China

Choose certainty.
Add value.

# Material Certificate
# (DIN 18200:2000)

| | |
|---|---|
| **Certificat No:** | 15.05.606716.014 |
| **Certificate holder / Applicant:** | CTS Composite Technologie Systeme<br>Mercatorstraße 43,21502, Geesthacht |
| **Manufacturer:** | Nantong Sui Generis Composite Material Co., Ltd<br>No. 876 Chengang Road,Nantong<br>Jiangsu, 226003, China |
| **Product:** | FRP Grating |
| **Order no.** | 7482040504 |
| **Type of inspection:** | Routine inspection |
| **Applicable standard :** | DIN 18200:2000 |
| **Inspection Body:** | TÜV SÜD Certification and Testing (China) Co., Ltd Shanghai Branch.<br>No. 151 Heng Tong Road, Shanghai 200070 P.R. China |

The basis for this certificate is the report of TR_TPI.15.05.606716.014_Nantong Sui Generis_20150511, issued on 2015-05-11.

**We hereby confirm**

**The manufacturer is following the basic requirements**

**of DIN 18200:2000**

**The material certificate expires in May., 2016**

TÜV SÜD Certification and Testing (China) Co., Ltd Shanghai Branch.

Shanghai, 2015-05-11

Wang Peng

TÜV SÜD Certification and Testing (China) Co., Ltd Shanghai Branch * Industry Service *

China

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# Material Certificate
# (DIN 18200:2000)

| | |
|---|---|
| **Certificat No:** | 15.05.606716.014 |
| **Certificate holder / Applicant:** | Nantong Sui Generis Composite Material Co., Ltd<br>No. 876 Chengang Road,Nantong<br>Jiangsu, 226003, China |
| **Manufacturer:** | Nantong Sui Generis Composite Material Co., Ltd<br>No. 876 Chengang Road,Nantong<br>Jiangsu, 226003, China |
| **Product:** | FRP Grating |
| **Order no.** | 7482040504 |
| **Type of inspection:** | Routine inspection |
| **Applicable standard :** | DIN 18200:2000 |
| **Inspection Body:** | TÜV SÜD Certification and Testing (China) Co., Ltd Shanghai Branch.<br>No. 151 Heng Tong Road, Shanghai 200070 P.R. China |

The basis for this certificate is the report of TR_TPI.15.05.606716.014_Nantong Sui Generis_20150511, issued on 2015-05-11.

**We hereby confirm**

**The manufacturer is following the basic requirements**

**of DIN 18200:2000**

**The material certificate expires in May., 2016**

TÜV SÜD Certification and Testing (China) Co., Ltd Shanghai Branch.

Shanghai, 2015-05-11

Wang Peng

TÜV SÜD Certification and Testing (China) Co., Ltd. Shanghai Branch * Industry Service *

China

Choose certainty.
Add value.

# Inspection report
## Report no: TPI.15.05.606716.014

| | |
|---|---|
| **Product:** | FRP Grating |
| **Applicant:** | Nantong Sui Generis Composite Material Co., Ltd<br>No. 876 Chengang Road,Nantong<br>Jiangsu, 226003, China |
| **Manufacturer:** | Nantong Sui Generis Composite Material Co., Ltd<br>No. 876 Chengang Road,Nantong<br>Jiangsu, 226003, China |
| **Our order number:** | 7482040504 |
| **Examination body:** | TÜV SÜD Certification and Testing (China) Co., Ltd<br>Shanghai Branch,<br>No. 151 Heng Tong Road<br>Shanghai 200070 P.R. China |
| **Type of inspection:** | ☐Initial inspection<br>☒Routine inspection<br>☐Special inspection |
| **Specification:** | DIN 18200:2000 and Load test requirements of FRP Grating specified by the Manufacturer and his Germany agent CTS(Composite Technologie Systeme). |
| **Place of inspection:** | Nantong Sui Generis Composite Material Co., Ltd<br>No. 876 Chengang Road,Nantong<br>Jiangsu, 226003, China |
| **Date of inspection:** | Mar. 06th ,2015 |

Date: 2015-05-11

Our reference:
IS/RE/LCC/LQ

Document:
TR_TPI.15.05.606716.014_Nantong Sui Generis_20150511.docx

This document consists of
12 Pages.




