
	8	100	± 240	2,000	No cracks
2	9	100	± 240	2,000	No cracks
	10	100	± 240	2,000	No cracks
	11	100	± 240	2,000	No cracks
	12	100	± 240	2,000	No cracks
	13	100	± 240	2,000	No cracks
	14	100	± 240	2,000	No cracks
	15	100	± 240	2,000	No cracks
	16	100	± 240	2,000	No cracks
3	17	100	± 240	2,000	No cracks
	18	100	± 240	2,000	No cracks
	19	100	± 240	2,000	No cracks
	20	100	± 240	2,000	No cracks
	21	100	± 240	2,000	No cracks
	22	100	± 240	2,000	No cracks
	23	100	± 240	2,000	No cracks
	24	100	± 240	2,000	No cracks
4	25	100	± 240	2,000	No cracks
	26	100	± 240	2,000	No cracks
	27	100	± 240	2,000	No cracks
	28	100	± 240	2,000	No cracks
	29	100	± 240	2,000	No cracks
	30	100	± 240	2,000	No cracks
	31	100	± 240	2,000	No cracks
	32	100	± 240	2,000	No cracks

Certification decision on the monitoring report 946 52022/01 of 2019-12-27

Certification decision and approval by the Certification Body Bautechnik
TÜV Rheinland LGA Bautechnik GmbH

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2024-12-30

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yes no

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yes no

Prolongation

yes no

Nuremberg, 2019-12-30




Dipl.-Ing. (FH) Günther Jost
Head of Certification Body

TÜV Rheinland
LGA Bautechnik GmbH
Tillystraße 2
90431 Nürnberg

Tel +49 911 655-5252
Fax +49 911 655-5505
Mail bautechnik@de.tuv.com

Geschäftsführung
Dirk Fenske

Nürnberg HRB 20586

www.tuv.com



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