

**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.

**Finehope**

This product is customized for the customer, not for sale



**Finehope**

This product is customized for  
the customer,not for sale



**Finehope**

This product is customized for  
the customer,not for sale







## **Customize Lawn mower pu polyurethane foam lawn mower steering wheel manufacturer**

- Size :342\*329\*191mm
- Material: pu + aluminum
- Type: polyurethane foam
- Color: black, grey, and more customize
- Material: olyurathane + aluminum + plastic
- Density: 150-200kg/m3
- Usage: lawn mower steering wheel
- Moq :100pcs
- Certificate: RoHS,REACH,EN71-3, CA65



**Finehope has obtained ISO 9001 certificate continuously since 2003.**

#### **IATF16949 Certification:**

[China lawn mower pu parts supplier](#) Finehope passed the IATF16949 Automotive Quality Management Systems Certification in 2021. More than 50 documents guarantee the progress of new product development, the quality, delivery time and cost of trial and mass production products.

Since the cooperation between Finehope and Caterpillar in 2007, Finehope has used the automotive quality management system for the new product introduction, using the five tools of SPC, MSA, FMEA, APQP and PPAP, which have won praise from Caterpillar executives and established a long-term partnership so far.

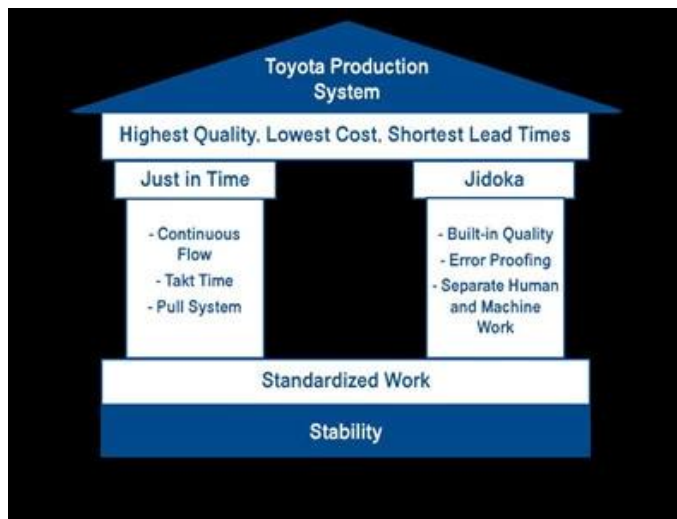
## **Our Advandages**



### PU raw material research and development capabilities

Since 2002, Finehope has been committed to the design and manufacture of PU moulded foam products. Independent research and development of formula materials and stable production capacity are the basis for quality assurance.

Finehope can adjust the product formula at any time according to the customized needs of customers' personalized products, such as the requirements for hardness, elasticity, support, feel, density, color and other physical and chemical properties, and can make formulation requirements in compliance with the laws and regulations of various countries. Of course, a good formula must also consider the best cost performance. For new projects, the ability to develop PU formulations is a key condition for ensuring product development quality, delivery time and cost.



### Scientific management ability

Finehope emphasizes the importance of the Toyota Production System and Corporate Coaching Model to optimize management efficiency. Continuous improvement the efficiency and quality of all employees, management and production personnel have been effectively and continuously improved, management and production costs have been continuously reduced, but more important than efficiency and cost is the cultivation of employee growth through continuous improvement, Because this is the core of corporate sustainable development.

### Automation equipment design and manufacturing capabilities

Finehope's ability to design and manufacture automation equipment is rare in the industry. By participating in the design of new PU injection mixing equipment and the automation transformation of the production line, to ensure that under the competition of China's demographic dividend is reduced and labor costs continue to rise, the production efficiency also can be improved, labor and material costs can be reduced. In addition, the continuous design and manufacturing capabilities of key equipment such as fixtures, special equipment, and automatic molds are also the reasons why Finehope is in a leading position in all aspects.

Finehope's ability to continuously reduce costs and innovate products can help customers bring greater value. Therefore, it is a reliable long-term partner of many Fortune 500 companies and leading companies in the industry.



