

Summary of Comments on Practical Work Report

Student Name..... Markers Initials.....

	Ranking			
Structure of the Report (compliance issue) All instruction about format have been followed, and all the prescribed sections are present	5	4	3	2 OR 1
Quality of the Report Grammar and spelling are good. The language is fluent, and flows well, no proof reading errors.	5	4	3 OR 2	1
Presentation of the Report The report is well focussed, balanced, interesting and contains an appropriate amount of detail. Illustrations are useful.	5	4 OR 3	2	1
Scope of Report Well-chosen and relevant to a Practical Work Report	3	2	1	0
TOTAL VALUE OF MARKS				

OVERALL Grade for this Report

Total Marks greater than 14

Total Marks greater than 10

Total marks greater than 6

You are required to resubmit this report.

A

B

C

D

It is recommended that you contact the Student Learning Unit for advice on the writing of this report

Practical Work Report

Thong Guan
Plastic and
Papers Industry
Ltd

Chemical and Materials Engineering





THE UNIVERSITY
OF AUCKLAND

FACULTY OF ENGINEERING

CERTIFICATE OF PRACTICAL WORK

Student Family Name		First Name	
Student ID Number		Specialisation	Chemical and Material Eng
Part Completed	I	II	III
Full Company Name	THONG GUAN PLASTIC & PAPER IND. SDN. BHD.		
Company Physical Address	LOT 52, JALAN PRNK 1/6, KAWASAK PERUSAHAAN CUNGAI PETANI, 08000 SUNGAI PETANI, KEDAH DARUL AMAN, MALAYSIA.		
Company Postal Address	LOT 52, JALAN PRNK 1/6, KAWASAK PERUSAHAAN CUNGAI PETANI, 08000 SUNGAI PETANI, KEDAH DARUL AMAN, MALAYSIA.		
Company Website Address	www.thongguan.com		
Company Phone Number	+604-4417888	Company Fax Number	+604-4419888
Supervisor Name and Designation		Supervisor e mail address	thongguan.com
Period Worked	From 26/12/2013 To 21/02/2014		

Nature of Work (To be classified showing the hours for each classification)	Hours	
	General	Sub Prof
GENERAL	352	
Total Hours Worked	352	

Report of Engineer in Charge

Signature		Date	21/02/2014
Student Progress	JOB GIVEN DONE	Student Diligence	
Student Attendance	FULL ATTENDANCE	Remarks	SHE HAS BEEN A GREAT STUDENT & HELP.

FOR OFFICE USE

Name of Marker				
Reports Approved	General Hours		Sub Professional Hours	
Hours Credited	General Hours		Sub Professional Hours	
Grade	Signature		Date	

Details on Practical work

Student's Name :
Student's ID :

Employer : Thong Guan Plastic and Papers Industry Ltd
Employer's Address : Lot 52, Jalan PKNK 1/6, Kawasan Perusahaan Sungai Petani,
08000 Sungai Petani, Kedah, Malaysia

Assigned Posotion : HR and Production Engineering Trainee

Date of training : 26 December 2013 to 21 February 2014
Date of report : 3 February 2016

SUMMARY

This report summarizes my internship program at Thong Guan Plastic and Papers Industries Sdn. Bhd.. Thong Guan is a known plastic bag manufacturer in Asia Pacific. This report provides the overview about the host company, Thong Guan Plastic and Papers Industries and my practical work experience. I was assigned as HR and Production Trainee at the company, in which I experienced working with the HR department in organizing the employee's data and trainings. I also associated with the chemical engineers that are assigned to prepare the recipes for the plastic bag extrusion. I was able to widen my scope of understanding as I was given a chance to be involved with the HR team works apart from the engineering sides. I learnt more about the structure of the company and job scope of each designations that exist in the company. For the engineering side, I learnt about the extrusion processes, ways to deal with customers' expectation and to communicate the ideas to other employee. In a nutshell, I would say that I have gain many invaluable skills and experiences through this short period of internship at the company. I was able to experience the real working culture as well as integrated the theories that I have learnt in university with the practice at the company. This practical work or internship period is the best platform to allow us, student to play the role in developing our soft skills, attributes and expertise required by the industry.

ACKNOWLEDGEMENT

First of all, I would like express my gratitude to the company, Thong Guan Paper and Plastics Industries for giving me such opportunity to undergo industrial internship training with them. It is an honour for me to work with one of the well-known industry in Malaysia. Next, my sincere gratitude and thanks goes to my Host Company supervisor, _____ for her support and encouragement. Under her supervision, I gained a lot of experience and knowledge as a trainee. She taught me to be Independent while at the same time closely guide and monitor me throughout this Internship period.

I would also like to express my gratitude to all employees in Manufacturing and HR Department for guiding and assisting me all the time. Their willingness to explain to me about the flow and processes in the company is invaluable to me. All the technical knowledge and skills that are shown to me have made my practical experience priceless.

Next, I would like to thank to the university for providing us with a the opportunity to experience this practical work prior to completing our degree as this experience does make us more prepared to work in the real industries later on. I appreciate the work done by the university to ensure we completes this work experience and the effort to review our reports.