The test results refer exclusively to the units under test.

China

# Contents

China

## 1 General information

1.1 Order

According to the order (Order number: 7482040504) placed by Nantong Sui Generis Composite Material Co., Ltd, TÜV SÜD Certification and Testing (China) Co., Ltd Shanghai Branch, has carried out routine inspection on Mar. 06th, 2015 according to DIN 18200:2000.

1.2 Participants involved in the inspection

Participants from Nantong Sui Generis Composite Material Co., Ltd:

- Ms. Jin Xiaoju- President
- Mr. Qian Jianbin- V. G. Manager
- Mr. Xia Shaocai – Production Manager

Participants from TÜV SÜD Certification and Testing (China) Co., Ltd Shanghai Branch:

- Mr. Li Qiang - Project Engineer

## 2. Technical specifications

This inspection was performed based on the standard DIN 18200:2000 and Load test requirements of FRP Grating specified by the Manufacturer and his Germany agent CTS(Composite Technologie Systeme)

## 3 Scope of inspection

The routine inspection comprises the following activities:
a) Checking and assessment of factory and of the factory production control system.
b) Testing of random samples taken at the factory

3.1 Manufacturer's staff and equipment

Sui Generis was founded in 1996 and mainly produce GRP Grating and Safetread™ flooring products. There are total 48 employees (As shown in table 1) and many of them have decades of experience within the industry and received professional training in their jobs. Sui Generis have 27 sets of Pultrusion and Moulding Equipment, 2 sets of mixture machines, Measure and Test Equipments including Weighing Instrument, Pakistan's hardness tester, Temperature Controller, Load test stand, and so on.
Quality management system has been certified by SGS.

Table 1 Numbers of employees

| | |
|---|---|
| **Employees (total):** | 48 |
| **Total in Administration** | 3 |
| **Total in Quality Assurance** | 4 |
| **Total in Design** | 3 |
| **Total in Production/Workshop** | 38 |

3.2 Factory production control system:

| Clause | Requirements | Evaluation<br>Yes/ No. |
|---|---|---|
| **3.2.1** | **Audits of Quality System** | |
| | Has the manufacturer a Quality System certified or assessed by an accredited Body?<br>*If yes, provide details of QMS standard, scope, name of certification body and certificate expiry date.* | Yes.<br>ISO 9001:2008 Certificate No.CN06/01733 issued by SGS. Valid until Aug.14,2015 |
| | Does the manufacturer regularly check that all documented proce- | Yes. |

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| | dures as required by the Certification Body(ies) are followed? | |
| | Are records regarding results and actions taken available? | Yes. |
| | Is the personnel carrying out above required checks appropriately trained and independent of the process being audited? | Yes. |
| | Are the Quality Assurance and Assembly Personnel adequately briefed on their duties? | Yes. |
| 3.2.2 | **Goods Inwards Inspection** | |
| | Are raw materials and constituents verified by manufacturer as complying with appropriate specifications?<br>*Provide details in the table* RECEIVING INSPECTION DATA SHEET. *Note that only a sample of several components should be included, not a full list.* | Yes.<br>According to inspection standard and procedures, raw materials and constituents are verified by manufacturer. |
| | If the manufacturer relies on Certificates of Conformity, do they clearly identify the product, quantity of items covered, the specification to which the products conform, the production date and are they signed or stamped by a person authorised by the supplier? | Yes.<br>By batch incoming, sample testing are taken or supplier inspection report and compliance certificate. |
| | Are non-conforming products clearly identified and/or isolated to prevent unauthorised use? | Yes. |
| 3.2.3 | **Production Line Inspection and Routine Tests** | |
| | Are the Quality Assurance and Assembly Personnel adequately briefed on their duties? | Yes. |
| | Do they have readily available up-to-date documents, assembly and test instructions, photographs, drawings or samples on all those parts which have an impact on the safety of the finished products?<br>*Give details of all test and inspections performed by the manufacturer and enter in the table* TEST DATA SHEET. | Yes.<br>See the attachments. |
| | Do the Production Line Inspection and Routine Tests entered on TEST DATA SHEET sufficiently cover all the Certification Bodies' requirements? | Yes.<br>See the attachments. |
| | Is there a documented procedure to ensure that all products will be tested or inspected according to the manufacturer's requirements? | Yes. |
| | Are non-conforming products clearly identified or segregated to prevent unauthorised use? | Yes. |
| | Are trends of test results monitored and reported to the production and management authorities? | Yes. |
| | Are repaired and reworked products re-inspected in accordance with documented procedures? | Yes. |
| 3.2.4 | **Functional Check on Test and Measuring Equipment used for Safety and PerformanceTests** | |
| | Did the inspector witness the correct functioning of the equipment ev if certified products were not in production? | Yes.<br>Load test stand. |
| | Is a functional check conducted with intervals which will allow previous production to be retested if incorrect functioning is de- | Yes. |

