

**Type** : 10564  
**Applicant** : Hangzhou Forlong Impex Co., Ltd.

**Applicant:** Hangzhou Forlong Impex Co., Ltd.  
 Room 907 No. 6 Building,  
 Yinhu Innovation Center No. 9 Fuxian Rd  
 FUYANG, ZHEJIANG 311402, CHINA

**Manufacturer name or trade mark:**



**Test object:** Aluminium wheel for Passenger-car trailer

Model: 10564-1455  
 Wheel type: 10564  
 Wheel size: 14X5.5J  
 Kind of centering\*: hub centering (Ø 67.1 mm)  
 Fixing hole Ø\*: Ø 15 mm  
 Attachment flange : ca. Ø 140 mm  
 Fixing material\*: Bolts or Nuts, SR12 spherical or 60 conical  
Wheel construction :  
 Construction\*: Casting wheel  
 Material : n.a.  
 Heat treatment : n.a.  
 Hardness : n.a.

(\* data from drawing)

| Test Sample No.  | received on [date] | Wheel indication             | PCD / no. of holes [mm] | Hub hole Ø [mm] | Offset [mm] | Designated wheel load [kg] | Circumference [mm] | Wheel surface treatment |
|------------------|--------------------|------------------------------|-------------------------|-----------------|-------------|----------------------------|--------------------|-------------------------|
| <b>1.1 - 1.6</b> | <b>2021-Nov-19</b> | <b>10564;<br/>60 conical</b> | <b>112/5</b>            | <b>67.1</b>     | <b>30</b>   | <b>950</b>                 | <b>2032</b>        | <b>Machine face</b>     |
| ---              | ---                | ---                          | ---                     | ---             | ---         | ---                        | ---                | ---                     |

**Remarks and Notes:** test sample wheels are 60 conical.

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**Test sample pictures:**Test sample wheel

side view



front view



back view

**Remarks and Notes:**

The test samples were fully processed. The weight of one test sample was 7.13 kg.

**Indication (on test sample)**

|                                      | Outside | Inside                           |
|--------------------------------------|---------|----------------------------------|
| Customer's code<br>(brand/trademark) | ---     | FORLONG                          |
| Wheel type                           | ---     | 10564                            |
| Wheel size                           | ---     | 14X5.5J                          |
| Offset                               | ---     | ET30                             |
| P.C.D.                               | ---     | ---                              |
| Manufacturer's indication            | ---     | ---                              |
| Production date                      | ---     | 12/20 (month / year)             |
| Manufacturer's country               | ---     | ---                              |
| Other indications                    | ---     | 950KG; C 18; JWL; VIA; M ?B4; H; |

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**Strength Test:**

**Test Standard:** § 30 StVZO (Regulations authorising the use of vehicles for road traffic)  
Guidelines for the testing and inspection of custom wheels for motor vehicles and their trailers

**UN Regulation No.124**  
Uniform provisions concerning the approval of wheels for passenger cars and their trailers

**Test result of the rotating bending test (bending fatigue test)**

- Rotating bending test / bending fatigue test 66.000 cycles at 75%  $M_{b_{max}}$
- Rotating bending test / bending fatigue test 690.000 cycles at 50%  $M_{b_{max}}$

| Test sample No. | Wheel load [kgf] | Test bending moment [Nm] | Number of bending cycles | Tire circumference [mm] | Dynamic tire radius [m] | Bolt / nut fastening torque [Nm] |       | Result rotating bending test | Sample date [mm/yy] |
|-----------------|------------------|--------------------------|--------------------------|-------------------------|-------------------------|----------------------------------|-------|------------------------------|---------------------|
|                 |                  |                          |                          |                         |                         | before                           | after |                              |                     |
| 1.1             | 950              | 4,490                    | 66,000                   | 2,032                   | 0.324                   | 180                              | 180   | complied                     | 12/20               |
| 1.2             | 950              | 2,994                    | 690,000                  | 2,032                   | 0.324                   | 180                              | 180   | complied                     | 12/20               |

The wheels concluded the rotating bending test with the testing parameters and results listed in the table.