Lastly, I would like to express my gratitude to parents, family and friends for the moral support during good and bad times. Without them, I would not be able to complete my practical work as well as this report.

TABLE OF CONTENTS

SUMMARY	2
ACKNOWLEDGEMENT	3
INTRODUCTION	5
Products	6
Thong Guan's Plant Layout	9
WORK CULTURE AND ENVIRONMENT	11
WORKING EXPERIENCE	14
Understanding the flow of the processes	14
Analyzing problems at Lot 48	16
Prepare recipes	17
Prepare Training Video	18
Quality Check	18
Other tasks	19
Internal trainings	19
REFLECTIVE APPRAISAL	20
Communication skill	20
Discipline and Dedication	20
Responsibilities	20
Impression on the company	21
CONCLUSIONS	22
APPENDICES	23

INTRODUCTION

Thong Guan Industries Berhad is known to be one of the distinguished plastic packaging company in Asia Pacific, with more than 30 years of experience in this industry. As an experienced company as well as the leader in the manufacturing of plastic packaging in Malaysia, Thong Guan Plastic (TGP) provides the customers with the highest quality in innovative and sustainable packaging solutions, and partnerships built on service, reliability and excellence.

Thong Guan is one of the biggest producers of cast pallet stretch film and garbage bags in this area with an annual combined production output in excess of 100,000 metric tons. The main industrial operations are located in northern Malaysia, Kedah which covers an area of over 20 acres, with established manufacturing operations in China and Thailand.



Figure 1: Thong Guan company building

Thong Guan is renowned as a quality driven company with policies and procedures that are designed to achieve total customer satisfaction, believing that innovation is the foundation of continuous growth.

During the internship period, I was assigned to work with the production team and the HR team. While with the production team, I learnt, observed and assisted the chemical engineers in preparing the recipes, analyzing any problems at the production floor and preparing training video so other people apart from the production team can understand the flow of the processes. Meanwhile, as HR trainee, I also assisted the HR team with organizing employees' folders, managing foreign workers' data, and helped the training executive to plan and do the post-training evaluations.

Products

Stretch Films

Thong Guan is a specialist in the manufacturing of Cast LLDPE stretch film with its annual production capacity of over 60,000 metric tons. Thong Guan is known as the first company in the Asia Pacific to produce thin gauge cast hand wrap (CHW).

Sustainability for this industry means reduction of packaging. This reduction put greater demands on thinner but stronger film. With comprehensive knowledge and technical expertise, Thong Guan works with resin producers to provide solutions to end users of various industries to ensure pallet integrity at the lowest cost. Sustainability goals are easier to be reached by having the developments in resin, equipment and technology while minimizing costs.

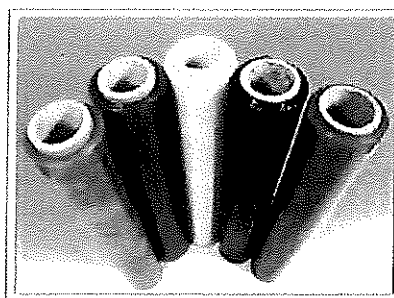


Figure 2: Stretch films with various colours available for the market

Thong Guan has wide range of solutions to reduce film usage, optimize load containment and improve efficiency. This stretch film is the most effective way to reduce film consumption without compromising the integrity of the load.

Garbage Bag

It has been more than 30 years when Thong Guan starts exporting garbage bags to Japan, the largest market for Thong Guan products. Despite Japan's strict standards and requirements in garbage bag production such as strict hygienic requirements and individual folded bags with various printings, Thong Guan is able to fulfill all of it. With production capacity of over 40,000 Tons per annum, Thong Guan export market for garbage bags has grown to cover countries in the Asia Pacific over the years. This is a result of having good environmental concerns as Thong Guan provides eco-friendly solutions with 100% bio-degradable bags.

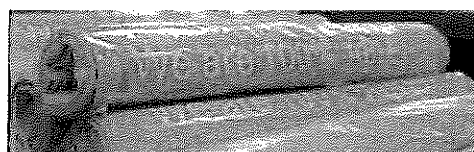


Figure 3: Garbage bags, Thong Guan's most successful product in Japan

Flexible Packaging

Flexible packaging division in Thong Guan is well-known and has good reputation for many industries including the food and beverage industries, industrial segments, agriculture, medical, building and construction segments along with packaging for retail and domestic use.

The reason of having these wide range of customers is due to the good quality and variance. The company's flexible packaging products can be printed up to 8 colours, and be made 100% degradable, with other add-ons available in accomplishing different customers' requirements.

This flexible packaging division also specializes in bags on roll with core, recycle garbage bags, shopper bags and biodegradable bags. Thong Guan also focus on its recycling plant which recycles and reuses in-house wastes to achieve sustainable environmental management.



Figure 4: Flexible packaging

White Masterbatch

Thong Guan's White Masterbatch is precisely formulated using high quality Titanium Dioxide (TiO_2), with special organic and inorganic surface coating. It is in compliance with FDA CFR 177.1520 for food contact application.