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| | tected? | |
| | Is there a documented procedure for the functional checks? | Yes. |
| | Is there a documented procedure describing actions to be taken if a functional check is found to be unsatisfactory? | Yes. |
| **3.2.5** | **Production during visit** | |
| | *Identify type number and any certification mark that appeared on products seen in production at the time of the visit.*<br>*If no certified products were seen, indicate what kind of products was manufactured at the time of visit.*<br>*The manufacturing process should nevertheless be examined* | Just identify type number can be found, but no certification mark was fonund.<br>Yes.<br>Certified products were manufactured at the time of visit.<br>Yes.<br>The manufacturing process was examined. |
| **3.2.6** | **Calibration of Safety Test and Measuring Equipment** | |
| | Is test and measuring equipment calibrated? | Yes, equipments like dial indicator, vernier calliper, and Digital Dynamometer for load test are calibrated. |
| | Is the equipment provided with a label or similar method indicating the next "calibration due" date? | Yes. |
| | Do the calibration records indicate that calibration is traceable to an IAF accredited institute? | Yes. |
| **3.2.7** | **Handling and Storage** | |
| | Are the finished products stored and handled in such a way as to ensure that they will continue to comply with the applicable standards? | Yes. |
| **3.2.8** | **Records** | |
| | Are records kept at least for the period between two inspection visits? | Yes. |
| | Are the records listed below maintained and satisfactory?<br>Incoming inspection records.<br>Test records of the production tests at specified intervals.<br>Test records of the end product tests at suitable intervals<br>Records of results of functioning checks of test and measuring equipment.<br>Records of calibration of test and measuring equipment. | Yes. |
| **3.2.9** | **Non-Conforming Products and Corrective actions** | |
| | Is there a documented procedure covering the way to handle non-conforming products? | Yes. |
| | Is the procedure and the way in which it is applied satisfactory? | Yes. |

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| | Where test results do not conform to the requirements, the manufacturer shall immediately take corrective action. Once the nonconformity has been rectified, the relevant test shall be repeated, where technically possible and where necessary to prove the correction successful.<br>Construction products which do not meet the requirements shall be set aside and marked accordingly. | |
| | Is there a record for handling non- nonconformity?<br>All corrective actions taken shall be documented. | Yes. |
| **3.2.10** | **Traceability** | |
| | Does the manufacturer or his agent keep full records of individual products or product batches, including their related manufacturing details and characteristics, and to keep records of to whom these products or batches were first sold? | Yes. |
| | Individual products or batches of products and the related manufacturing details must be completely identifiable and retraceable. | Yes. |
| **3.2.11** | **Product marking** | |
| | Whether has product marking been carried out properly?<br>The marking shall include at least the following information:<br>a) a product description;<br>b) the name of the manufacturer's works;<br>c) reference to the technical specifications upon which the certificate is based;<br>d) a description or logo of the certification body;<br>e) any necessary description of product characteristics. | No.<br>Only Product Specifications are marked on the products. |

## 4 Product Verification- Test Record

The samples of FRP Grating were taken at the factory and tests were conducted on site according to the Load test requirements of FRP Grating specified by the Manufacturer and his Germany agent CTS(Composite Technologie Systeme).

Some load tests were failed at the time of inspection and repeat tests were done by Nantong Sui Generis themselves on Mar. 30, 2015, and the test images and video files were collected by Nantong Sui Generis themselves, for detail can refer to related files.

Dimension, Required Values, Actual Test Results and Load applied methods of

FRP Grating samplings are given in Figure1, Figure2, Table 2 and Table 3.

