# 7.1 PRODUCTS, SERVICES AND OPERATIONS

# 7.1.1 Steel Products

MSCRC produces high grade CRC in many specifications. These CRC can be categorised in terms of quality, surface finishes, edges as well as oiling. The table below summarises the categories and the types of CRC produced by MSCRC:-

Categories	Types	Features
Quality	Commercial quality	CRC that are made of carefully annealed low carbon steel coils. They have good surface finish, workability and excellent flatness.
	Drawing quality	CRC that are better than those of commercial quality. They are produced from high grade materials by a carefully controlled process.
	Deep drawing quality	Made from strictly selected materials and manufactured with the most exacting quality controls. This quality has the highest attainable quality for drawing use.
Surface finishes	Dull Finish (Matte Finish)	This does not have any luster and is actually made rough intentionally so that the lubricant will stick to it during press forming, thereby facilitating fabrication. This finish is also suitable for paint adhesion. With these characteristics, CRC with this finish are most extensively used.
	Commercial Bright Finish	The smooth texture of the surface makes its best suited for metallic plating and coating.
Edges	Mill Edge	Edges are produced during the hot rolled process in the manufacturing of hot rolled coils.
	Slit Edge (Trimmed Edge)	Edges are produced by trimming or slitting at the final stage after the cold rolling process.
Oiling	Electrostatic oil coater	CRC are oiled by electrostatic oil coater at the recoiling line in order to provide maximum protection against rusting.
	DOS coating (FDA approved)	To be used in making food grade packing containers.

The CRC manufactured by MSCRC is mainly used in the manufacturing of steel pipes and tubes, steel furniture, home appliances, electrical appliances, steel drums, automobile parts, steel strappings and as raw material for galvanised and coated sheets.

## 7.1.2 Production Facilities and Capacity

MSB's wholly owned subsidiary, MSCRC, is principally engaged in the production of CRC. The production plant is sited on an 18-acre site on Lot 717, Jalan Sungai Rasau, Seksyen 16, 40200 Shah Alam, Selangor Darul Ehsan. The plant has a built up area of approximately 417,569 square feet.

The installed facilities at the cold rolling mill include the following: -

- Continuous pickling line;
- Hitachi 6-High cold reversing mill;
- Electrolytic cleaning line;
- Batch annealing furnaces;
- Recoiling line with electrostatic oil coater and pin-hole detector;
- Roll grinder; and
- Shot blasting machine

All the facilities were purchased new from their respective mill manufacturers.

The production plant commenced commercial operations in June 1990 to manufacture CRC and had an installed production capacity of 70,000 mt per annum, which was increased to 140,000 mt per annum in 1992 following the installation of new annealing furnaces. MSCRC's production capacity was increased further to 200,000 mt per annum in 1997 following the installation of several annealing furnaces.

MSCRC was granted pioneer status by MITI under the Promotion of Investment Act, 1986 for a period of five years commencing from 1 October 1990 to 30 September 1995. MSCRC's pioneer status was extended for another five (5) years commencing from 1 October 1995 to 30 September 2000. On 1 October 1996, MSCRC was awarded the MS ISO 9002 certification in recognition of its efforts in maintaining a quality system in management and in the production of CRC. Subsequently, MSCRC was awarded the MS ISO 9001:2000 Quality Management System in 2002.

The cold rolling mill is currently running on two shifts or three shifts depending on demand. The current total production capacity for CRC is approximately 200,000 mt per annum and the production output for the FYE 31 January 2004 was approximately 160,000 mt.

MSCRC has established a systematic, controlled preventive and predictive programme for the maintenance of its infrastructure (existing building, utility, work environment, support services, machinery and equipment) to sustain equipment reliability, lengthen equipment service life and prevent unscheduled equipment breakdowns which could result in the loss of operating days and decreased production.