This masterbatch gives better gloss, opacity, dispersion and optical properties to increase productivity, performance and profitability. It delivers excellent dispersion of all active ingredients, therefore the opacity is better, the smoothness of the surface is more excellent and a good anti-blocking effect is induced.

PVC Food Wrap

PVC food wrap, named Purewrap is another known product of Thong Guan. Its production is a joint venture with a Korean company, Power Wrap Inc. Purewrap is known for its self-cling, stretchable and hygienic freshness quality which are suitable for domestic as well as commercial applications. The product is listed on the Food and Drug Administration (FDA) and certified by Agri-Food & Veterinary Authority (AVA) of Singapore.

The properties that boosts up the quality of Purewarap is that it has anti-fogging and good oxygen permeability which enable the food to be kept fresh for a longer period. It also has excellent cling effect and has superior clinging properties, greater tensile strength and anti-sagging properties.

Purewrap is good for all kinds of food, fruits, vegetables, meat and poultries. It is also suitable to be used to wrap other goods besides food, such as for factories, packaging mills, household, grocery shops and supermarkets.

Thong Guan's Plant Layout

Thong Guan Plastic and Papers Industries is made up of 3 lots, each with different divisions. Lot 48 is specialized for the production of flexible packaging, Lot 51 for stretch films and Lot 53 for the manufacturing of garbage bags. All lots has its own storage area at which the raw materials and final products are sorted. The figure below shows the layout of the plant.

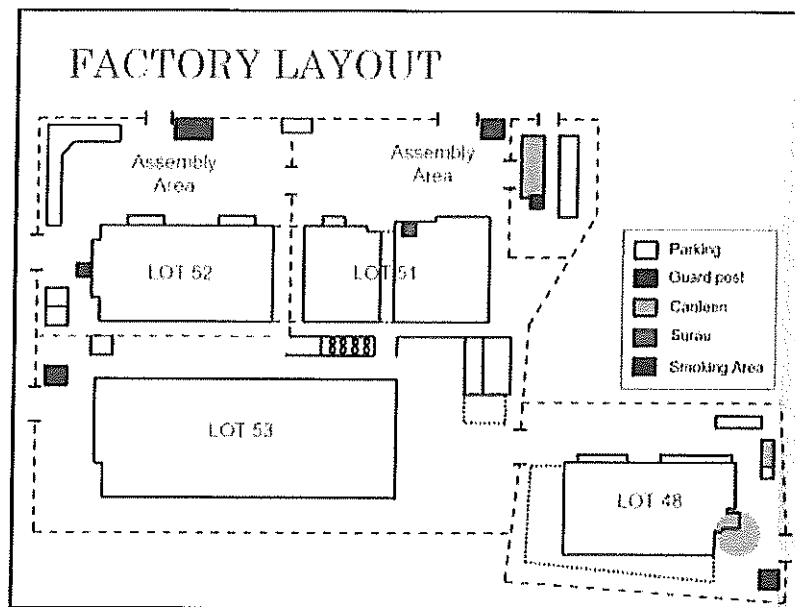


Figure 5: Thong Guan factory layout

The figure below shows the general flow of the processes for all divisions. The detailed processes are different but the main concept of extrusion is applied for all products. All employees hired were trained and given basic idea of the process flows and given access to the production plant.

