FINEHOPE
FREE
DMF/ A report
3D Design
Mould
Product Inspection Standard Setting
Free Product Inspection Standard Setting: In addition to the usual quantification of product physical properties and appearance standards, we will add REACH, RoHS, FDA, CA-65, or CFC Free to the standards according to customer needs.
Free Mould Opening: Large order quantity with mould cost free.
Free 3D Design: Finehope help customer design the desired product or modify the design for free.
Free DFM/A Report: Finehope will show details and solutions of manufacturability and assemblability through PPT to help customers reduce trouble.

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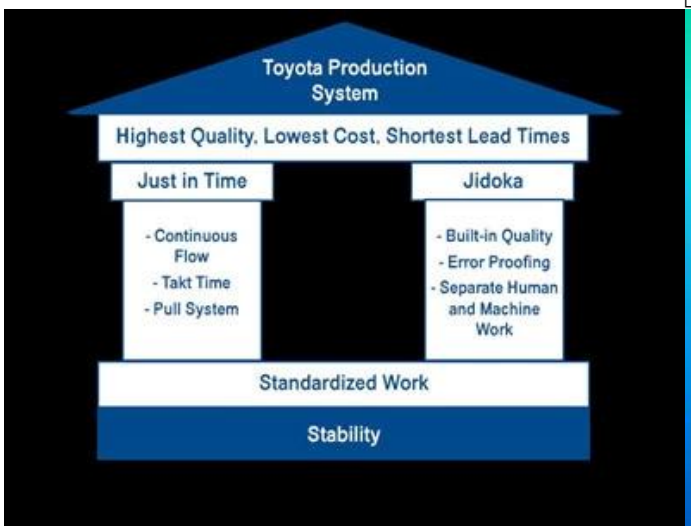
Toyota Production System
Highest Quality, Lowest Cost, Shortest Lead Times
Just in Time
Jidoka
- Continuous Flow
- Takt Time
- Pull System
- Built-in Quality
- Error Proofing
- Separate Human and Machine Work
Standardized Work
Stability

The S.M.A.R.T. goal formula
Specific
• Clearly identify the goal.
Measurable
• Define the goal in measurable terms.
Attainable
• Choose goals that are realistic and manageable.
Relevant
• Make sure the goal is something that is important to you.
Time-bound
• Define the time frame during which you will achieve the goal.

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5) [illegible]

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**5.** [illegible]**?**
[illegible]

# About us

OUR
SAMPLE
ROOM

## Our Certification

授予：飞虎（厦门）新材料科技股份有限公司
Granted: Finehope (Xiamen) New Material Technology Co.,Ltd.
2019-2020年度
厦门市成长型中小微企业
Xiamen Growth-oriented Micro, Small & Medium Enterprises
厦门市工业和信息化局
厦门市中小企业管理办公室
二〇一九年五月

授予：飞虎（厦门）新材料科技股份有限公司
Granted: Finehope (Xiamen) New Material Technology Co.,Ltd.
2020-2022年度
2020-2022
厦门市专精特新中小企业
Xiamen Specialized, Refining, Differentiate, Innovative SMEs
厦门市工业和信息化局
August 2020

厦门市科技小巨人领军企业
Xiamen Science And Technology Little Giant Leading Enterprise
证书
Certificate

Fiscal Year 2020
CERTIFICATION OF REGISTRATION
FDA

SAQM
两化融合管理体系评定证书

安全生产标准化
Work Safety Standardization
证书
CERTIFICATE

[illegible]

[illegible]

[illegible]

福建省排污许可证

Verified Supplier Certificate
Verified
Finehope (Xiamen) New Material Technology Co., Ltd.
飞虎（厦门）新材料科技股份有限公司

[illegible]

[illegible]

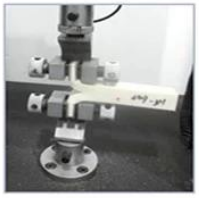
[illegible]

2007 [illegible]