[China pu polyurethane foam factory](#) Finehope's refinement reduces the trouble for customers, because it reduces the negligence on the human process system and the ability to continuously accumulate professional experience, which can ensure that all new projects are completed in the shortest time.

# Famous customer

## Cooperation experience



## FAQ

### 1. Why you choose Finehope?

Finehope is the most professional PU manufacturer in China, which has a professional R&D team, advanced PU production equipment, professional testing equipment and perfect quality management system. We have 12-year cooperation experience with CAT, FIAT, TVH, STIGA and other famous enterprises. We provide them with one-step service from R&D to production to satisfy their customization needs.

### 2. What are the advantages of choosing Finehope?

- 1) Product quality assurance, delivery guarantee, good after-sales service.
- 2) Cost-effective, fast development efficiency, professional operation with integrity.
- 3) Finehope will conduct all testing analysis and then work out testing standards to reduce quality standard dispute between customers and manufacturers.
- 4) Lean production management mode.
- 5) Help customers to develop and design new products.
- 6) Has rich experience in the design and processing of PU products.
- 7) Finehope is a high-tech enterprise in China with domestic and have international invention patents technology and intellectual property.

### 3. What are the difference between Finehope and domestic peers?

- 1) Quality assurance: advanced quality planning (APQP).
- 2) Finehope has rich experience in serving international large enterprises.

- 3) Has professional scientific research team of polyurethane material.
- 4) Has independent design, manufacturing and innovation ability of production equipment and molds.
- 5) Has engineer team who is responsible for the quality assurance system and quality control.

**4. What are the differences between Finehope and European and U.S peers?**

- 1) Has perfect and mature supporting supply chain.
- 2) Lower mold costs.
- 3) High efficiency of development and design ability and short process time.
- 4) Cost advantage and good service attitude.

**5. What are the applications of PU products?**

Car, engineering machinery, sports fitness equipment, medical machinery and daily household items and so on.



## >>> About us









## Our Certification



**Xiamen Growth-oriented Micro,  
Small & Medium Enterprises**



**Xiamen Specialized, Refining,  
Differentiate, Innovative SMEs**



**Xiamen Science and Technology Little  
Giant Leading Enterprise**





Finehope has been rated as "Xiamen Growth-oriented Micro, Small & Medium Enterprises" since 2019. It is the scoring result of the Xiamen Municipal Government based on Finehope's various comprehensive indicators, growth models, brand strength in the industry, and good corporate reputation, then issue this certificate. It is a proof that Finehope stands out among thousands of small and medium-sized enterprises in the city.

Finehope has been rated as "Xiamen Specialized, Refining, Differentiate, Innovative SMEs" since 2020. "Specialized, Refining, Differentiate, Innovative" refers to SMEs with outstanding main business, strong professional capabilities, strong R&D and innovation capabilities, and development potential. Mainly concentrated in the new generation of information technology, high-end equipment manufacturing, new energy, new materials, biomedicine and other mid-to-high-end industries. The government emphasizes and recognizes finehope's "specialization, special innovation" is to encourage innovation and achieve specialization, reform, and specialization.

Since 2019, Finehope has been selected as the leading company of Xiamen Science and Technology Little Giant. This certificate was jointly issued by five departments of the Xiamen Municipal Government. The selection criteria focus on strategic emerging industries such as new generation information technology, high-end equipment, new materials, new energy, biology and new medicine, energy saving and environmental protection, and marine high-tech. Winning this honor shows that Finehope is at the forefront of the industry in new information technology and new materials.



### Food and Drug Administration Certification

Finehope has passed Food and Drug Administration certification every year since 2018. Food and Drug Administration approval means that the products produced by Finehope have obtained foreign government certificates (CFG) and can enter the global market smoothly.



### Integration of Informationization and Industrialization Management System Certificate

The certificate is assessed by the Xiamen Municipal Government and issued by the Shanghai Academy of Quality Management Science. This certificate reflects the level of Finehope's in-depth integration of informatization and industrialization. Finehope will continue to take a new path



### Work Safety Standardization Certificate

Manufacturing safety is important to prevent or lessen the risk of workplace injury, illness, and death. Finehope General Manager Tiger Side: "Only those manufacturing facilities which continue to emphasize safety as a top-level issue will remain highly productive and competitive in today's marketplace."