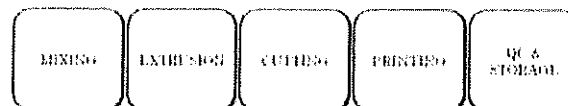


Figure 6: Thong Guan General Process Flow

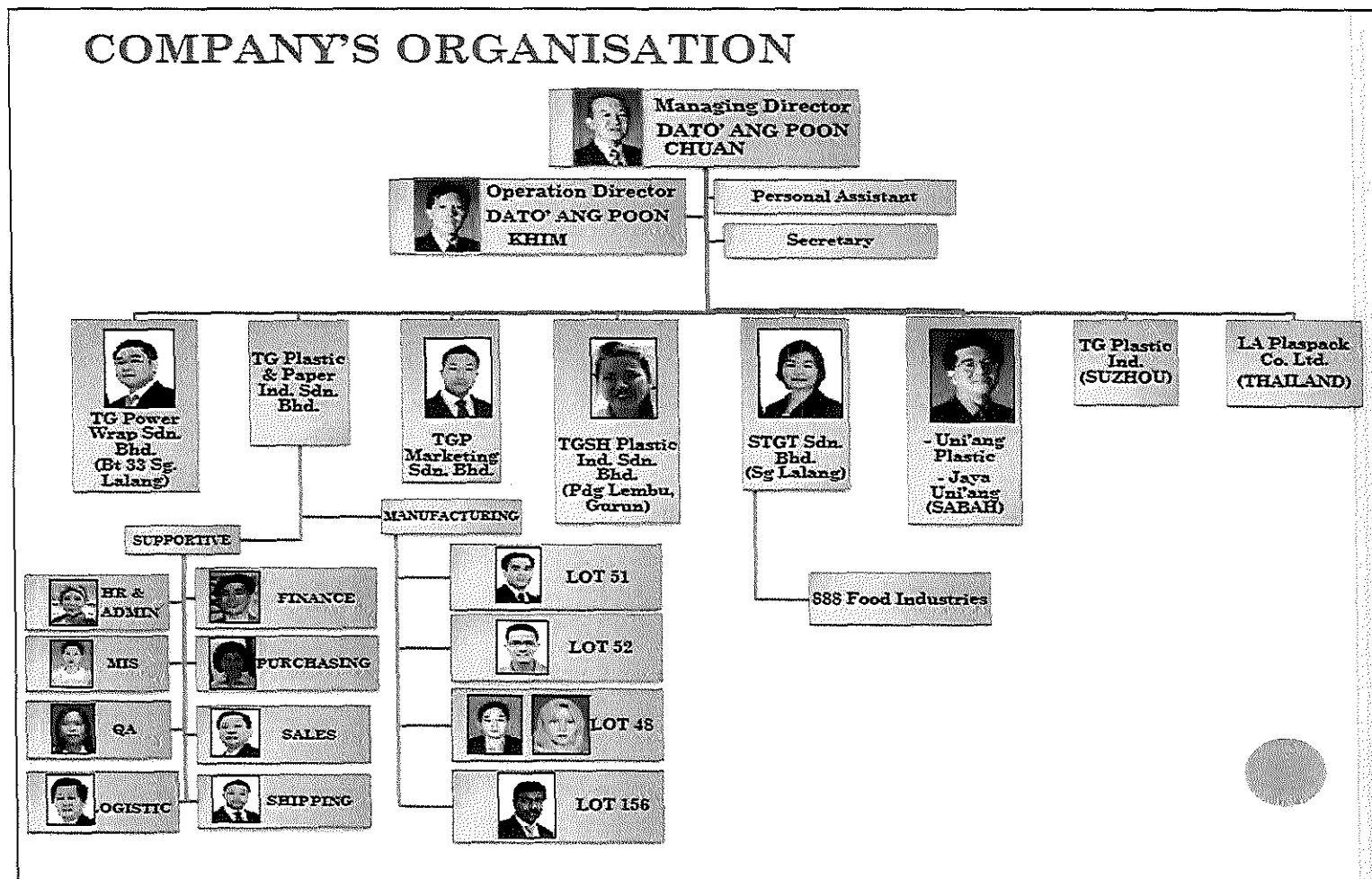


Figure 7: Company's Organization Chart

WORK CULTURE AND ENVIRONMENT

Thong Guan is basically made up with a team of employees with strong interest in the way the company works and the way the company serves the customers. The sole commitment and responsibilities of the company and the employees extend to the communities and environment, thus leading to a continuous and sustainable growth and solid corporate performance. Thong Guan also aims to be a global brand besides undertaking all measures to ensure that the customers all around the world are competitive in their respective markets.

Company Vision

THONG GUAN to be the leader in providing value, solutions & services as the most technologically advanced plastic packaging film and additives manufacturer in Asia Pacific.

Company Mission

To acquire knowledge continuously, create safe environment, innovate and make continuous improvement to exceed customers' expectations.

Company Core Values

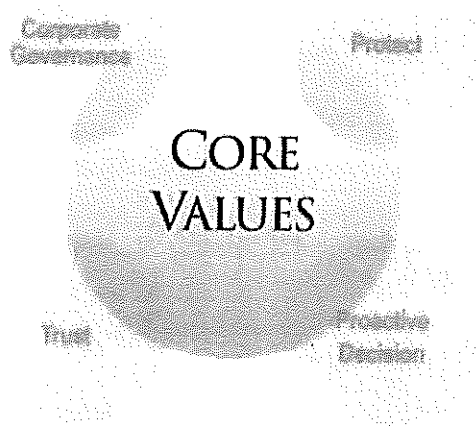


Figure 8: Core Values Practice at Thong Guan

The core values nurtured in the company include the aim to be a respectable organization in corporate governance, to be committed to protect the employees as well as environment, to be proactive decision maker based only on ethics and integrity, to trust each other, enjoy what we do with passion and lead with no fear.

These values are in the foundation of the employees' behavior and not negotiable on any business decision.

Quality, Safety, Health and Environment (QSHE) Policy

Thong Guan Plastic and Papers (TGPP), a manufacturer and printer of plastic packaging and films, shall be committed to fulfill with the legal and other requirements that the company pledges and to have persistent progress concerning quality, safety, health and environmental through:

- Trainings to create awareness on quality, safety, health and environment
- Green environment as corporate responsibility towards environment
- Prevent pollution, accidents and incidences through all measures
- Programs for improvement on safety, health or environmental for all employees
- Improvement on Quality, exceeding customer's requirements towards Trust and Established Partnership

This policy underlined by the company provides a framework to establish and review the objectives. TGPP is solely responsible to ensure the policy is communicated to all employees, vendors and available to the public.