Test sample No.1.1 pictures:

Front side



Rear side



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Test sample No.1.2 pictures:

Front side



Rear side



### Test result of the radial load fatigue test (Rolling test)

- Radial load fatigue test / rim rolling test 2.000 km at factor for safety S = 2,0

| Test sample No. | Wheel load [kg] | Radial test load [Nmf] | Test tire size | Tire pressure [bar] | Test speed [km/h] | Test duration [km] | Bolt / nut fastening torque [Nm] |       | Result radial load fatigue test | Sample date [mm/yy] |
|-----------------|-----------------|------------------------|----------------|---------------------|-------------------|--------------------|----------------------------------|-------|---------------------------------|---------------------|
|                 |                 |                        |                |                     |                   |                    | before                           | after |                                 |                     |
| 1.3             | 950             | 18,639                 | 195R14C        | 4.5                 | 60                | 2,000              | 180                              | 180   | complied                        | 12/20               |

The wheel concluded the radial load fatigue test with the testing parameters and results listed in the table.

Tested sample No.1.3 pictures:

Front side



Rear side



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### Test result of the impact resistance test

Test Standard: § 30 StVZO (Regulations authorising the use of vehicles for road traffic)  
 Guidelines for the testing and inspection of custom wheels for motor vehicles and their trailers

**impact test according to ISO 7141:2005**  
**Road vehicles – Light alloy wheels – Impact test**  
 - Impact resistance test at drop angle 13°

#### Test setup / preparation:

| Wheel load [kgf] | Drop weight [kg] | Test tire size | Tire pressure [bar] | Drop height [mm] | Striker alignment [mm] | Bolt / nut fastening torque [Nm] |
|------------------|------------------|----------------|---------------------|------------------|------------------------|----------------------------------|
| 950              | 750              | 185R14C        | 2.0                 | 230 ±2           | 25 ±1                  | 180                              |

| Test sample No. | *Impact locations |     |     | Compliance status |                |                |                 |                                      | Bolt / nut fastening torque after test [Nm] | Result impact resistance test | Sample date [mm/yy] |
|-----------------|-------------------|-----|-----|-------------------|----------------|----------------|-----------------|--------------------------------------|---------------------------------------------|-------------------------------|---------------------|
|                 | 1                 | 2   | 3   | marked cracks:    | internal faces | external faces | impact location | separated central rim portion (disc) | loss of all tire pressure within 1 min.     |                               |                     |
| 1.4             | OK                | --- | --- | NO                | NO             | Yes            | NO              | NO                                   | 180                                         | complied                      | 12/20               |
| 1.4             | ---               | OK  | --- | NO                | NO             | Yes            | NO              | NO                                   | 180                                         | complied                      | 12/20               |

\*Impact locations: 1 = nave connection (spoke)  
 2 = between two connections (ventilation opening), taken into account the position of the valve hole  
 3 = not applicable here

The wheels concluded the impact resistance test with the testing parameters and results listed in the table.

Tested sample no. 1.4 pictures:

Front side



Rear side





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Impact locations 1:



Impact locations 2:



**Material Test:**

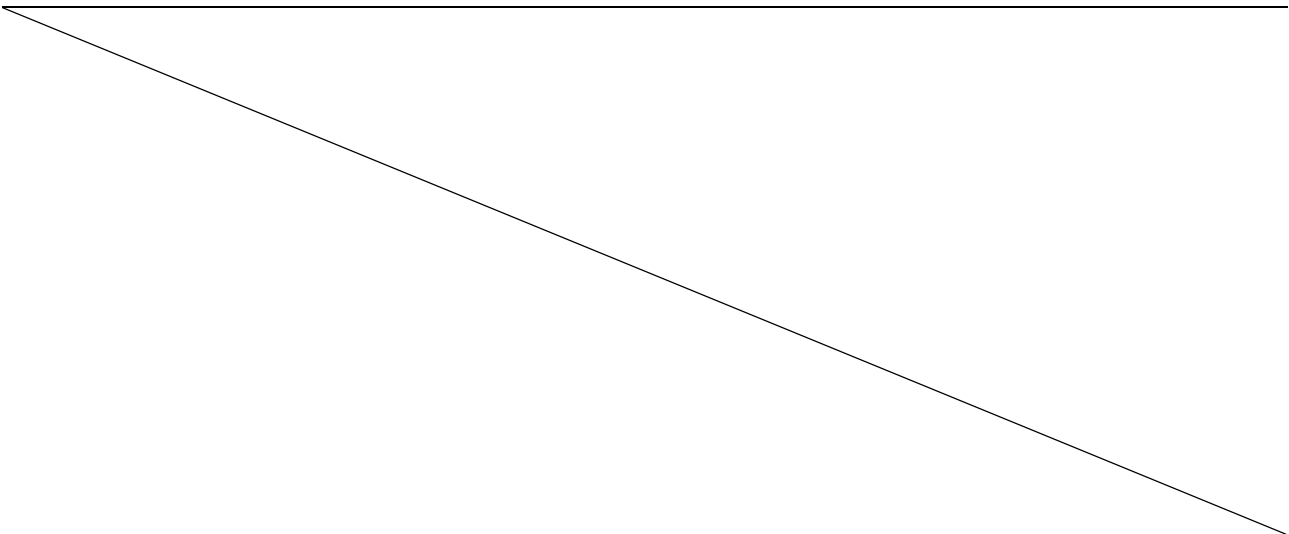
- N/A –

**Applicable documents:**

- |                            |                                                                 |
|----------------------------|-----------------------------------------------------------------|
| - Wheel drawing no.:       | FL-ALU-14.55.5.112..30.60° on 06.11.2019<br>with revision: n.a. |
| - Accessories drawing no.: | - N/A -                                                         |
| - Wheel description:       | - N/A –                                                         |

**Remarks and Notes: n.a.**

-N/A-



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**Place of testing and date:**

The tests of the wheels have been performed at the testing laboratory of Qingdao Product Quality Supervision and Testing Research Center from November 19<sup>th</sup>, 2021 till November 28<sup>th</sup>, 2021

The test equipment used is in compliance with the requirements stated in the test standards. Measurement uncertainties are taken into account when evaluating the test conditions and results.

| No.                                 | Make            | Type         | SN      | Calibration Date | Expired Date | Specifications                                                                                                                              |
|-------------------------------------|-----------------|--------------|---------|------------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Bending fatigue test machine</b> |                 |              |         |                  |              |                                                                                                                                             |
| 1                                   | Tianjin jiurong | CFT-3        | B2016   | 2021-June-06     | 2022-June-05 | 0-12 kN.m; U=0.20% (k=2);<br>Max tolerance 0.5%.                                                                                            |
| <b>Rim rolling test machine</b>     |                 |              |         |                  |              |                                                                                                                                             |
| 2                                   | Tianjin jiurong | LSC-2NG      | Y04-785 | 2021-Aug-23      | 2022-Aug-22  | 0-150 kN; U=0.4%(k=2); Max<br>tolerance 0.8%<br>0-120 km/h; U=0.2%(k=2);<br>Max tolerance 0.8%                                              |
| <b>Torque wrench</b>                |                 |              |         |                  |              |                                                                                                                                             |
| 3                                   | Germany         | 0503TQ4-200N | 442934  | 2021-Aug-09      | 2022-Aug-08  | 40~200 N.m, Level 4. Max<br>tolerance 3.7%, repeatability<br>max 0.7%                                                                       |
| <b>Air pressure meter</b>           |                 |              |         |                  |              |                                                                                                                                             |
| 4                                   | ANCN            | ACD-200      | J05-252 | 2021-Aug-10      | 2022-Aug-09  | 0~1 Mpa, Level 0.5.                                                                                                                         |
| <b>Impact test machine</b>          |                 |              |         |                  |              |                                                                                                                                             |
| 5                                   | Tianjin jiurong | ITM-4        | ZX-008  | 2021-June-06     | 2022-June-05 | Max Mass=1000 kg;<br>U=1.0%(k=2);<br>Displacement 7.32mm<br>U=0.08mm (k=2);<br>Drop height 230mm<br>U=0.08mm (k=2);<br>Max tolerance 1.53%. |