## Fujian Province Pollution Discharge Permit

Pollution discharge permits are the "identity cards" of all entities involved in the discharge of pollutants and are issued by the Xiamen Municipal Environmental Protection Bureau. General Secretary Xi Jinping emphasized that "the ecological environment should be protected like the eyes, and the ecological environment should be treated like life." Premier Li Keqiang said: "Environmental pollution is a hazard to the people's livelihood and the pain of the people's hearts."

## The Third Party -- TUV Certification

Since 2007, Finehope has continuously passed TUV certification and has become an Alibaba Verified Supplier.

Verified Supplier is a high-quality supplier verified by the authoritative strength of Alibaba platform. Through online and offline on-site audits, the merchants' corporate qualifications, product qualifications, corporate capabilities, and other comprehensive strengths are reviewed and verification.



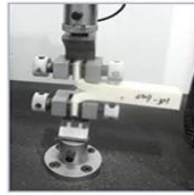
## Quality Assurance



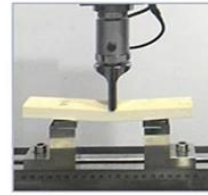
### UNIVERSAL TESTING MACHINE(UTM)



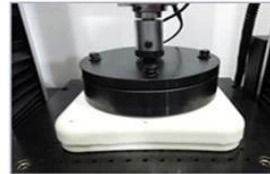
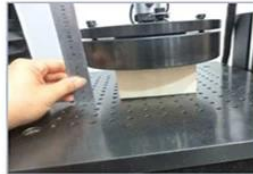
Tensile Test



Tear Resistance Test

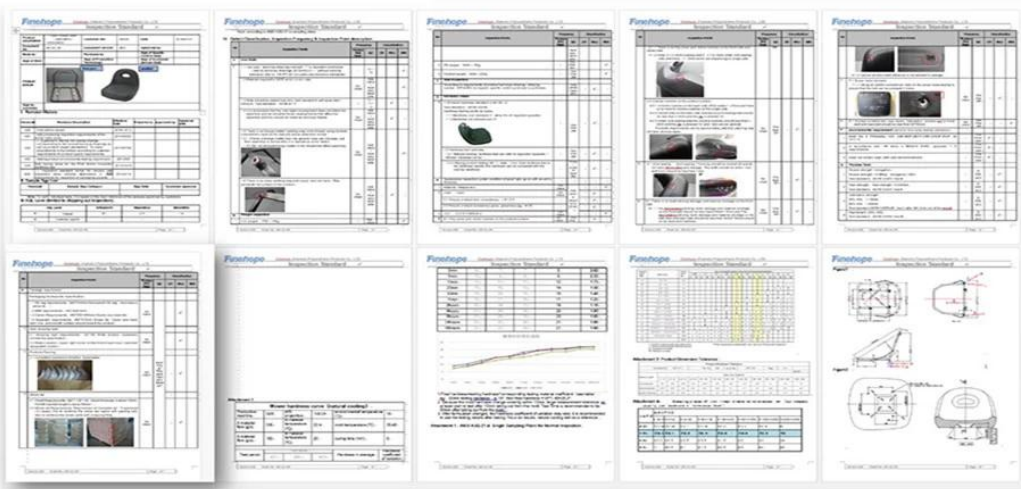


Compressive Strength



Indentation Force Deflection

## INSPECTION STANDARD



## MATERIAL PERFORMANCE TEST REPORT



<b>Customer</b>			
<b>Location</b>	New Zealand		
<b>Customer Code</b>	G1019		
<b>Risk Assessment</b>			
<b>New:</b>	Site <input type="checkbox"/>	Technology <input type="checkbox"/>	Process <input type="checkbox"/>
<b>Other Risks</b>	<input type="checkbox"/>		

<b>Project</b>			
<b>Finehope Contact</b>	Wendy Yang		
<b>Part No.</b>			
<b>Part Name</b>	G1019Y04		
<b>Change Level/Date</b>			
<b>User Plant(s)</b>	Finehope		