Work Ethics

Work ethics play a vital role to achieve a high quality work produced. Thong Guan Plastic and Papers Industries Berhad values integrity and honesty in its business dealings. TGPP personnel are encouraged to be honest and trustworthy in their dealings with customers, clients and associates. TGPP honors contractual obligations. TGPP trades in many different countries of the world, and under many different jurisdictions. TGPP respects the laws and customs of the regions in which it operates. TGPP supports the principle of equal employment opportunity to all employees regardless any difference. TGPP respects and values the natural environment. TGPP always seeks to minimize environmental damage and to work closely with Governmental agencies and local sensibilities to ensure this. TGPP trusts in making as much information about the company available to the public as consistent with good business practice and obligations to third parties. Information published is, to the best knowledge of the company, truthful and an honest representation of the opinions of TGI management.

Quality Policy

Thong Guan Plastic and Papers Industries Berhad is committed to the manufacturing of excellent plastic films, sheets and bags for both the local and the global market. The company's quality concept is strictly employed right from the receipt of raw materials throughout the manufacturing process, premises, equipment, laboratory tests, inspection and shipment. At TGPP, an emphasise on strict quality control procedures is applied in line with the standard for ISO 9001:2000. The company also stresses on Total Quality Management in Quality Assurance and Quality Control. The company invests in advance testing equipments and technically qualified personnel to ensure the quality standards meet and exceed customers' requirements.

WORKING EXPERIENCE

Understanding the flow of the processes

During the three months of training, I was assigned to assist the chemical engineers at Lot 48, which specialized in flexible packaging in checking the customers' requirement and to prepare the recipes for the plastic bags. To start with, I was asked to look around, learn and understand the steps in manufacturing processes first. The engineers provided me with some notes and explanation about the processes and I also seek help from the operators and technicians whose working at the production floor.

Mixing

Mixing comprises the processes where the raw materials are measured and mixed properly to get the plastic packaging with the properties that satisfy the requirements. At this lot, the raw materials are placed at the specified mixing area to make the work much easier.

The basic material in the manufacturing of flexible packaging is polyethylene. Different type of polyethylene are used for different types of packaging. For example, transparent coloured bags are made using low density polyethylene. Masterbatch is used to give colours to the packaging. Various colours are available for flexible packaging. Additives such as antistatic, antiblock, biodegradable and PPA are added according to the customers' order.

The measured materials is poured into the mixing machines, each of them could process up to 750kg materials at once, and takes about 30 to 45 minutes each time. Mixed materials are then labelled and sent to the extrusion area for the next process.

Extrusion

After mixing, the materials are transferred to the extrusion area. The mixture will be placed at the extruder where it will be heated and conveyed. The melted material is pumped through a circular, rotating die that will create tube shape of the plastic bag. The melted material will be stretched out from the die. Moving upwards, the material, now called as film, is drawn by the nip rollers and is expanding by filling it with air. This will create a "bubble" inside the film. The extrusion machine is set to specific speed and temperature as per engineer's instruction.

As the "bubble" enters the nip roller, the film is immediately flattened and cools down as it travels further down from the extrusion machine. The finished film is rolled on prepared cardboard core.

Printing

Some of the extrusion machines, called in-line printing machines, can directly print on the film right after it is flattened but most of the machines cannot do that. This in-line printing machines can only print up to four colours. Besides that, not all flexible packaging needs to be printed as printing is customized as per customers' request.

Normal printing machines can print up to 8 colours in a single run. In this area, safety gears are required as chemicals and hazardous equipments are mostly used in this particular area. For each order, setup needs to be done by qualified operators. The blades, rollers, inks, speed and adjustment need to be carefully set before startup as major waste could be caused if this part is not handled strictly.

For printing, there are reverse and surface printing. In reverse printing, darker colour will be printed first and this is the opposite of surface printing, where brighter colour is printed first. This method will be decided by the engineer according to the suitability to meet the requirements.

Cutting and Folding

Cutting, folding and packaging are basically done within this cutting area. Tubings (rolled films) from the previous area are placed near to the respective cutting machines. There are various types of machines which can give various types of folding and cutting.

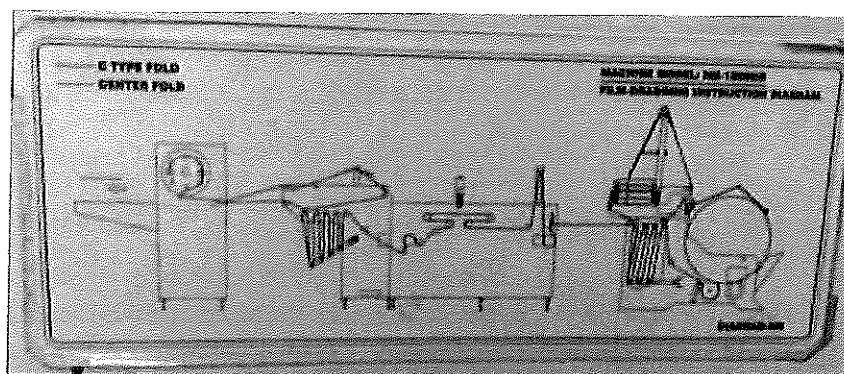


Figure 9: Cutting and roll machine diagram

For standard sealed bag, which normally used for food packaging in Malaysia, the continuous films will be sealed at respective lengths, cut and folded. Different sealing temperatures are set for different types of bag. Some of the flexible packaging requires perforated lines (easy-to-tear line) and this too, are printed on the film at the cutting area. Some customers want smaller roll for their product. There are machines that fold the continuous plastic bag sideways and C-shaped to make the roll smaller for the end product.