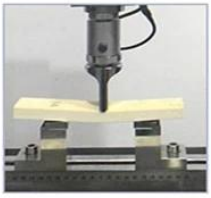
# Quality Assurance

## UNIVERSAL TESTING MACHINE(UTM)

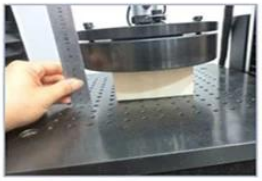
Tensile Test

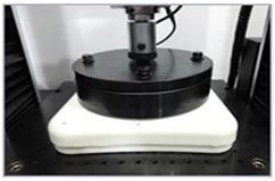


Tear Resistance Test



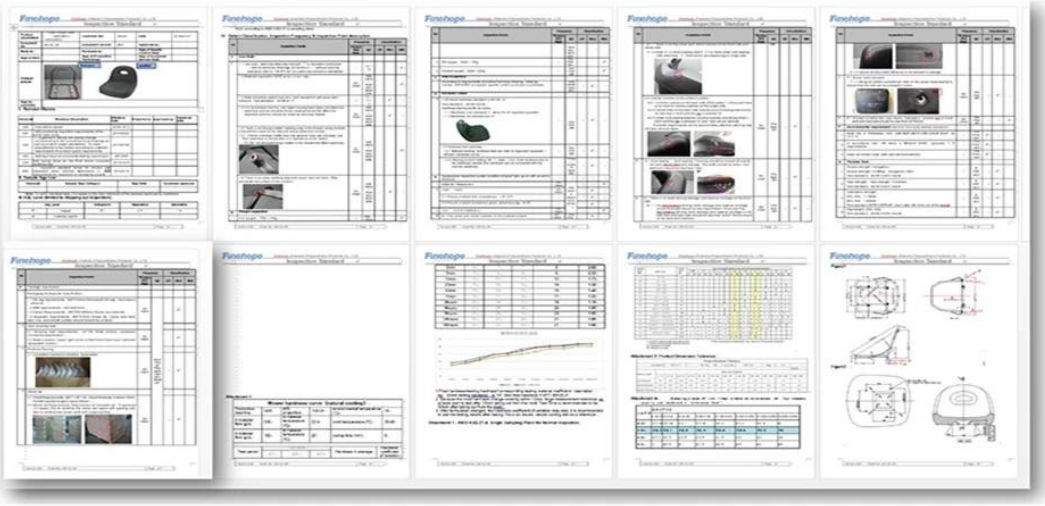
Compressive Strength



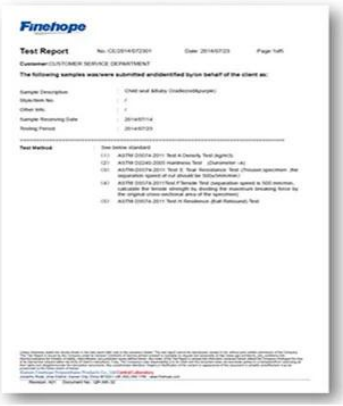


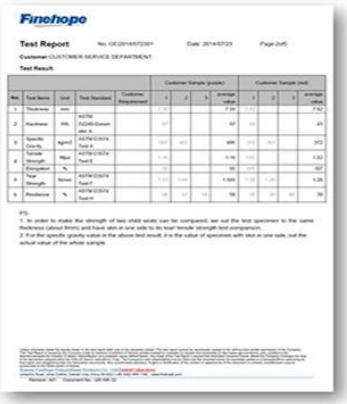
Indentation Force Deflection

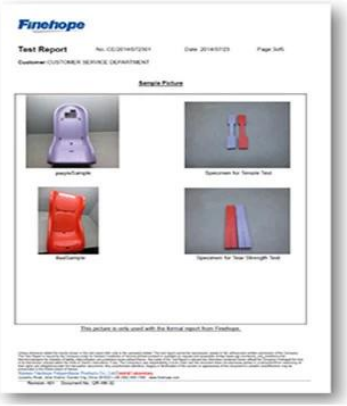
## INSPECTION STANDARD



## MATERIAL PERFORMANCE TEST REPORT







# Advanced Product Quality Planning

Date: 01-Oct-17

| | |
|---|---|
| Customer | [redacted] |
| Location | New Zealand |
| Customer Code | G1019 |
| Risk Assessment | |
| New: Site ☐ Technology ☐ Process ☐ | |
| Other Risks: ☐ | |