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## 4.1 Concentrated Point Load Test

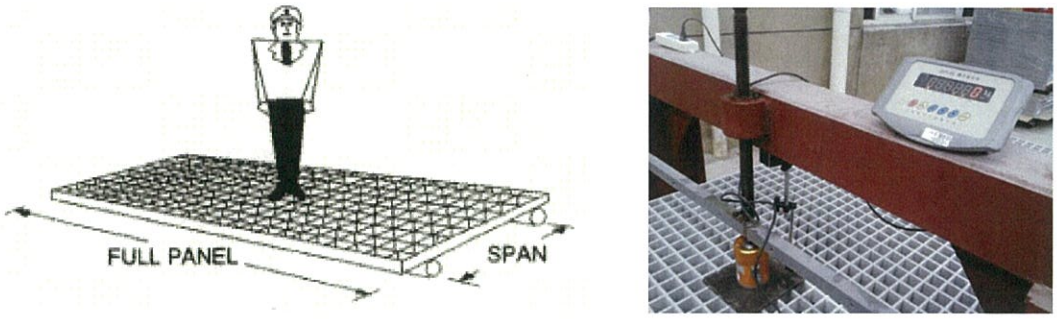



**Figure 1 Concentrated Point Load test**

**Table 2 Concentrated Point Load (kg)**

| Span (mm) | Mesh (mm) | | Height (mm) | L/100 (mm) | L/200 (mm) | item |
|---|---|---|---|---|---|---|
| 600 | 40X40 | Standard | 25 | 314 | 157 | MO25 |
| | | Test Result | | 315 (6mm) | 157 (3mm) | |
| | 40X40 | Standard | 30 | 509 | 254 | MO30 |
| | | Test Result | | 600 (6.0mm) | 290 (3mm) | |
| | 40X40 | Standard | 38 | 988 | 494 | MO38 |
| | | Test Result | | 1140 (6mm) | 510 (3mm) | |
| | 40X40 | Standard | 28 | 408 | 204 | DP28 |
| | | Test Result | | 620 (6mm) | 300 (3mm) | |
| | 40X40 | Standard | 30 | 560 | 280 | SP30 |
| | | Test Result | | 1450 (6mm) | 700 (3mm) | |

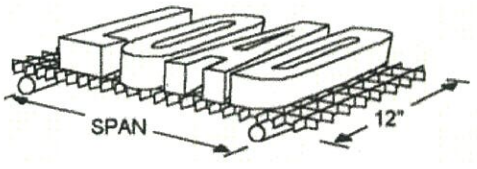
China

| Span (mm) | Mesh (mm) | | Height (mm) | L/100 (mm) | L/200 (mm) | item |
|---|---|---|---|---|---|---|
| 900 | 40X40 | Standard | 30 | 297 | 148 | MO30 |
| | | Test Result | | 330 (9mm) | 170 (4.5mm) | |
| | 40X40 | Standard | 38 | 662 | 331 | MO38 |
| | | Test Result | | 720 (9mm) | 370 (4.5mm) | |
| | 25X152 | Standard | 38 | 1032 | 516 | STMO38 |
| | | Test Result | | **1300 (9mm)** | **640 (4.5mm)** | |
| | 50.8X50.8 | Standard | 50 | 1313 | 656 | MO50 |
| | | Test Result | | **1500 (9mm)** | **746 (4.5mm)** | |
| | 20X20 | Standard | 30 | 343 | 171 | MI30 |
| | | Test Result | | 344 (9mm) | 171 (4.5mm) | |
| | 20X20 | Standard | 38 | 744 | 372 | MI38 |
| | | Test Result | | 850 (9mm) | 442 (4.5mm) | |
| | 25.4X25.4 | Standard | 50 | 1400 | 700 | MI50 |
| | | Test Result | | 1540 (9mm) | 790 (4.5mm) | |
| | 40X40 | Standard | 28 | 232 | 116 | DP28 |
| | | Test Result | | 269 (9mm) | 200 (4.5mm) | |
| | 40X40 | Standard | 33 | 356 | 178 | DP33 |
| | | Test Result | | 624 (9mm) | 300 (4.5mm) | |
| | 40X40 | Standard | 41 | 827 | 414 | DP41 |
| | | Test Result | | 1300 (9mm) | 650 (4.5mm) | |
| | 40X40 | Standard | 30 | 380 | 190 | SP30 |
| | | Test Result | | 480 (9mm) | 260 (4.5mm) | |
| | 40X40 | Standard | 40 | 910 | 450 | SP40 |
| | | Test Result | | 1390 (9mm) | 708 (4.5mm) | |