After cutting and folding, the packaging are manually packed into the respective boxes and transferred to the packaging area.

Quality Check and Packaging

Quality check, the part where the properties of the final product is assessed, is done after all steps. The post-extrusion film is checked for its quality and opacity. After printing, the quality of the printing is also verified. At the cutting and folding area, the final product is manually measured for its dimensions, tested for opacity, strength and quality of seal and perforations. The processes will only proceed if the product passed the required criteria.

Packaging is done after the cutting and folding. The product is boxed and wrapped before being shipped to the customers.

Analyzing problems at Lot 48

While learning about the steps in manufacturing the flexible packaging, I was asked to look around and spot any problems or obvious mistakes by the operators while operating the machines. The engineers pointed out some of the major problems at the production floor such as high amount of waste. A lot of waste is generated from the startup of the machines. However, this waste cannot be eliminated fully as the machines will always need the materials for startup hence continuous improvements are always needed for the plant to ensure minimal loss for the company.

Another problem that my fellow trainees and I spotted is the low awareness on the safety measures from the production operators. Most of the employee neglect the use of safety wears whenever they are on the production area. Some of the hazard may not be obvious but accidents could happen anytime, for example if there is any contact with dangerous chemicals, it might lead to hospitalization or worse. We suggested that safety trainings should be held on at least annual basis to increase awareness on this crucial issue and also more strict enforcement of the safety rules and regulations.

Besides that, I realizes that the floor at the manufacturing area was quite messy and this could also results in accidents. Suggestion was made to the HR team as I was also involved in HR department to enforce 5S and to make evaluation on the production areas.

Prepare recipes

After I learnt about the basic steps for the manufacturing process, I approached the chemical engineer at Lot 48, Miss : to learn about raw materials preparation for the flexible packaging.



Figure 11: Masterbatch used at Thong Guan

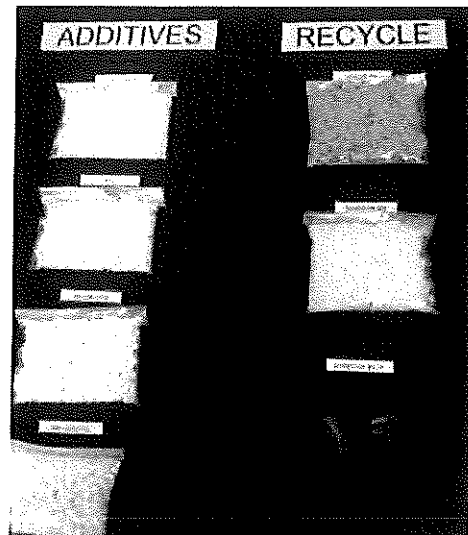


Figure 10: Additives used as per order

The figure above shows the masterbatch used to give colour to the packaging. Low percentage of colour is used for low density polyethylene (LDPE) bags as it is transparent and the opposite for HDPE. The figure shows various colours provided for Thong Guan's customers.

The other figure shows the additives used to enhance the properties of the flexible packaging. Antiblock is used to ease the flow of the polyethylene for processing. Blocking problem is when we have adhesion between the films which making the process difficult. Antiblock generally lower film-to-film friction thus increases the ability to slide between the surfaces and avoid blocking. The usage of this additives is adjusted according to the customers' request for their packaging properties.

Polymer processing aid (PPA) is used to increase the processing efficiency and quality of polymeric compounds. Another additives known as antistatic is applied to decrease and eliminate the possible buildup of static electricity. Other additives such as biodegradable is used to give sustainable quality to the product as it increases the ability of the product to decompose.

The recipes for the flexible packaging had been previously prepared as templates for the engineers. These templates for all customers had been prepared by the previous engineers and just slightly adjusted if there are any changes from the customers. So basically if there are no change required, we are only required to choose the respective customer from the list on the company software and print out the recipes. Then the only thing left is to measure the amount of additives and masterbatch needed according to the recipes. The measuring part is crucial as tiny gram difference will result in different tone of colours and

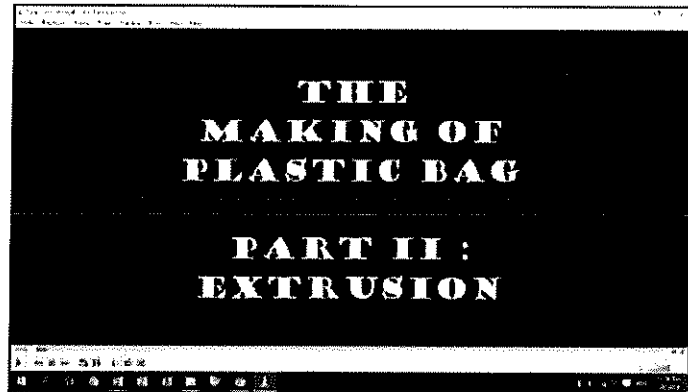
properties. Therefore, only the engineers are entrusted to make the measurements and the mixture will then be prepared.