**Statement of conformity**

The test results and observations indicated in this test report refer exclusively to the samples tested. It is not permitted to transfer the results to other systems or configurations.

Publication and/or duplication of this test report in extract is not permitted without permission of the test laboratory. The test laboratory does not assume any liability to any party for any loss, expense or damage occasioned by the use of this report. Any use of the laboratories name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by the test laboratory.

This report by itself does not imply that the material, product, or service is or has ever been under a TÜV certification program nor does it prove that the manufacturer has a Quality Management System to guarantee constant production quality.

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**Special notice:**

This test report is not a strength certificate and must not be used for vehicle inspections according to paragraph § 19/21 StVZO of the German Road Traffic Licensing Regulations respectively for the use of these wheels in public traffic.

By the time of the tests technical documentation respectively information about a valid QM Certificate for to issue Teilegutachten and/or ABE/ECE applications were not available.

The Test Report comprises pages 1 to 8.

Shanghai, December 01<sup>st</sup>, 2021

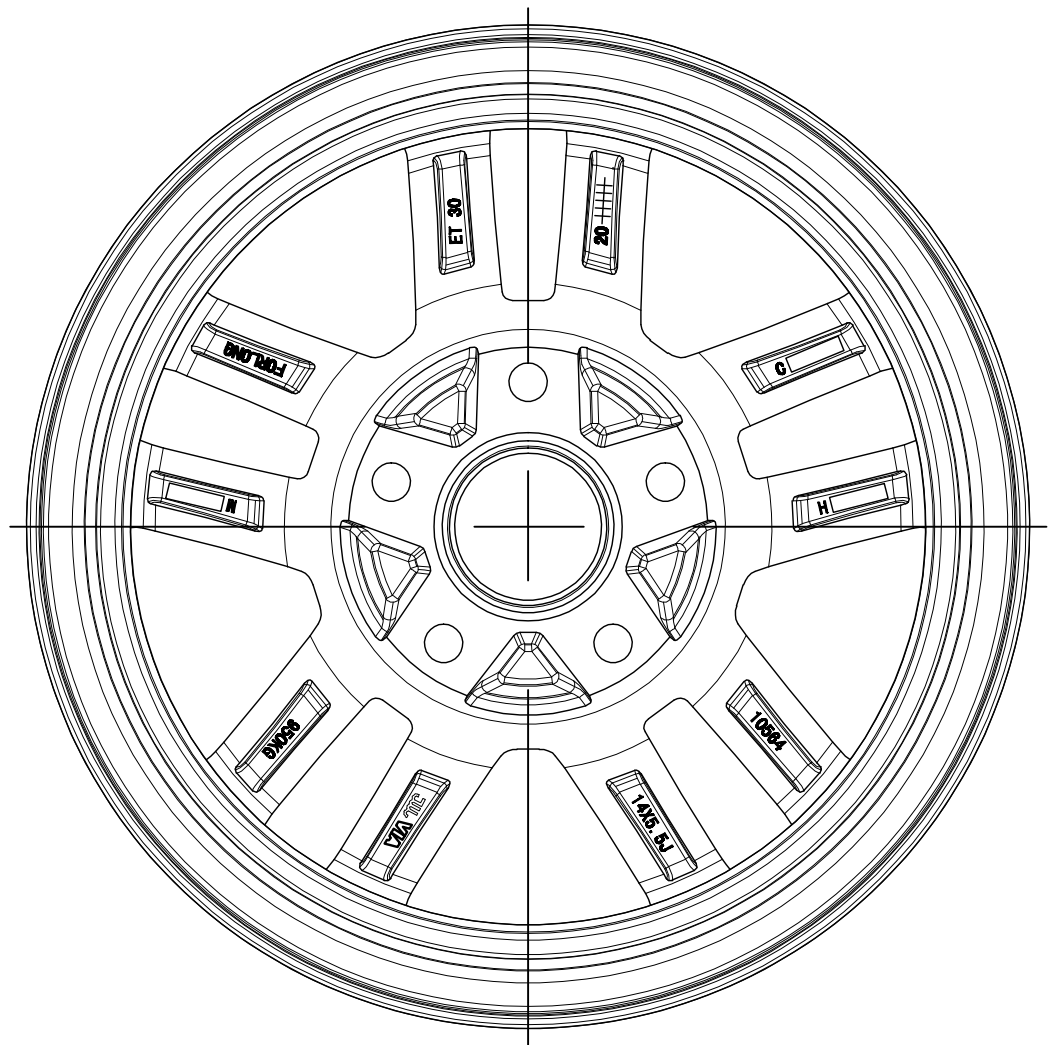
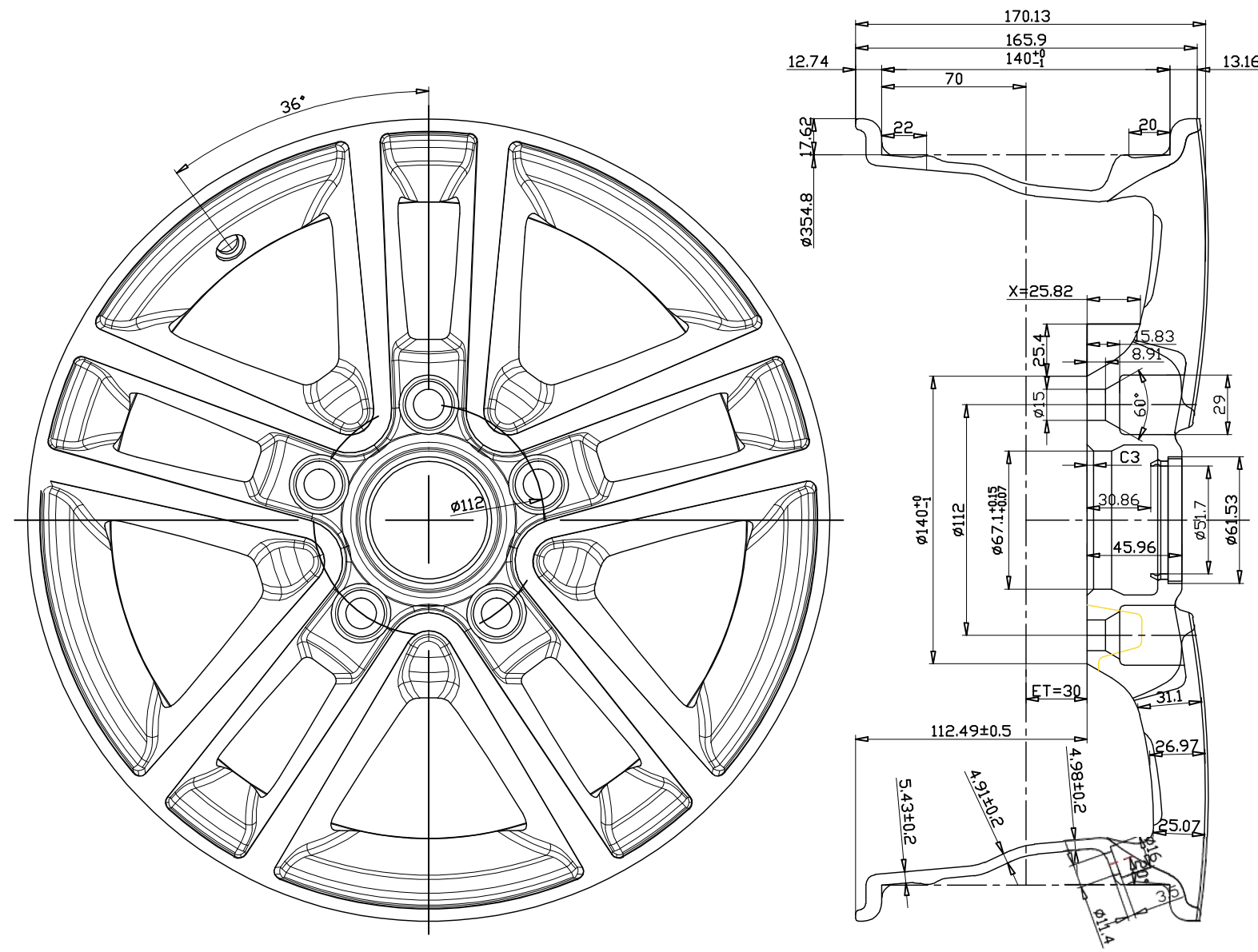
*Michael Wang*