| Span (mm) | Mesh (mm) | | Height (mm) | L/100 (mm) | L/200 (mm) | item |
|---|---|---|---|---|---|---|
| 1200 | 40*40 | Standard | 38 | 505 | 252 | MO38 |
| | | Test Result | | 505 (12mm) | 252 (6mm) | |
| | 50.8X50.8 | Standard | 50 | 959 | 479 | MO50 |
| | | Test Result | | **975 (12mm)** | **495 (6mm)** | |
| | 25X152 | Standard | 38 | 716 | 358 | STMO38 |
| | | Test Result | | **759 (12mm)** | **358 (6mm)** | |
| | 20X20 | Standard | 38 | 557 | 278 | MI38 |
| | | Test Result | | 680 (12mm) | 325 (6mm) | |
| | 25.4X25.4 | Standard | 50 | 950 | 475 | MI50 |
| | | Test Result | | 1080 (12mm) | 514 (6mm) | |
| | 40X40 | Standard | 41 | 631 | 315 | DP41 |
| | | Test Result | | 1000 (12mm) | 503 (6mm) | |
| | 40X40 | Standard | 40 | 680 | 340 | SP40 |
| | | Test Result | | 1250 (12mm) | 650 (6mm) | |

Note: The values in bold style come from video collected by customer themselves.

## 4.2 Uniform Load test



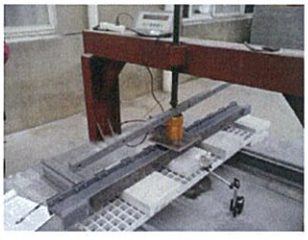



**Figure 2 Uniform Load test**

**Table 3 Uniform Load (unit kg/m²)**

| Span (mm) | Mesh (mm) | | Height (mm) | L/100 (mm) | L/200 (mm) | item |
|---|---|---|---|---|---|---|
| 600 | 40X40 | Standard | 25 | 1224 | 612 | MO25 |
| | | Test Result | | 1330 (6mm) | 800 (3mm) | |

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|---|---|---|---|---|---|---|
| | 40X40 | Standard | 30 | 2069 | 1035 | MO30 |
| | | Test Result | | 2530 (6.0mm) | 1216 (3mm) | |
| | 40X40 | Standard | 38 | 4140 | 2070 | MO38 |
| | | Test Result | | 4200 (6mm) | 2280 (3mm) | |
| | 40X40 | Standard | 28 | 1671 | 835 | DP28 |
| | | Test Result | | 1900 (6mm) | 1100 (3mm) | |
| | 40X40 | Standard | 30 | 2610 | 780 | SP30 |
| | | Test Result | | 2610 (6mm) | 1100 (3mm) | |

| Span (mm) | Mesh (mm) | | Height (mm) | L/100 (mm) | L/200 (mm) | item |
|---|---|---|---|---|---|---|
| 900 | 40X40 | Standard | 30 | 718 | 359 | MO30 |
| | | Test Result | | 838 (9mm) | 415 (4.5mm) | |
| | 40X40 | Standard | 38 | 1421 | 710 | MO38 |
| | | Test Result | | 1540 (9mm) | 926 (4.5mm) | |
| | 25X152 | Standard | 38 | 2131 | 1065 | STMO38 |
| | | Test Result | | 2500 (9mm) | 1510 (4.5mm) | |
| | 50.8X50.8 | Standard | 50 | 2545 | 1272 | MO50 |
| | | Test Result | | 2700 (9mm) | 1279 (4.5mm) | |
| | 20X20 | Standard | 30 | 718 | 359 | MI30 |
| | | Test Result | | 860 (9mm) | 360 (4.5mm) | |
| | 20X20 | Standard | 38 | 1340 | 660 | MI38 |
| | | Test Result | | 1429 (9mm) | 668 (4.5mm) | |
| | 25.4X25.4 | Standard | 50 | 2600 | 1300 | MI50 |
| | | Test Result | | 2800 (9mm) | 1500 (4.5mm) | |
| | 40X40 | Standard | 28 | 496 | 248 | DP28 |
| | | Test Result | | 514 (9mm) | 294 (4.5mm) | |
| | 40X40 | Standard | 33 | 936 | 468 | DP33 |
| | | Test Result | | 943 (9mm) | 570 (4.5mm) | |

