3.9 Company's Background

In achieving the third (3) objective, by using the interview methods, and based on the data from the Company and also from the Company's authorities website, this section discusses in details about the Company' background.

3.9.1 Introduction

As the first integrated steel mill in Malaysia, SF Sdn. Bhd. has started its first rolling mill in 1978 and ventured into upstream steelmaking with the establishment of a Steel Meltshop in 1982. This Company is located on 500-acres site in Banting, Selangor (Figure 3.7) with an approximately 1.3 km long with a built-up area of 1.3 million square feet. It has steadily expanded its steel operations and has a total investment of RM3.2 billion.

With the establishment of SF Sdn. Bhd, the Company has led to the group's venture into flat steel industry in fulfilling the increasing demand that fuelled by the country's economic growth and development. In facilitating the exports and lower transportation costs, the strategic choice of location near Langat River and near Port Kelang helps this Company with the import business of raw materials and export of finished coils.

Figure 3.7: Company was located on 500-acres site in Banting, Selangor

It is also located in a close proximity to the Klang valley where 70% of the nations' consume hot rolled coils (HRC). As the first and only integrated flat steel mill in Malaysia, it produces flat steel products with a capacity of 3.2 million tons of HRC and 1.45 million tons of cold rolled coils (CRC) per annum. It also produces light sections, billets and steel bars, HRC, picked and oiled and has commenced production of its CRM with a capacity of 0.7 million metric tons expandable to 1.45 million metric tons of CRC per annum.

The Company is more environment-friendly as it recycles steel scrap and uses the clean raw materials, informed Hot Briquetted Iron in its' Electric Arc Furnace (EAF) process and the only steel mill in the country to use this advanced CSP technology (Figure 3.8). CSP - Thin Slab Casting technology is recognized worldwide as the latest technology to produce flat steel. For significant and higher production in yield and energy savings, this mills' Company is fully automated using the state-of-the-art direct current EAF-CSP process which is developed by safety management system of Germany. Company's production helps to substitute imports, yield substantial foreign exchange savings.

Figure 3.8: An environment-friendly Company that use latest and advance technology

This Company has its own Safety and Health Manual as part of a continuous program for providing safety and health information to all employees. The purpose and detail on Company's Safety and Health Manual is in Appendix 19. This manual has been prepared as an effort to; (1) prevent injuries, illness and death from work related causes; (2) minimize losses of material resources; and (3) interruptions from accidental occurrences. It is directed towards the control of all types of hazards encountered in the performance of duties. Other than that, the Company' Safety Acknowledgement for Gate Pass Entry was shown in Appendix 20. Table 3.40 below shows the detail process involved at steel factory.

Table 3.40: Detail Process Involved

PROCESS	SOURCE	DETAIL
Scrap	Compress the scrap and stress transporting crushing	Scrap iron or iron is used as essential raw material. It is used and graded based on its quality, crushed and compressed to reduce its size. Limestone, graphite added, transported to EAF
Steel making	Blasting process in EAF and smelting process at LF	Electrical current is used to melt the metal. Second melting process is carried out at LF by high temperature of up to 1500^{o}C for melting process
Continuous Casting	Cutting the billet	Using big iron mots, molten steel from LF is then transported to making section
Hot Strip Rolling	Re-heating Oven	Billets of various lengths are transported to the rolling mill, reheated in the furnace up to 1050^{o}C. The reheated hot billets pass through different types to form the end products
Steel Product	Loading Process	The end products of these processes, packed and transported to stores

(SOURCE: Based on Company' Data, ESH Department)

3.9.2 Company's Products and Product Applications

The Company has produces HRC (Figure 3.9), CRC (Figure 3.10) picked and oiled. It has commenced production of its mill with a capacity of 0.7million metric tons expandable to 1.45 million metric tons of CRC per annum.

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Figure 3.9: Hot Rolled Coils (HRC)

Figure 3.10: Cold Rolled Coils (CRC)

Steel, as a basic material, is used in a wide range of applications from all industries. Steel has long been regarded as the backbone of the manufacturing sector and industrial program. The Z Groups' flat steel products unit plays an important role in supplying raw material for downstream manufacturing and infrastructural development.

Product Specifications and Product Range

Detail summarized on Company's products with the specification in Table 3.41 below. The certification is from SIRIM (ISO 9001:2000 & Product Certification) etc.

Table 3.41: Product Specifications and Range

PRODUCT	THICKNESS (mm)	WIDTH (mm)	COIL (INNER) DIMETER (mm)
HRC	1.0-21.0	900-1575	760
HRC Pickled & Oiled	1.5-6.0	900-1575	610
CRC	0.35-3.2	900-1575	508/610

Product Applications

HRC has many functions (Figure 3.11) which includes those used in highway guardrails, lamp posts, water pipes, gas cylinders, in the cargo freight containers etc.