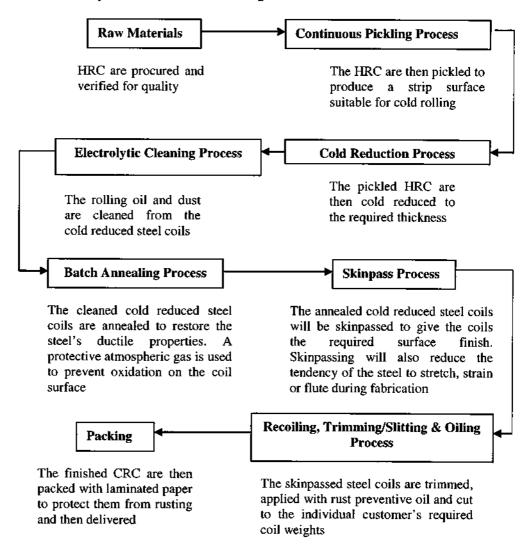
The types of maintenance programmes adopted by MSCRC are as follows:-

- Basic maintenance such as the cleaning and greasing of machinery which is done on a regular basis by the respective line operators;
- (b) Monthly maintenance schedules for utility, work environment, machinery and equipment which is executed by maintenance personnel; and
- (c) Annual mechanical and electrical maintenance which is conducted by the maintenance department according to the fixed maintenance programme.

In addition to the above, engineers from the relevant equipment suppliers are engaged by the Company once every five (5) years to check on the critical plant and machinery located at MSCRC.

#### 7.1.3 Production Process

The main processes in the manufacturing of CRC is illustrated below:



A brief description of the various processes involved in the processing of the CRC is as follows:

## Feed Material

The main raw material used in the CRC manufacturing process is the HRC. HRC are both imported and sourced locally as feed material for producing CRC. For the FYE 31 January 2004, approximately 37.8% of MSCRC's HRC requirement are sourced locally, with the balance imported from Japan. The specifications of these HRC are worked out with individual steel mills to ensure that the CRC are produced to the required specifications. All incoming HRC are verified by quality assurance personnel to ensure that they meet with the agreed specifications.

#### **Pickling**

HRC are pickled in MSCRC's Continuous Pickling Line to produce a strip surface suitable for cold rolling. Rust and the fine layer of iron oxide scales found on the HRC are removed. The HRC are uncoiled and joined by using a welder into a continuous strip before going through a series of pickling tanks where pickling is carried out. The coils are then rinsed with hot water, dried, oiled and then recoiled back for cold rolling.

#### **Cold Reduction**

Pickled HRC are cold reduced to the required thickness at the "HITACHI" Brand 6 – High Cold Reversing Mill. The pickled HRC are passed through the rolls a few times to have its thickness reduced gradually. The computer controlled thickness gauge in the Cold Rolling Mill continuously monitors the coil thickness to ensure that the desired thickness of the CRC is achieved.

## **Electrolytic Cleaning**

The cold reduced steel coils are then passed through the Electrolytic Cleaning Line where the rolling oil and dust are cleaned in an alkaline solution. These electrolytically cleaned steel coils have a clean and bright surface.

#### **Batch Annealing**

The Cleaned Cold Reduced Steel Coils are then annealed at the Batch Annealing Furnaces to restore the steel's ductile properties, which is hard and brittle after cold reduction. A protective atmospheric gas is used to prevent oxidation on the coil surface during annealing. Specific heating cycles and cooling cycles are set and are constantly monitored to ensure that the ductile properties of the steel coils are fully restored.

## Skinpassing

The Annealed Steel Coils are then sent back to the Cold Rolling Mill for skinpassing where they are rolled again with a set of shot blasted rolls to give it the required surface finish. Skinpassing will also reduce the tendency of the steel to stretcher strain or flute during fabrication.

## Recoiling

The Skinpassed Steel Coils are then sent to the Recoiling Line where they are trimmed to the required width and the appropriate rust preventive oil is applied to the required coating thickness with an Electrostatic Oil Coater.

The coils are then cut to the individual customer's required coil weights. Trained operators are also stationed on this line to inspect the coils and collect samples for further tests and analysis.

#### **Packing**

Packing is the last process in the production of CRC. The finished coils are packed with laminated paper to protect them from rusting and steel rings are added to protect them from damages during handling and storage. Steel envelopes are also used in the packing on the specific request of certain export customers.

#### **Delivery**

CRC are sent to customers by trucks. These trucks are properly covered to prevent the coils from the elements of the weather and the coils are also secured on the trucks to prevent any physical damage during their journey.

## 7.1.4 Raw Materials

The primary steel products required for the manufacture of flat steel products are HRC and CRC. HRC is the main raw material used for the production of CRC, constituting 85% of the total cost of production. The CRC will then be processed into flat steel, which in turn will be used in the manufacture of steel pipes and tube, metal stamping, steel furniture, home appliances, drums, automobile bodies, hardware and raw material for galvanised and coated steel sheets.