| | |
|---|---|
| Project | [redacted] |
| Finehope Contact | Wendy Yang |
| Part No. | [redacted] |
| Part Name | G1019Y04 |
| Change Level/Date | |
| User Plant(s) | Finehope |

| Core Team Members | Company/Title | Phone/Fax/E-Mail |
|---|---|---|
| Tiger Xu | G.M. | [redacted] |
| Yibin Lim | Vice G.M. | [redacted] |
| Cindy Wu | Sales Manager | cindy@finehope.com |
| Liangquan Wan | Project Manager | |
| Wendy Yang | Sales | wendy@finehope.com |
| | | |

| Build Level | Material Required Date | Quantity | No. Concurred SRCs | No. Concurred Majors | | |
|---|---|---|---|---|---|---|
| Product Design and Develop | 21-Jun-21 | 10 | | | | |
| Product and Process Validat | 25-Jun-21 | 15 | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

| APQP Deliverable | Finehope APQP Reference Only | G / Y / R | Project Need Date | Supplier Timing Date | Actual Closure Date | Supplier Lead Resp Initials | Finehope Acceptance Complete | Remarks or Assistance Required |
|---|---|---|---|---|---|---|---|---|
| **AIAG APQP Phase 2 - Product Design and Development** | | | | | | | | |
| 1. Project Timeline (Synchronized w/Production Time Plan | 2030 | G | 20-Jun-21 | 21-Jun-21 | 21-Jun-21 | 22-Jun-21 | 23-Jun-21 | / |
| 2. Customer Inputs / Requirements | 2030 | G | 23-Jun-21 | 24-Jun-21 | 24-Jun-21 | 25-Jun-21 | 26-Jun-21 | / |
| 3. Warranty & Quality Mitigation Plan | 2030 | G | 24-Jun-21 | 25-Jun-21 | 25-Jun-21 | 26-Jun-21 | 27-Jun-21 | / |
| 4. Customer Specific Requirements | 2050 | G | 25-Jun-21 | 26-Jun-21 | 26-Jun-21 | 27-Jun-21 | 28-Jun-21 | / |
| 5. Design FMEA | 2080 | G | 26-Jun-21 | 27-Jun-21 | 27-Jun-21 | 28-Jun-21 | 29-Jun-21 | / |
| 6. Preliminary Bill of Materials (BOM) | 2090 | G | 27-Jun-21 | 28-Jun-21 | 28-Jun-21 | 29-Jun-21 | 30-Jun-21 | / |
| 7. Prototype Control Plans | 2110 | G | 28-Jun-21 | 29-Jun-21 | 29-Jun-21 | 30-Jun-21 | 1-Jul-21 | / |
| 8. Prototype Builds | 2110 | G | 29-Jun-21 | 30-Jun-21 | 30-Jun-21 | 1-Jul-21 | 2-Jul-21 | / |
| 9. Design Verification Plan & Report (DVP&R) | 2120 | G | 30-Jun-21 | 1-Jul-21 | 1-Jul-21 | 2-Jul-21 | 3-Jul-21 | / |
| 10. Design / Process Review | 2130 | G | 1-Jul-21 | 2-Jul-21 | 2-Jul-21 | 3-Jul-21 | 4-Jul-21 | / |
| 11. Team Feasibility Commitment | 2130 | G | 2-Jul-21 | 3-Jul-21 | 3-Jul-21 | 4-Jul-21 | 5-Jul-21 | / |
| 12. APQP Status Sub-Supplier | 2130 | G | 3-Jul-21 | 4-Jul-21 | 4-Jul-21 | 5-Jul-21 | 6-Jul-21 | / |
| 13. Production Drawing & Specifications | 2220 | G | 4-Jul-21 | 5-Jul-21 | 5-Jul-21 | 6-Jul-21 | 7-Jul-21 | / |
