

# Technical Report

**No. RP-004974-A0-023**

on the wheel strength of the custom wheel type 37889  
Wheel size 8Jx16H2

**I Client:**

**Otto Fuchs KG**

**Derschlager Str. 26  
58540 Meinerzhagen  
Deutschland**

This report only covers a verification of wheel strength. The wheels described below were tested according to the technical standards „Regulation Nr. 124 with supplement 1 about uniform conditions for the approval of wheels for passenger cars and trailers“ of 31.01.2011 concerning duration strength.

Relevant reports must be submitted for use of the custom wheel on vehicles.

**II Technical details for custom wheels**

Manufacturer:	<b>Otto Fuchs KG</b>
Wheel type:	<b>37889</b>
Wheel Size:	8Jx16H2
Type of custom wheel:	One-piece light alloy custom wheel
Type of centering:	Hub centering
Wheel weight:	5,79 kg
Corrosion protection:	coated

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Part type :

37889

### III Overview of Versions

Version LK/ET- Code	LK/LZ	BL	ML	ET	RF	FR	AU	IMP	HD
37889	5/130	BS1	71.65	10.6	166	475	1928	225/50R16	05/19

LK	Pitch circle diameter (wheel fastening)	in mm
LZ	Number of holes (wheel fastening)	
BL	Type of countersink	see IV.1
ML	Centre hole (Z=centering ring)	in mm
ET	Offset	in mm
RF	Wheel flange- Ø	in mm
FR	max. permitted wheel load	in kg
AU	max. permitted circumference	in mm
IMP	min. wheel size	see V.3.2
HD	Date of manufacture	month and year

### IV Information on custom wheels

#### IV.1 Wheel fastening

BL (III Table)	Type	Centering	Bolt hole- Ø	Cyl. dimension of bolt hole
BS1	Bolts/Nuts	spherical Ø28	15.10	12.46

Tightening torque in Nm:

Depending on specification of vehicle manufacturer but  
max. 160 Nm or as specified in the respective Scope.

#### IV.2 Marking of custom wheels

The following marking is applied to the custom wheels:

	Inside:	Outside:
ECE approval-Nr.:	-	E1 124R-000793
Offset:	ET10,6	-
Manufacturer:	Fuchs	-
Date of manufacture:	Woche und Jahr	-
Jap. Test label:	JWL	-
Wheel size:	8Jx16H2	-
Wheel type:	37889	-

On the rear of the wheels other check marks may be placed.

### V. Custom wheel test

#### V.1 Rim Size

In the main items the verified samples correspond with the drawing document.

	Number.:	Date:
Wheel description	Radbeschreibung ECE 124_OF37889	01.03.2019
Drawing of custom wheel	037889 FT GES 00 X0	08.11.2019

#### V.2 Material of custom wheels

Composition, strength values and corrosion behaviour are listed in the manufacturer's description. Please note that these statements have not been tested by us.

### **V.3 Strength test**

#### **V.3.1 Fatigue strength test**

The fatigue strength was tested on a disk wheel tester with out-of-balance load. The test was based on the following values.

Version	ET	FR	Factor of friction	Dyn. tyre Radius in m	Equivalent rolling circumference in mm	Max. bending moment in Nm	Crack testing method	Tested derived
37889	10.6	525	0,9	0,307	1928	2955	Zinc oxide	T

No incipient cracks were detected on the wheels tested after the minimum number of load cycles specified had been reached. There was no inadmissible reduction in the tightening torque.

#### **V.3.2 Impact Test**

To verify adequate fracture behaviour an impact test according to ISO 7141 was conducted. The tyre sizes given in the table below were taken for test purposes. In each case one make with the smallest possible cross-section width was selected.

Version	LK/LZ	ET	FR	Test load in kg	Tyre pressure in bar	Size of wheels	Tested derived
37889	130/5	10.6	525	495	2,0	225/50R16	T

The requirements of the standard were satisfied.

#### **V.3.3 Rolling test**

The rolling test was processed based on the following values.

Version	LK/LZ	ET	FR	Test load in daN	Tyre pressure in bar	Rolling distance in km	Size of wheel	Crack testing method	Tested derived
37889	130/5	10.6	475	1165	4,5	2000	245/70R16	Dye penetrant	T

The wheels were tested after reaching the required minimum number of stress cycles and no cracks were found. There was no inadmissible drop in air pressure in the tyres tested.

### **VI Conditions and Instructions**

- 1) In the strength test a rolling circumference was taken for each version (see table). The use of wheels with a smaller circumference is technically uncritical.
- 2) The wheel load and rolling circumference tested must be adequate.
- 3) The mounting dimension must be checked. In particular the pitch circle diameter, type of centering, bolt or stud length and thread must be checked.
- 4) There must be clearance of the wheel-tyre combination with respect to fixed parts of the braking system and chassis (Note balance weights). The clearance in relation to parts of the chassis must be checked.
- 5) Only tubeless tyres with metal or rubber valves are allowed. The valves must be in accordance with the standards DIN, E.T.R.T.O or TRA, they should be as short as possible and may not project beyond the wheel contour.
- 6) Only adhesive weights may be used on the inside of the rim to balance the wheels

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- 7) When selecting the tyre sizes it must be noted that the dimensions (nominal width and cross-section ratio) are not below the tyre sizes used in the impact test (see table under point V. 3.2).

Nominal width	Aspect ratio	Authorized
≥ tested	≥ tested	yes
> tested	< tested	yes
≤ tested	< tested	no
< tested	≥ tested	no

- 8) In the vehicle-mounted safety and/or environmental systems (e.g. tyre pressure measuring system) must work with the custom wheels as well or must be replaced accordingly.

This report has 4 pages and may only be used in its complete form.

TÜV NORD Mobilität GmbH & Co. KG  
**IFM - Institut für Fahrzeugtechnik und Mobilität**  
Schönscheidtstraße 28, 45307 Essen

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Dipl.-Ing. Schöffler