Currently, the total demand for HRC in Malaysia is approximately 2.0 million mt per annum. Megasteel, a subsidiary company of Amsteel Berhad is the only producer of HRC in Malaysia. Megasteel's mill located at Olak Lempit Industrial Area in Banting, Selangor, has a total production capacity of 2.0 million mt. However, Megasteel is currently producing HRC at only 50% of its capacity per year, i.e. 1.0 million mt per annum, with the remaining 50% of the domestic requirement for HRC being imported. Most of the domestic demand for HRC and other flat products are imported from China, Indonesia, Thailand, Korea and Japan.

To protect the local steel industry, particularly that of the flat steel industry, the Government has imposed some duties/ tariffs on the import of these products. Effective 15 March 2002, the Government has decided to raise the import duties for a total of 199 flat steel products such as HRC and CRC, electro galvanised ("EG"), hot dipped galvanised iron ("GI"), pre-painted galvanished coils, steel pipes, etc up to a maximum of 50%. At the same time, companies that need to import these products are now required to have special import licenses. The hike is significant as previously HRC were subjected a maximum duty of only 25% tariff and CRC were subjected to a maximum duty of only 10%, while the various types of steel pipes were subjected to duties of around 20% or less.

For imports of flat steel products from the ASEAN countries, the import duty regime under the Common Effective Preferential Tariff ("CEPT") scheme, which is the trade mechanism for the AFTA, will be maintained. Under the AFTA agreement, the import tariffs on steel products and raw materials are to be reduced from the current 25% to 5% by 1 January 2003.

Nevertheless, the Government has agreed to exempt some industries from the new import duties. These include companies in the automotive industry, electrical and electronic industry, oil and gas industry, shipping industry, iron and steel furniture industry, companies located in the free trade zone and export based companies. Exemption has also been given to industries that require flat steel products that are not produced locally, such as specific parts made of steel used by the manufacturing industries.

(Source: Bumiputra-Commerce Economic Research Services on Special Industry Issue – June 2002)

## 7.1.5 Principal Markets

In 2002, approximately 57% or 709,000 mt of the domestic requirement for CRC was imported from countries such as Japan, South Korea and China. During the same period, MSCRC and Ornasteel collectively produced 551,000 mt, against the total domestic requirement of 1,244,000 mt.

(Source: MISIF Report 2003)

Compared to CRC imported from overseas, the price of the CRC produced by MSCRC is marginally higher, but, after having taken into account the cost of freight, insurance and warehousing facilities, is in actual fact comparable to the global CRC price.

Based on MSCRC's production output as at 31 January 2004 of approximately 160,000 mt and the total local consumption of CRC in 2002 of approximately 1,244,000 mt, MSCRC has a market share of approximately 13% in the local CRC market. MSCRC's principal market is in Malaysia. Local sales make up approximately 96% of its total sales for FYE 31 January 2004 while the remaining 4% of its output are exported to China and Singapore.

In this regard, the Directors are confident of maintaining, and where possible increase, the current estimated market share in the near future as the Group possesses the necessary production capacity as well as marketing network to maintain and where possible increase their stake in the domestic steel market.

## 7.1.6 Product Quality and Accreditation Received

The Group emphasises quality control in its entire manufacturing process. The MSB Group's CRC are manufactured under strict control procedures at various points of the production process. Strict checks are performed to ensure that MSB Group's customers get products that are of the highest available quality. In recognition of its efforts to promote quality throughout its production and management processes, MSCRC was awarded the MS ISO 9002 Certification for the manufacturing of CRC on 1 October 1996. Subsequently, MSCRC was awarded the MS ISO 9001:2000 Quality Management System in 2002.

At present, the Group has a team of five (5) quality control inspectors headed by a Manager. In general, the Group's quality control initiatives are focused on the following broad categories:-

## (a) Quality control inspection on incoming material

All incoming raw and sub-raw materials are verified by the quality control inspectors to ensure that they meet with their agreed specifications. The defective or non-conforming HRC are appropriately tagged and the decision to use them will be determined by the Material Review Board ("MRB"). The HRC that are deemed defective and unusable will be downgraded or scrapped after notifying the respective supplier.

## (b) Quality control inspection during production

Coils, which pass the in-process inspection for that particular process line will be tagged "no remark" and the coil can proceed to the next process. Otherwise, non-conforming coils are tagged appropriately for further action to be determined by the MRB.