| 14. Subcontractor Purchase Orders (Customer Tooling | 2250 | G | 5-Jul-21 | 6-Jul-21 | 6-Jul-21 | 7-Jul-21 | 8-Jul-21 | / |
| 15. Facilities, Equipment, Tools and Gages | 2260 | G | 6-Jul-21 | 7-Jul-21 | 7-Jul-21 | 8-Jul-21 | 9-Jul-21 | / |
| **AIAG APQP Phase 3 - Process Design and Development** | | | | | | | | |
| 16. Product/Process and Quality System Review | 3030 | G | 9-Jul-21 | 10-Jul-21 | 10-Jul-21 | 10-Jul-21 | 11-Jul-21 | / |
| 17. Manufacturing Process Flow Chart | 3040 | G | 11-Jul-21 | 12-Jul-21 | 12-Jul-21 | 12-Jul-21 | 13-Jul-21 | / |
| 18. Process FMEA | 3100 | G | 13-Jul-21 | 14-Jul-21 | 14-Jul-21 | 14-Jul-21 | 15-Jul-21 | / |
| 19. Pre-Launch Control Plan | 3110 | G | 15-Jul-21 | 16-Jul-21 | 16-Jul-21 | 16-Jul-21 | 17-Jul-21 | / |
| 20. Process Work Instructions | 3120 | G | 17-Jul-21 | 18-Jul-21 | 18-Jul-21 | 18-Jul-21 | 19-Jul-21 | / |
| 21. Measurement Systems Evaluation | 3130 | G | 19-Jul-21 | 20-Jul-21 | 20-Jul-21 | 20-Jul-21 | 21-Jul-21 | / |
| 22. Packaging Specifications & Approvals | 3160 | G | 21-Jul-21 | 22-Jul-21 | 22-Jul-21 | 22-Jul-21 | 23-Jul-21 | / |
| 23. Manufacturing Team Training | 3170 | G | 23-Jul-21 | 24-Jul-21 | 24-Jul-21 | 24-Jul-21 | 25-Jul-21 | / |
| **AIAG APQP Phase 4 - Product and Process Validation** | | | | | | | | |
| 24. Subcontractor PPAP Approval | 4005 | G | 9-Jul-21 | 10-Jul-21 | 10-Jul-21 | 10-Jul-21 | 11-Jul-21 | / |
| 25. Production Control Plan | 4008 | G | 11-Jul-21 | 12-Jul-21 | 12-Jul-21 | 12-Jul-21 | 13-Jul-21 | / |
| 26. Production Reasness Review (PRR) | 4009 | G | 13-Jul-21 | 14-Jul-21 | 14-Jul-21 | 14-Jul-21 | 15-Jul-21 | / |
| 27. Production Trial Run (PTR) | 4010 | G | 15-Jul-21 | 16-Jul-21 | 16-Jul-21 | 16-Jul-21 | 17-Jul-21 | / |
| 28. Process Capability Studies | 4030 | G | 17-Jul-21 | 18-Jul-21 | 18-Jul-21 | 18-Jul-21 | 19-Jul-21 | / |
| 29. Production Validation Plan & Report (PVP&R) | 4090 | G | 19-Jul-21 | 20-Jul-21 | 20-Jul-21 | 20-Jul-21 | 21-Jul-21 | / |
| 30. Production Part Approval (PPAP) | 4110 | G | 21-Jul-21 | 22-Jul-21 | 22-Jul-21 | 22-Jul-21 | 23-Jul-21 | / |
| **AIAG APQP Phase 5 - Feedback, Assessment and Corrective Action** | | | | | | | | |
| 31. Initial Production Shipment | 5005 | G | 28-Jul-21 | 30-Jul-21 | 30-Jul-21 | 30-Jul-21 | 31-Jul-21 | / |
| 32. Production Ramp-up Plan | 5005 | G | 31-Jul-21 | 2-Aug-21 | 2-Aug-21 | 2-Aug-21 | 3-Aug-21 | / |
| 33. Full Production Date | 5005 | G | 5-Aug-21 | 7-Aug-21 | 7-Aug-21 | 7-Aug-21 | 8-Aug-21 | / |
| 34. Conduct Lessons Learned | 5005 | G | 8-Aug-21 | 10-Aug-21 | 10-Aug-21 | 10-Aug-21 | 11-Aug-21 | / |