Michael Wang  
Project Engineer | Mobility Greater China



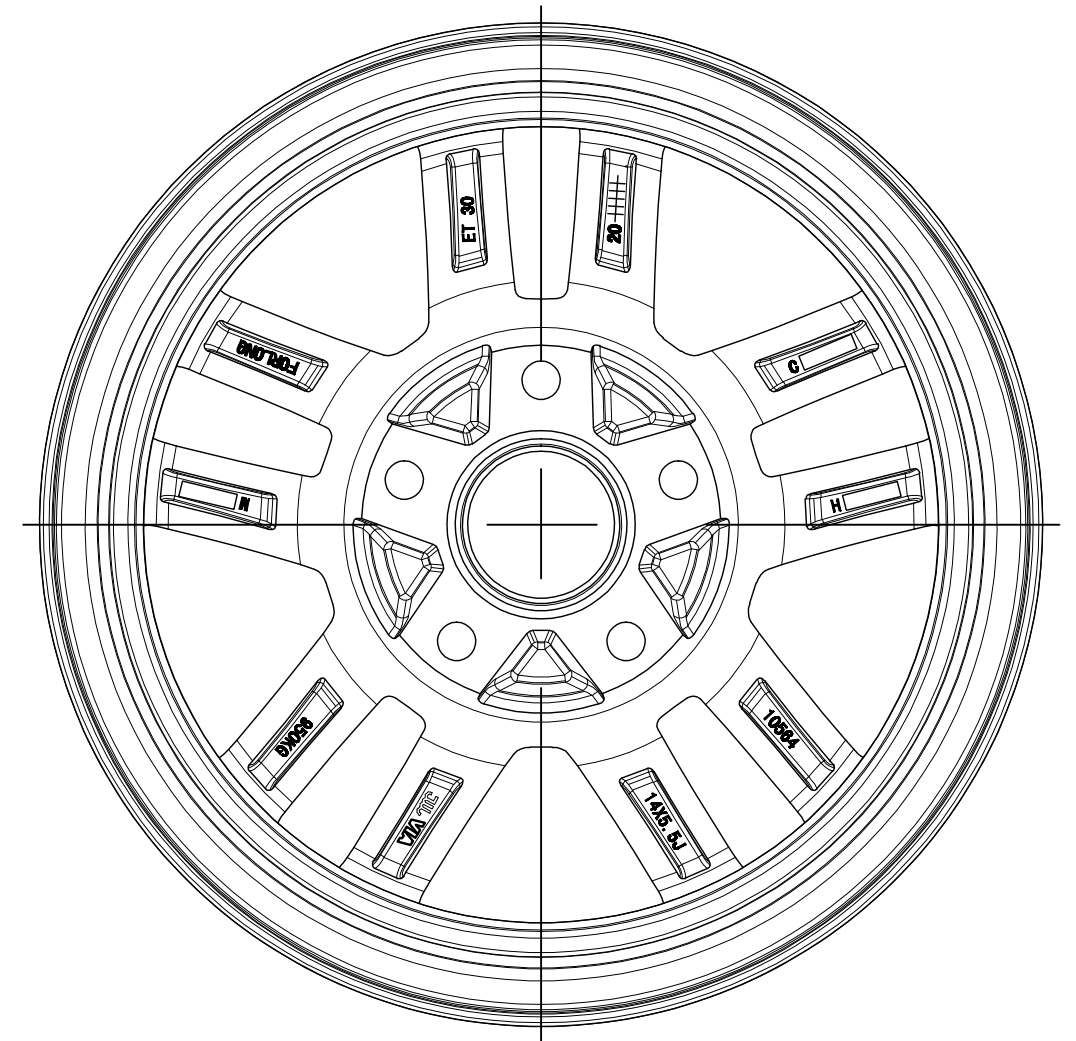
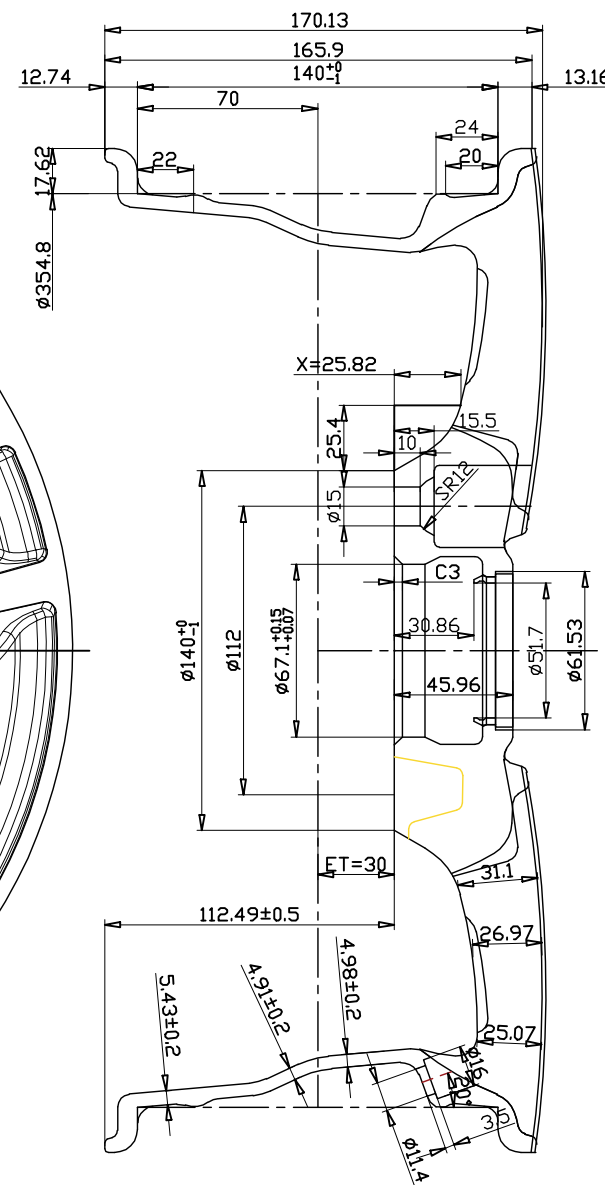
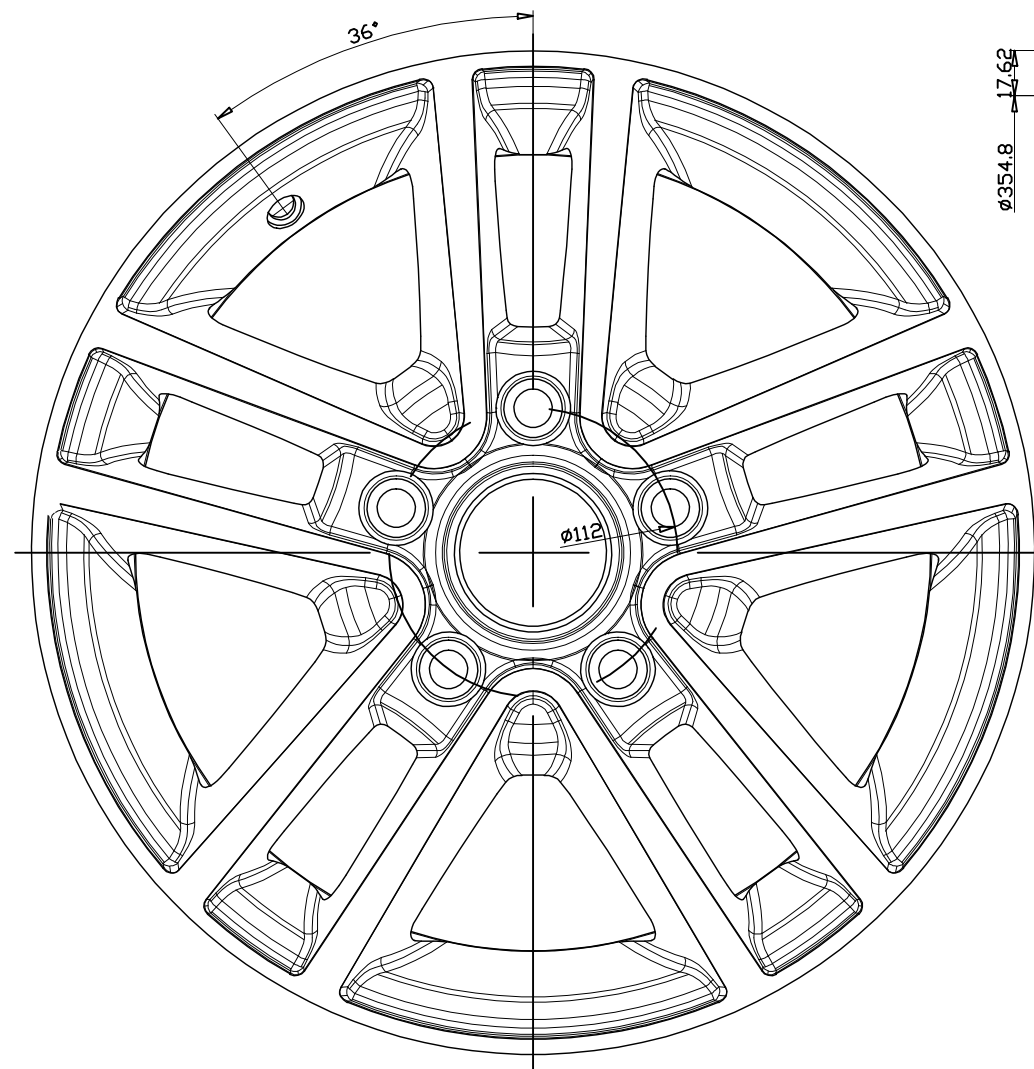
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| PER APPROVAZIONE<br>FOR APPROVAL  |             |
| RIF. N° FL-ALU-14.55.5.112.30.60° |             |
| DATA<br>06.11.2019                | FIRMA<br>SU |



10564-1455  
ET:30  
PCD :5X112  
CB Ø67.1  
重量: 7KG  
载荷950KG



|                                   |             |
|-----------------------------------|-------------|
| PER APPROVAZIONE<br>FOR APPROVAL  |             |
| RIF. N° FL-ALU-14.55.5.112.30.R12 |             |
| DATA<br>06.11.2019                | FIRMA<br>SU |



**10564-1455**  
**ET:30**  
**PCD :5X112**  
**CB Ø67.1**  
**重量: 7KG**  
**载重: 950KG**