## (c) Quality control inspection for finished product

The finished product will be inspected at the production line by the quality control inspector and the line inspector. They will determine if the finished product is to be rejected or downgraded if there are any defects on it. The finished product which has completed the final inspection shall be released for delivery.

In the event that customers require a laboratory test to be conducted on a finished product, the quality control inspector collects samples from the finished product and performs the required laboratory tests. The tests also serve as MSB Group's engineering study purpose. The quality control laboratory test includes the following:-

- (i) Erichsen Test
- (ii) Tensile Strength an Elongation Percentage Test
- (iii) Hardness Test (Rockwell and Vicker)
- (iv) Surface Roughness Test

The management of the MSB Group is committed to continually improving the effectiveness of its quality management system. The Group's quality policy and objectives are reviewed and revised annually with a view of improving the quality of their finished products and hence, to achieve better customer satisfaction.

## 7.2 COMPETITIVE ADVANTAGES

The MSB Group believes that it has the following competitive advantages:

- (i) The Group's products are delivered to its customers in a timely manner. MSCRC's operations are supplemented by the on-site presence of a fleet of trucks provided by its contract haulage company which are prepared to on-load and dispatch its goods immediately after the production and packing process has been completed.
- (ii) The Group's products are ensured to be of a consistently high quality due to the various product quality checks implemented at various stages of the production process. Furthermore, in recognition of the above, MSCRC has been awarded the MS ISO 9002 Certification for the manufacturing of CRC on 1 October 1996. Subsequently, MSCRC was awarded the MS ISO 9001:2000 Quality Management System in 2002.
- (iii) The Group is able to manufacture CRC based on customer's requirements. This is mainly due to the years of experience accumulated by the Group in manufacturing CRC of various customers' specifications. Further, the MSB Group occasionally works with external third parties to produce new forms and specifications of CRC in an effort to highlight new uses for the traditional core product.
- (iv) The Group has also highlighted the high capital requirements in order to set-up a similar plant in Malaysia as a barrier to entry for potential entrants into the industry. Currently, the estimated costs to set up a similar plant in Malaysia has been estimated at up to RM500 million.

## 7.3 MODES OF MARKETING

The MSB Group believes that it already has a strong core group of customers and suppliers which will ensure the steady growth of the MSB Group.

The MSB Group does not enter into any long-term sales contracts with its customers as it is a common industry practice to conduct business based on short-term contracts.

However, in an effort to improve its relationship with its customers, the Group has highlighted the following strategies for its marketing plan:

- (i) to provide improved customer service in terms of timely delivery of consistently high quality products;
- to maintain a close working relationship with its customers by attending to customer complaints in a timely manner; and
- (iii) to continually strive to improve the quality of its products based on the results of its stringent quality checks as well as from feedback from its customers.

## 7.4 LOCATION OF OPERATIONS

The MSB Group's headquarters (including the finance and accounting function) and cold rolling mill operations are located on an 18 acre site located at Lot 717, Jalan Sungai Rasau, Seksyen 16, 40200 Shah Alam, Selangor Darul Ehsan.

## 7.5 RESEARCH AND DEVELOPMENT

The MSB Group does not have a formal research and development division for the manufacturing of its CRC as the product is generic and the nature of its products has not changed over the years. However, the MSB Group, in collaboration with its customers, develops, improves and refines its products in order to ensure continuous product development as well as to identify new applications for CRC. Further, the MSB Group regularly monitors developments in the global and local steel industry, including the development of new innovations and other technology that is useful to the Group.

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## 7.6 MAJOR CUSTOMERS

The MSB Group's customers comprise a broad base of established customers in the steel and manufacturing industries. The top ten (10) customers of the MSB Group account for approximately 62.3% of its revenue. The top ten (10) customers of the MSB Group on percentage of revenue for the FYE 31 January 2004 are as follows:-

Customer Name		Country of Origin	Percentage of total turnover (%)	Length of Relationship (Years)	
1.	MIG	Malaysia	16.7	15	
2.	Stanta Metal Drum Sdn Bhd	Malaysia	9.2	9	
3.	Sumiputeh Steel Centre Sdn Bhd	Malaysia	6.4	13	
4.	SMPC Industries (M) Sdn Bhd	Malaysia	6.0	13	
5.	Apex Industries Sdn Bhd	Malaysia	5.1	13	
6.	PGEO Edible Oils Sdn Bhd	Malaysia	4.6	13	
7.	Rex Metal Packaging Berhad	Malaysia	4.2	13	
8.	Northern Steel Centre Sdn Bhd	Malaysia	3.6	13	
9.	Japmas Steel Sdn Bhd	Malaysia	3.3	9	
10.	Cargill International Trading Pte Ltd	Singapore	3.2	l	