# Design Failure Mode and Effects Analysis

## (Design FMEA)

FMEA No.: DFMEA-001

Page: page 1, totally 3 pages

P0ject Name: injection moulding

Procedure responsible dept: Production Dept

Made: Xiaodong Qiu

Model year/vehicle types: CRV

Soybean Milk Maker

Important date: Nov.10th,2015

FMEA Date: Nov.10th,2015

People participated: Develop dept:Gaolin Wei Sales:Haiyan Wu PC:Jiannan Yan Technology Dept:Jianyu Zhou Purchaser:Yuanyuan Gou Production dept:Shuwen Dong QC:Bingxiang Zheng

| procedure function requirements | Potential failure mode | Potential effects analysis | severity (S) | grade | potential causes/mechanisms of failure | frequency (O) | Current prevention process control | Current detection process control | detectivity (D) | RPN | recommended measures | Responsibility and target completion date | action results | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | Action Taken | severity (S) | frequency (O) | difficult to check (D) | RPN |
| scyphus | size changes of handle | handle cover fall off | 6 | A | PP size change | 6 | By adjusting the product of the injection molding process, and measure or test the clasp of product size | measure and test product size | 3 | 108 | Add the number of button bit in handle design, in order to keep the connection strength | Xiaodong Qiu 2015/08/25 | By adjusting the product of the injection molding process, and measure or test product size | 6 | 1 | 1 | 6 |
| scyphus | warpage of scyphus handle | Poor appearance break | 4 | C | high handle wall | 6 | Add the stiffener to handle wall to prevent deformation | measure and test product size | 2 | 48 | If this problem appears, make improvement by Adding the stiffener | Xiaodong Qiu 2015/09/30 | Add the stiffener to handle wall to prevent deformation | 4 | 2 | 1 | 8 |
| scyphus | Deformation of cup-mouth | Micro switch without power | 8 | A | PP material deformation, Resulting in a perpendicular direction to connect the cup and handle inward deformation, So that both sides of the tilt, the micro switch column opposite sink, and | 3 | Adjust the injection molding process, to prevent extrusion | measure and test cup-mouth size | 3 | 72 | in the cup packing control the direction of the lateral dimension of no force, stipulate the way of packing | Xiaodong Qiu 2015/09/10 | stipulate the cup use egg cell methods to put the packing which do not squeeze each other | 8 | 1 | 3 | 24 |