During my period of training at the company, there is no adjustment on the recipes hence I missed the opportunity to observe the strenuous work on testing the properties of the materials to ensure it fulfills the requirements.

Prepare Training Video

I was assigned to create a video compiling all the processes for flexible packaging department. This video purpose is to summarize the flow to make it easier for new employees or other visitors to understand the process of manufacturing the flexible packaging.

As to fulfill the requirement of the interactive video, I went to the production flow and tried to understand all steps of the processes first, from the starting point which is preparing the recipes up to the point where the products are packed and ready to be shipped. This took me about one week and I managed to fully understand the processes while I started to create a template of the video. The following week, I start recording and collecting pictures to be included in the video so that the whole processes seems more simpler and could be explained well to the audiences.



The three weeks I spent in this video was worth when the video was acknowledged by the HR team and used for training purpose. This task is challenging for me as that was my first time trying to simplify a whole manufacturing processes while assuming that the audience has no idea at all about plastic bag processes. However, with the help from the engineers and other colleagues, I managed to finish this task and fulfill all the requirements for it.

Quality Check

The quality control is done by the QC operators and verified by the supervisor. I also had the chance to make quality inspection with the guide from the supervisor and engineers. The inspection of the final product is done manually by the operators. The dimensions of the product is measured using a ruler, strength is checked by trying to tear the product and opacity is tested by putting the packaging under the light. The data obtained from the test is recorded in the prepared logbook and any problems encountered will be referred to the supervisor or engineer in charge. The quality team works closely with the operators

and they are the one that will decide whether the production can be continued or halted depending on the quality of the product.

Other tasks

Besides doing the tasks above, I also assisted the process engineers with other tasks as listed below.

- Assist the training executive to collect signatures from respective employees for the post training evaluation form. This form helped the training organizer, which includes the HR team and the trainer, to assess the value and importance of a training in improving the skills and knowledge of the employees.
- Prepare visual aid documents such as Do and Don't for the production floor to ensure all safety precautions at the plant is complied by all employees and everyone that enters the areas.
- Assist HR department in checking the employees folders to ensure all the documents are up to date and complied the standard filing procedure.
- Update Job Description for the employee with compliance to the ISO documentation standard.

Internal trainings

Since I was assigned to help with the training for the HR team, I also had the opportunities to attend some of the trainings held. These include;

- 5S Training. I learnt about the importance of 5S for the industry and also the methods to implement and nurture 5S environment to the employees.
- Kaizen Training. I was introduced to Kaizen, the method of improving a process in the company. This training teaches me that there is always a room for improvement for everything, by making the processes better or reducing the waste produced.

The chances given to me to attend these trainings helps me in understanding more about the responsibilities of an engineer and to always find any opportunity to improve ourselves in order to add value to us as well as the company.

REFLECTIVE APPRAISAL

Communication skill

During the training period, I developed the ability to communicate with other employee from different departments. As both engineering and HR trainee, I was required to meet and deal with other people from the managerial level to operators. I realized that it is important to have good communication skills and to have the mindset that I am there to learn everything possible from them. The employees at Thong Guan not only teach me about the work-related topics but also about important life lessons.

I also learned to compromise with my colleagues. Everyone has their own potentials and limitations and the ability to compromise and tolerate others are crucial in maintaining a good working environment for everyone. I realized that I needed so many help I the beginning of the internship period and eventually becomes more comfortable towards the end, therefore I felt the necessity of making my fellow trainees comfortable around me. I also noticed the positive and helping attitude of the engineers there and whenever I need guidance and it encourages me to share and care more about the people around me.

Discipline and Dedication

Another important lesson I gained from this training about discipline and dedication in every task performed. I learnt that it is important to be keen and show enthusiasm towards the company. This positive attitude eventually makes me more passionate about working and at the same time thinking about any possible improvements that can be made to make the working place better in any ways.

I figured that as employee, we to be more initiative. I learned how to seek for information from the others to delve more about the knowledge on the company. I figured that being passive shows that we have no passion towards the company and is definitely not an excellent attitude. I also learned about being independent and creative in solving problems to portray good performance. Almost all times when I face any problem in the assigned task, I put effort to try to solve it by my own before consulting others.

Responsibilities

By observing all the employee at Thong Guan, I realized the huge responsibilities are carried by everyone in ensuring the productivity and safety at the company. Any small mistakes if taken lightly by anyone at the company can possibly cause serious injury or loss to the company. I came to realize that everyone is equally important to the company regardless of designations.