Based on the latest audited accounts of the Company as at 31 January 2004, with the exception of MIG, none of the MSB Group's customers individually contribute to more than 10% of its revenue. MIG, a substantial shareholder of MSB contributed to approximately 16.7% of the MSB Group's total turnover for the FYE 31 January 2004. In order to mitigate this dependency, the MSB Group is constantly sourcing for new customers through new business contacts established by the directors and its Promoter. Since December 2003, the Company has been able to secure one new major customer for its products.

## 7.7 MAJOR SUPPLIERS

There are currently three (3) suppliers to the MSB Group. However, the MSB Group has not committed to any long-term contract with its suppliers. The MSB Group has established good business relationships with its suppliers and they in turn have proven to be reliable business partners. The three (3) suppliers of the MSB Group in alphabetical order for the FYE 31 January 2004 are as follows:-

Customer Name		Country of Origin	Percentage of total purchases (%)	Length of Relationship (Years)	
1.	Marubeni-Itochu Steel Inc, Japan	Japan	44.0	9	
2.	Megasteel Sdn Bhd	Malaysia	38.0	3	
3.	NKK Trading Inc, Japan	Japan	18.0	9	

## 7.8 EMPLOYEES

As at 30 April 2004, being the last practicable date prior to the printing of this Prospectus, the MSB Group has a total of 102 full-time employees in the following categories:

	<> Malaysian citizens						
Category of employee	Bumiputera	Chinese	Indian	Others	Foreigners	Total	Average no. of years in service
Managerial and professional	2	10	-	-	-	12	2 to 21 years *
Technical and supervisory	13	5	4		-	22	14
Clerical and related occupations	6	4	2	-	-	12	9
General employee	37	-	19	-	-	56	More than 9 years
	58	19	25			102	

Note:

<sup>\*</sup> Managerial and professional staff comprise primarily of the following categories:

Category	Average no. of years in service		
Managing Director	2 years		
President / CEO	I year		
Vice President / Executive Directors	12 years		
Senior Managers	21 years		
Managers	18 years		
Engineers and Executives	13 years		

The MSB Group recognises the importance of its employees and continuously takes steps to update them on the latest developments in the industry. These employees are also sent for training courses from time to time in order for them to update their technical knowledge.

The employees of the MSB Group are not members of any trade union, and the management of the MSB Group enjoys cordial relations with these employees. There has not been any material dispute to date between management and these employees.

In addition to the on the job training programs for all new employees, the following training and development programs have been implemented to enhance the knowledge and skills of the MSB Group's employees:

- Autonomous Maintenances
- Managing Cost Reduction in manufacturing
- Total Preventive Maintenance
- Root Cause Analysis
- Modern Maintenance System & Equipment Trouble Shooting
- Maintenance Management Practices
- Planned Maintenance Optimisation
- Microsoft Word 2000 (Basic & Intermediate)
- Microsoft Excel 2000 (Basic & Intermediate)

Interim Reporting

ISO 9001: 2000 internal auditing

#### 7.9 INTERRUPTIONS TO BUSINESS DURING THE PAST 12 MONTHS

There has not been any material interruption to the businesses of the MSB Group in the twelve (12) months preceding the date of this Prospectus.

#### 7.10 ENVIRONMENTAL CONCERNS

The main waste products that arise from the manufacture of CRC are spent hydrochloric acid and metal hydroxide sludge. The spent hydrochloric acid is recycled for use in water treatment facilities and the metal hydroxide sludge is reprocessed for the making of cement. The MSB Group does not recycle the waste products themselves. Instead, it has engaged the services of waste disposal experts to dispose its waste products. The MSB Group has not encountered any problems in disposing its waste products and currently complies with the Malaysian Environmental Quality Act 1974.

#### 7.11 RISK MANAGEMENT PLANS

With the engagement of professional personnel into the Group, MSB has established an enterprise risk management framework for the Group, particularly in relation to risks associated with fire, power and other emergency risks which may adversely affect the operations of the MSB Group.