H-R-P-001-1

# Process Failure Mode and Effects Analysis

## (PFMEA)

潜在失效模式和后果分析

FMEA No.FMEA20150325-01

Page:3

Item:Welding improvement

项目:焊接改善

Process Responsibilities: Production welding group

过程职责：生产部焊接组

Maker:Wenrong-Huang

Model year/project

型号年/项目

Key Dates

关键日期

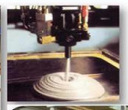
FMEA Date (Original):2015.03.25

| Item 项目 / Request 问题 | Potential failure mode 潜在失效模式 | Potential consequences of failure modes 失效的模式潜在后果 | Severity 严重度 | Grade 等级 | Potential causes of failure 失效的潜在原因 | Occurrence degree 发生度 | Current process control and Prevention 现行过程控制预防 | Current process control detection 现行过程控制检测 | Detection rate 探测率 | RPN | Suggest measures 建议措施 | Responsibility and target completion date 职责及目标完成日期 | Measure results 措施结果 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | Measures and effective date 采取的措施 | Severity 严重度 | Incidence rate 发生率 | Detection degree 探测度 | RPN |
| Clamping (clamping required is in place, no missing or wrong loaded) 夹具（夹具需到位，无漏装、错装） | Clamping is not in place 夹具不到位 | Size/NG 尺寸NG | 6 | B | ●Staff negligence 人员作业疏忽 ●Fixture for bad 夹具存放不良 | 4 | ●Make the operation standard book 制定作业标准书 ● Make maintenance standards, regular maintenance 制定保养基准，定期保养，维护 | ●Visual inspection 目视检测 ● Finished 100% full inspection 完检100%全检 | 6 | 144 | ●Pre-service training of staff 人员岗前培训 ● Regular maintenance 工装定期维护 | | | 6 | 3 | 4 | 72 |
| | | Welding error, leak welding, welding deviation, affect the assembly or use function 焊接错误，漏焊，焊接偏移，影响装配或使用功能 | 8 | A | ●Staff negligence 人员作业疏忽 ●Fixture for bad 夹具存放不良 ●Fixture inaccurate 夹具定位不准确 | 4 | ●Make the operation standard book 制定作业标准书 ●Make maintenance standards, regular maintenance 制定保养基准，定期保养，维护 ●Regular checking of fixture 对夹具定期检查 | Visual inspection 目视检测 | 6 | 192 | ●Pre-service training of staff 人员岗前培训 ●Regular maintenance 工装定期维护 ●Make inspection checklist for fixture 制作夹具检查检查 | | | 8 | 3 | 4 | 96 |
| | Attachments missing 附件漏装 | Affect product strength or influence the assembly 影响产品强度或影响装配 | 8 | A | Staff negligence 作业人员疏忽 | 3 | Make the operation standard book 制定作业标准书 | Visual inspection 目视检测 | 4 | 96 | Final inspection personnel do 100% full inspection for each bead with mark 最终人员100%全检，并 | | | 8 | 2 | 2 | 32 |
| | Attachment error 附件错错 | Influence assembly 影响装配 | 7 | A | No mistake proofing fixture 治具无防错 | 3 | Make the operation standard book 制定作业标准书 | Visual inspection 目视检测 | 6 | 126 | ●Increase the mistake proofing devices 增加防错装置 ●Inspection for final inspection tools 对检验员检查 | | | 7 | 2 | 4 | 56 |
| | False welding 假焊 | Lack of strength, affect the use of function 强度不足，影响使用功能 | 9 | A | Current, voltage, welding angle, speed setting is not reasonable 电流，电压，焊接角度，速度设定不合理 | 4 | ●Welding process guidance making 制作焊接工艺指导书 ●Condition confirmation check 加工条件确认点检 ●Confirm the failure test on a regular basis. | Destructive testing 破坏试验检测 | 8 | 288 | After the procedure is set up to confirm the processing conditions, the execution and marking of the failure test is performed. 在程序设定加工条件确认在程序设定加工条件确认 | | | 9 | 3 | 4 | 108 |

# Production Device

**KRAUSS MAFFEI**

Finehope has successively introduced many of the world's most advanced German KraussMaffei high-pressure injection machines since 2010.



Reaction Injection Molding (RIM)
High Pressure Machine
KRAUSS MAFFEI
Made in Germany!

**Self-invented fully automatic production line**

Finehope has independently developed a number of fully automatic PU injection production lines since 2010. These production lines reduce production costs and meet customer delivery requirements.

**Welding Robots**

Since 2016, Finehope has continued to purchase welding robots and automatic fixture turntables for welding metal parts. The independent processing of accessories saves the waiting time and procurement cost of outsourcing processing.

**CNC Machine**

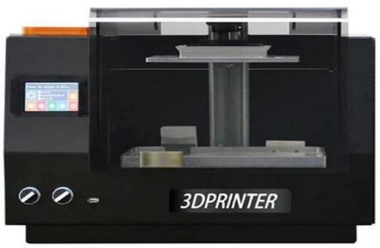
Finehope has continued to purchase CNC equipment since 2016. CNC (Computer Numerically Controlled) machining is a manufacturing process in which preprogrammed computer software dictates the movement of factory tools and machinery. Using this type of machine versus manual machining can result in improved accuracy, increased production speeds, enhanced safety, increased efficiency and most importantly, help customers save costs and improve product quality.

**Mould Release Agent Painting Robot**

Since 2019, Finehope has purchased robots for spraying water-based release agents to improve the working environment, improve spraying quality and material utilization, and reduce labor costs.

**3D printer**

Finehope started to purchase 3D printers in 2015. 3D printing can realize rapid proofing of new product prototypes and templates for resin molds, and can also be used for faster and cheaper small batch production.



# Social Responsibility

- **Audited by Sedex**

( Supplier business ethics information exchange )

Labor standard · health and safety · Environmental protection · Business ethics practice

- **Public-spirited**

Voluntary tree planting after Super Typhoon Meranti in 2016

# A VALUE-BASED COMPANY