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

Build Level	Material Required Date	Quantity	No. Concurrent	
			SRCs	Majors
Product Design and Development	21-Jun-21	10		
Product and Process Validation	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
<b>AIAG APQP Phase 2 - Product Design and Development</b>								
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	2030	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)	2030	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)	2220	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	
<b>AIAG APQP Phase 3 - Process Design and Development</b>								
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	
<b>AIAG APQP Phase 4 - Product and Process Validation</b>								
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 Readiness 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 (PV&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	
<b>AIAG APQP Phase 5 - Feedback, Assessment and Corrective Action</b>								
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

Made: Xiaodong Qiu

FMEA Date: Nov.10th.2015

Product Name: Injection moulding

Procedure responsible dept: Production Dept

Model year/vehicle types: CRV

Soybean Milk Maker

Important 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/mechanism of failure	frequency (O)	Current prevention process control	Current detection process control	detection (D)	RPN	recommended measures	Responsibility and target completion date	Action Taken	severity (S)	frequency (O)	difficult to check (D)	RPN
scaphus	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
scaphus	warping of scaphus 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
scaphus	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 bit, 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)

#### 潜在失效模式及后果分析

FMEA No.FMEA20150325-01

Page 3

Maker:Wenhong-Huang

FMEA Date (Original):2015.03.25

Item:Welding Improvement

Process Responsibilities: Production welding group

Model year/project

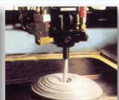
Key Dates

Item	Potential failure mode	Potential consequences of failure modes	Severity	Grade	Potential causes of failure	Occurrence degree	Current process control and prevention	Current process control detection	Detection rate	RPN	Suggest measures	Responsibility and target completion date	Measure results	Severity	Incidence rate	Detection degree	RPN
Request	Size/NG	Size/NG	6	B	● Staff negligence ● Failure for bad ● Failure for bad	4	● Make the operation standard book ● Make maintenance standards, regular maintenance ● Make the operation standard book	● Visual inspection ● Finished 100% full inspection ● Visual inspection	6	144	● Pre-service training of staff ● Regular maintenance ● Make inspection checklist for future			6	3	4	72
Clamping is not in place	Welding error, leak welding, affect the assembly or use function	Welding error, leak welding, affect the assembly or use function	8	A	● Staff negligence ● Failure for bad ● Failure inaccurate ● Failure inaccurate	4	● Make the operation standard book ● Make maintenance standards, regular maintenance ● Regular checking of future	Visual inspection	6	192	● Pre-service training of staff ● Regular maintenance ● Make inspection checklist for future			8	3	4	96
Attachmate missing	Affect product strength or influence the assembly	Affect product strength or influence the assembly	8	A	Staff negligence	3	Make the operation standard book	Visual inspection	4	96	Final inspection personnel do 100% full inspection for each bead with man			8	2	2	32
Attachmate error	Influence assembly	Influence assembly	7	A	No mistake proofing future	3	Make the operation standard book	Visual inspection	6	126	● Increase the mistake proofing devices ● Inspection for final inspection tools			7	2	4	56
False welding	Lack of strength, affect the use of function	Lack of strength, affect the use of function	9	A	Current, voltage, welding angle, speed setting is not reasonable	4	● Welding process guidance ● Condition confirmation check ● Confirm the failure test on a regular basis	Destructive testing	8	288	After the procedure is set up to confirm the processing conditions, the execution and marking of the failure test is performed			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 P-U 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 pre-programmed 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.



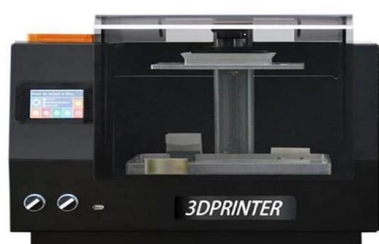
### Mould Release Agent Painting Robot



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

CUSTOMER FIRST

TEAMWORK

EMBRACE CHANGES

PASSION

INTEGRITY

COMMITMENT