An assessment of the Group's risks areas would provide the basis for business improvement strategies, developing cost effective control strategies and internal audit to prioritize operational reviews.

The management of MSB intends to put in place all action plans and reporting mechanisms to ensure that the control effectiveness of its risk management plans is improved over time. Management intends to utilize the risk profiles to support its strategic planning processes, and will continue to monitor changes to assess the degree of changes in the organization's risk position over time. Further, in relation to risks which are insurable, management has taken the necessary steps to ensure that these risks are adequately insured, including undertaking a periodic review of the net worth of the Group's net assets that are insured to ensure that the said assets are adequately insured at all times.

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## 8.1 OVERVIEW AND OUTLOOK OF THE MALAYSIAN ECONOMY

Growth momentum in the Malaysian economy strengthened to 6.4% in the fourth quarter of 2003 from 5.2% in the third quarter. Growth was broad based, with positive contributions across all industries and demand components. A stronger upturn in exports gave added support to private sector activities and consumer spending. Rising consumer and business confidence, the strong underlying economic fundamentals and low interest rates contributed to the stronger growth momentum. An important development was the stronger expansion in investments. The combination of stronger domestic demand and rising exports resulted in a stronger-than-expected GDP growth of 5.2% for the whole of 2003.

The main driver to the stronger growth performance was the manufacturing sector while most other sectors also recorded higher growth. Growth in the manufacturing sector accelerated to record a strong expansion of 12%, contributing 3.5 percentage points to GDP growth. Expansion was driven by strengthening domestic demand and reinforced by more robust exports. The stronger expansion was thus seen in both the export and domestic-oriented industries (17.2% and 8.3% respectively; 3Q 2003: 11.5% and 6% respectively). Capacity utilization remained high across both sectors.

On the demand side, growth in domestic demand was driven mainly by the private sector, with a stronger growth in household consumption. Supporting factors include low interest rates, increased access to financing, higher commodity prices, the positive wealth effect of higher equity prices and measures under the Economic Package which resulted in higher disposable incomes. Stronger external performance further raised consumer and business confidence during the quarter. Consequently, private consumption recorded a stronger growth of 6.9% during the quarter. Public consumption was also higher, increasing by 11.1% due mainly to higher expenditure on supplies and services.

An important development was the stronger growth in investment during the quarter with gross fixed capital formation rising by 3.6%. Private investment in machinery and equipment strengthened as business sentiment improved and capacity utilization remained high, especially for the export-oriented industries in the manufacturing sector. Meanwhile, development expenditure of the Malaysian Federal Government, though lower than in the corresponding quarter of 2002, remained high in the fourth quarter due mainly to expenditure on transportation and health facilities.

Stronger economic growth in the fourth quarter was achieved with low inflation. Consumer prices registered a benign increase of 1.2%. A combination of rising capacity, higher productivity and more competitive pricing of goods and services continued to contain pricing power despite strengthening demand. The increase in property prices had also been marginal and mainly for properties in choice locations.

In the external sector, revised data indicated that the trade surplus in the fourth quarter was larger at RM19.8 billion (3Q 2003: RM19.4 billion). Gross exports expanded strongly by 14.9% while imports increased at a faster rate of 16% (3Q 2003: 7.9% and 1.9% respectively). The expansion in gross exports was due to the significant increases in exports of manufactured goods and continued strong growth in exports of primary commodities. In the manufacturing sector, higher exports were due mainly to the upswing in the electronics cycle. Exports of agriculture and minerals remained strong, supported by high prices and export volume of palm oil, liquefied natural gas and crude oil.

(Source: BNM's Quarterly Bulletin, Fourth Quarter 2003)

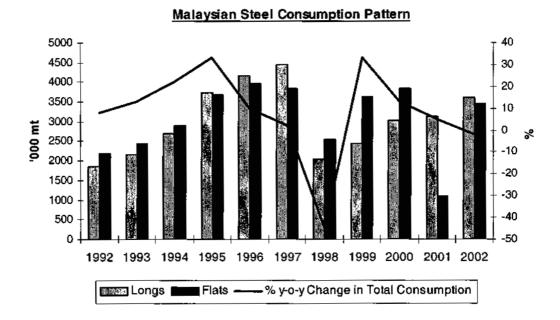
## 8.2 OVERVIEW OF THE MALAYSIAN STEEL INDUSTRY