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| | | | | | | |
|---|---|---|---|---|---|---|
| | 40X40 | Standard | 41 | 1650 | 825 | DP41 |
| | | Test Result | | 1650 (9mm) | 975 (4.5mm) | |
| | 40X40 | Standard | 30 | 930 | 465 | SP30 |
| | | Test Result | | 1070 (9mm) | 465 (4.5mm) | |
| | 40X40 | Standard | 40 | 1820 | 908 | SP40 |
| | | Test Result | | 2004 (9mm) | 1090 (4.5mm) | |

| Span (mm) | Mesh (mm) | | Height (mm) | L/100 (mm) | L/200 (mm) | item |
|---|---|---|---|---|---|---|
| 1200 | 40*40 | Standard | 38 | 563 | 282 | MO38 |
| | | Test Result | | 786 (12mm) | 392 (6mm) | |
| | 50.8X50.8 | Standard | 50 | 1105 | 552 | MO50 |
| | | Test Result | | 1175 (12mm) | 722 (6mm) | |
| | 25X152 | Standard | 38 | 844 | 422 | STMO38 |
| | | Test Result | | 930 (12mm) | 520 (6mm) | |
| | 20X20 | Standard | 38 | 550 | 275 | MI38 |
| | | Test Result | | 1300 (12mm) | 600 (6mm) | |
| | 25.4X25.4 | Standard | 50 | 1100 | 550 | MI50 |
| | | Test Result | | 1130 (12mm) | 607 (6mm) | |
| | 40X40 | Standard | 41 | 675 | 337 | DP41 |
| | | Test Result | | 1110 (12mm) | 526 (6mm) | |
| | 40X40 | Standard | 40 | 720 | 361 | SP40 |
| | | Test Result | | 1450 (12mm) | 780 (6mm) | |

## 5 Inspector's Evaluation-Informative

5.1 Carry out regular calibration of some test and measuring instruments on time.

5.2 Strictly conduct the Semi-finished goods inspection and final product inspection in accordance with quality procedures.

5.3 Timely, strictly and completely record inspection results in accordance with quality procedures each time

China

## 6 Inspector's Evaluation-Findings

6.1 List your findings by referencing the applicable clauses in this report (including comments, recommendations, etc.) and explain them to the manufacturer.If possible indicate also the corrective actions the manufacturer intends to take.
**Please see the above clause 3.2 and clause 5.**

6.2 Give your recommendations by ticking the appropriate box:

- No unsatisfactory findings — ☐ Acceptable
- Minor unsatisfactory findings — ☒ Manufacturer's corrective action(s) will be checked at next visit
- Major unsatisfactory findings — ☐ Manufacturer shall confirm corrective action(s), Special inspection recommended for checking corrective action(s)
- Critical unsatisfactory finding(s) — ☐Refused/suspended and repeated factory inspection recommended after the manufacturer has confirmed implementation of corrective action(s).

## 7. Attachments:

| S.N. | Document Name | Document No. | Total Pages |
|---|---|---|---|
| 1 | Quality System Certificate | CN06/01733 | 1 |
| 2 | Calibration of Measuring Equipment(Depth caliper, Dial indicator) | Vernier calliper, 814018965, valid until 2015-10-28;<br>Dial indicator, 814018967-001, valid until 2015-10-28;<br>Digital Dynamometer , 814018968, valid until 2015-10-29; | 1<br>1<br>1 |
| 3 | Receiving inspection data sheet | Resin;<br>Glass fibre<br>Aluminum hydroxide;<br>Pigment paste;<br>peroxide; | 3<br>5<br>1<br>1<br>2 |
| 4 | Final product inspection record | 2015-03-29/2015-04-01 | 2 |
| 5 | Nonconforming product and corrective action record | 2014-05-25/2014-06-26<br>2015-03-04/2015-04-29 | 4 |
| | Total number of attachment pages: 22 | | |

The expert

Li Qiang 李强

2015.5.14

The expert

Wang Peng

2015.5.14