Impression on the company

Thong Guan is one of the old, large industry in Malaysia. The company upheld its tradition for quite a while and from my observation, it is a challenge to introduce new improvisations to the company. The employees are used to the 'usual' way of working that it is challenging to implement new concept including safety measures, 5S, Lean and Kaizen. The implementation of these method of improvement is slow in the company and the employee mostly refuse to accept these ideas. This is where I believe communication is very crucial. It is important to make the employee understand the value and significance of making the improvements to the company.

CONCLUSIONS

As a conclusion, this 3 months experience of working at Thong Guan has exposed me to the nature of the working environment. I experienced working as a production trainee, in which I observed and assisted the chemical engineer to work and deal with other people. I also had a whole new experience being exposed to the HR department in which I learnt many valuable things that I never knew before. This internship gives an opportunity for me to understand the structure of an organization and the role of the each designation in the organization.

Besides that, I also had the chance to see and experience the real practice of what I only learnt in theory before, such as injection moulding, blow extrusion, waste management, and safety and health measures applied in the company. This real working environment taught me that a direct involvement in these industries gives better understanding on the concept of engineering such as planning, designing, construction and management. I concluded that Thong Guan had given me a good platform to exercise and improve my technical skills.

On the other hand, Thong Guan Industries also gave me the platform to improve my non-technical skills. These skills which include communication skills, teamwork, safety awareness, and leadership skills were indirectly developed amid the training. I also developed good discipline and learnt to show my full dedication in all task that was assigned. These qualities, in my view, are very crucial alongside good technical skills as in real working environment, naturally everyone needs to work in a team therefore good dedication and communication skills are important to deal with other people and to convey our Ideas to others.

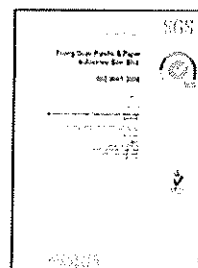
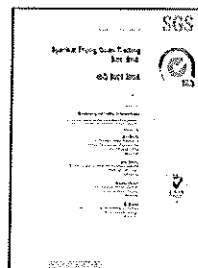
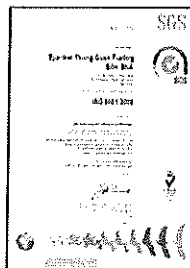
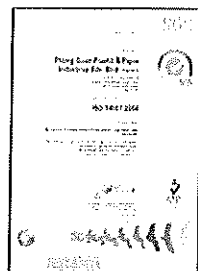
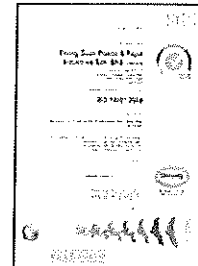
The skills I acquired from the manufacturing floor and behind the desk were extremely enriching and beneficial for an undergraduate students like me to put all the theories I learnt into use.

APPENDICES

ISO

Our company has ISO qualification:-

- ISO 9001:2008 → Quality Management System (QMS)
- ISO 14001:2004 → Environment Management System (EMS)
- OHSAS 18001:2007 → Occupation Safety & Health Act (OSHA)



TYPICAL PROPERTIES OF TGP'S STRETCH FILM

GRADE NAME	SUITABLE APPLICATION	TYPICAL USES	THICKNESS	GUARANTEED PRE-STRETCH	MAXIMUM PRE-STRETCH	WIDEL CLING	UV	PRINTING	COLOR	DEGRADABLE
HA 100	Manual use	Standard packing	12 21	100 120	115 170	Y				
HB 110	Manual use	Standard packing	17 21	110 130	205 225	Y		Y	Y	Y
HD 55	Manual use with pre stretch	Standard packing Light products, food preservation	8 16 12,15	50	65	Y				
ME 110	Semi automatic	Mechanical light products	10 21	150 180	200 210	Y				
ME 200	Medium pre stretch	Paper cartons, industrial products	20 21	200 250	250 280	Y	Y	Y	Y	Y
ME 310	High pre stretch	Cement, pipes wood	20 21	250 270	300 310	Y	Y	Y	Y	Y
ME 300	Very high pre stretch	Wood, cement sharp edges industrial products	20	300	350	Y	Y			Y
BE 110	TE, hand wrap	Multi purposes use	10	100	100	Y		Y	Y	

GRADE NAME	HA 150	HS 200	HP 800	ML 150	ML 200	ML 250	MS 250	MS 300	ES 150	ES 200	ES 250
Standard width (mm)	450 & 500	500	800	150	200	250	250	300	150	200	250
Paper core (mm)	2	2	2	2	3	3	3	3	3	3	3
Paper core Thickness (mm)	6	6	6	6	8	10	11	10	6	12	10
Net weight (kg)	2.0	1.5	1.68	3.2	3.4	4.4	4.1	4.1	0.29	0.7	1.0
Qty roll / carton	6	6	6	6	6				1 & 24		
Qty carton / pallet	61	53	65	50	50				64		
Volume packing (cubic)	100	112				52	20	15		36	36

- Specifications are based on standard manufacturing process control. Please enquire for special requirements.
- Also available in various colours
- Also available in Totally Degradable Stretch Film.