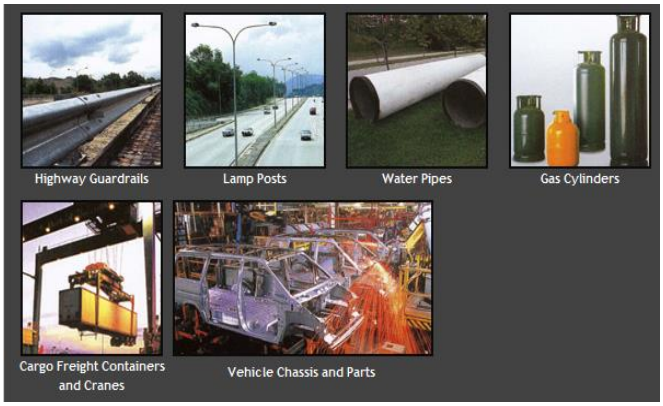

Figure 3.11: HRC's Applications

The CRC has many functions (Figure 3.12) including automotive process motorcycle body panels, office furniture, electrical electronic and also pipes and tubes.

Figure 3.12: CRC's Application

Production Process

3.9.3 Hot Strip Mill (HSM) Process

Fig. 3.13: 160-ton DC-EAF: an advanced design

Fig.3.14: LF: Ensure steel chemistry & superior quality

Fig.3.15: TSC Caster: To cast thin slabs

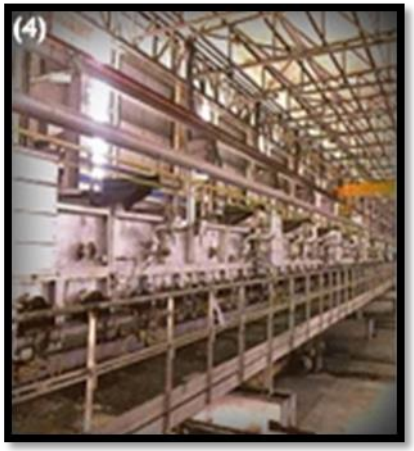

Fig. 3.16: SF: To ensure even slab temperature

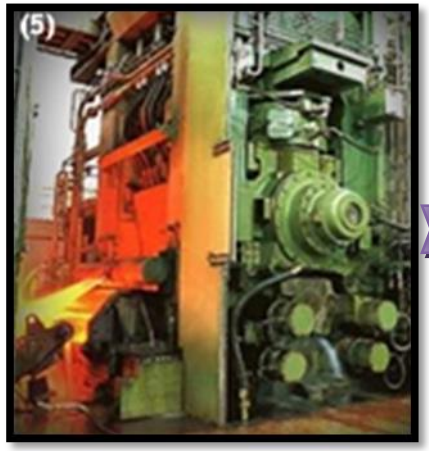

Fig 3.17: 7-Stand HSM with 4-High CVC: Design guarantees strip profile & gauge accuracy

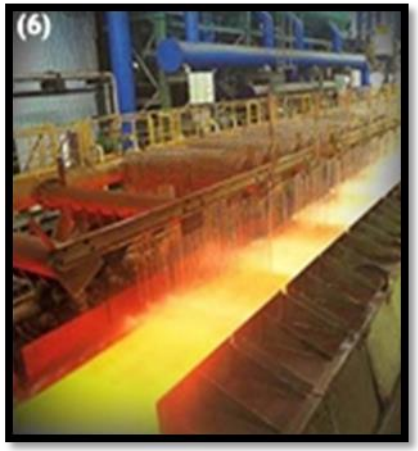

Fig. 3.18: LCS: To ensure coil's strip temperature & mechanical properties of surface quality

Fig.3.19: HSD: For coiling of strip into HRC

3.9.4 Cold Rolling Mill (CRM) Process

Fig. 3.20: CPOL: To remove mill scale from the strip

Fig. 3.21: 5-Stand 4-High Tandem Mill: To reduce strip thickness to 0.35mm

Fig 3.22: ECL: To clean and remove all emulsion stains from the strip before final coiling

Fig.3.23: BAF: To reduce the hardness of strip

Fig. 3.24: Temper Mill: To ensure final flatness

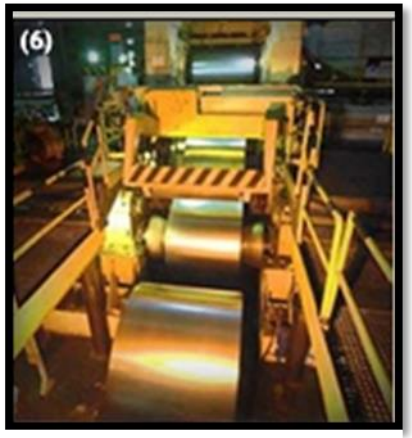

Fig 3.25: Mechanical Properties

Fig. 3.26: Recoiling: To cut final strip specifications