In the decade years preceding the 1997 – 98 financial crisis, steel consumption grew steadily from 1.5 million mt in 1986 to 3.3 million mt in 1990, and 8.1 million mt in 1996. Consumption peaked in 1997 at 8.3 million mt despite signs of an economic slowdown. In 1998, steel consumption declined sharply as the crisis rooted itself in the real sector of the economy. Consumption nose-dived an unprecedented 45% to 4.6 million mt in 1998, before picking up a strong 33% in 1999 to 6.1 million mt. In 2000, aggregate steel consumption recorded 6.9 million mt, with long products (bars, wire rods and sections) accounting for 44% of total consumption and flat products (hot-rolled sheets, plates and sheets, and CRC) making up the remaining 56%.

In 2001, steel consumption grew 5% to 7.2 million mt before moderating to 7.0 million mt in 2002, a slight decline of 2%. Long products accounted for 51% of total aggregate steel consumption in 2002, up from 43% in 2001.

The consumption of long products stood at 3.6 million mt in 2002, up 15% from the previous year (2001: 3.1 million mt). Bars and wire rods made up the bulk of the consumption for long products in 2002, at 51% and 33% respectively. Sections accounted for 13% of all long products consumed. The consumption of flat products, on the other hand, stood at 3.4 million mt in 2002, down 15% from the previous year (2001: 4.1 million mt). Among the major categories of flat consumed during the year were hot-rolled sheets and strips (49%), cold-rolled sheets (20%) and plates (7%).

Malaysia's aggregate steel consumption trend is shown below:



(Source: The 6th Report of Status and Outlook of the Malaysian Iron and Steel Industry 2003 ("MISIF Report 2003"))

## 8.2.1 Flat Products - Cold Rolled Steel Coils

The steel industry in Malaysia has been grouped into three (3) distinct product groups as shown below:-

Category	Type of Products
1. Primary Products	(a) Scrap Substitutes:
	Hot Briquetted Iron (HBI)
	Direct Reduced Iron (DRI)
	(b) Crude Steel (semi-finished):
	Billets
	Blooms
	• Slabs
2. Rolling/ Finished Products	(a) Long Products:
	Bars
	Wire Rods
	Sections
	(b) Flat Products:
	<ul> <li>Hot Rolled Plates and Sheets</li> </ul>
	• CRC
3. Secondary Products	(a) Downstream Wire and Wire Products:
_	<ul> <li>Nails</li> </ul>
	• Wire
	Wire Mesh
	Bolts and Nuts
	Barb Wire, etc.
	(b) Flat-Secondary:
	Coated/Painted Steel
	<ul> <li>Tubes and Pipes (seamed)</li> </ul>
	Boilers & Pressure Vessels
	Other fabricated products

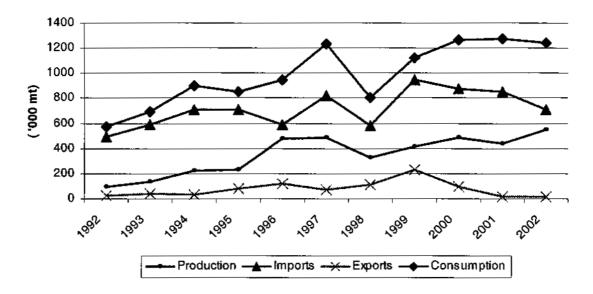
MSCRC and Ornasteel are the only two producers of CRC in Malaysia. The country's current installed capacity for the production of cold rolled sheets stands at 730,000 mt. MSCRC, which started operations in 1990 has an installed capacity of 250,000 mt while Ornasteel, which began operations in 1994, has an installed capacity of 480,000 mt. The raw materials used by both MSCRC and Ornasteel are hot rolled "mother coils".

The production of CRC stood at 551,000 mt in 2002, up 25% from 440,000 mt in 2001. Based on an installed capacity of 730,000 mt, the utilisation rate was a high 75% in 2002 (2000: 66%). The production of CRC increased steadily between 1991 – 1997. Prior to 1991, there was no local production of CRC in the country and all of Malaysia's requirements of cold rolled flats had to be imported. Between 1991 and 1997, production increased by more than 10-fold from an initial level of 47,000 mt in 1991 to the peak figure of 485,000 mt in 1997. In 1998, production fell 32% to 330,000 mt. It picked up again in subsequent years, growing 24% and 19% on an annual basis to 410,000 mt in 1999 and 488,000 mt in 2000 respectively.

Imports of CRC peaked in 1999 at 945,000 mt (after the economic downturn) and have since then declined gradually. The decrease in imports is partly due to the softer demand from the local automotive industry. Like many other domestic-oriented industries, the automotive industry was severely affected by the 1997-98 economic downturn. But even though the market for automobiles picked up in the recent years, imports have continued to decline. In 2002, imports of CRC stood at 709,000 mt (2001: 849,000 mt).

Like most other steel products, CRC is meant primarily for domestic consumption. Hence, only small quantities of the same are exported. But in 1998 and 1999, exports were strong because of the weak domestic conditions. Exports of CRC rose 55% from 71,000 mt in 1997 to 110,000 mt in 1998, before hitting an all-time high of 231,000 mt in 1999. Exports dropped sharply in subsequent years as domestic demand picked up. In 2002, exports accounted for a meager 16,000 mt (2001: 15,000 mt). The table below illustrates the consumption, production, import and export trends of CRC.

## Cold Rolled Coils: Consumption, Production, Exports and Imports



The major applications of CRC are listed as follows:-

- Coated sheets (Galvanized Steel Sheets, Tinplate, Other Metallic Coated Sheets)
- · Electrical Steel Sheets
- · Aircraft Building and Repairing
- Steel Furniture
- Kitchenware and Tableware
- Automotive Components and Parts
- Steel Pipes and Tubes
- Steel Drums
- Steel Strapping
- · Other Fabricated Products

(Source: MISIF Report 2003)

## 8.3 OUTLOOK FOR THE MALAYSIAN STEEL INDUSTRY

To a large extent, the steel industry in Malaysia is centered on two main sectors – the construction and manufacturing sectors. Steel production is no longer dominated by long products such as bars and wire-rods as the importance of flats and steel sections has increased in recent years with rapid development and economic prosperity of the country's population. With capacity now available for medium and heavy steel sections as well as for flat products, imports of such products have been significantly reduced in the recent years. However, in the case of medium and heavy steel sections, imports have been on the rise again following the closure of Perwaja Steel Berhad's section mill in Gurun in February 2002.

Likewise, with continued emphasis on the manufacturing sector as the engine for growth, it is anticipated that Malaysia's consumption pattern would witness a shift from longs to flats in the medium to long term, as the per capita income of its population rises.

(Source: MISIF Report 2003)

CRC plays an important role in supporting the manufacturing sector. Any future growth in this sector of the steel industry as a whole will be closely associated to the growth of the manufacturing sector.

In view of the above, the following discussion on the prospects of the manufacturing sector is not intended to be exhaustive but reflects some of the factors which are relevant to understand the prospects of the steel industry based on prevailing local economic developments.

# 8.4 OVERVIEW AND OUTLOOK OF THE MALAYSIAN MANUFACTURING INDUSTRY

The stronger growth in the Malaysian economy was supported by expansion across all the major sectors of the economy, with the main impetus emanating from the manufacturing sector which contributed 3.5 percentage points to GDP. The more robust manufacturing sector further reinforced the recovery in the services sector.

Growth in the manufacturing sector accelerated to record a double-digit expansion of 12% during the 4<sup>th</sup> quarter of 2003, driven by stronger exports and strengthening domestic demand. The higher growth emanated from stronger expansion in the export and domestic-oriented industries (17.2% and 8.3% respectively; 3Q 2003: 11.5% and 6% respectively). The capacity utilisation rate for the export-oriented sectors remained high at 88% (3Q 2003: 88%), while that of the domestic-oriented sectors declined to 74% (3Q 2003: 82%), due mainly to the lower production in the transport equipment industries. The overall manufacturing capacity utilisation rate remains high at 82% in the fourth quarter (3Q 2003: 85%).

The strong performance of the export-oriented industries reflected expansion in the electronics, chemicals and rubber products industries. Of significance, production of electronics increased markedly following rising global demand across all markets and product segments. The spillover effects from the strong electronics performance as well as the improved external demand for resins and plastic products underpinned the growth in the chemical products industry.

In the domestic-oriented industries, the higher growth was supported by expansion in the construction related industries and food and beverages, while the performance of the transport equipment industry was affected by the slower demand for new cars.

(Source: BNM's Quarterly Bulletin, Fourth Quarter 2003)

Malaysia's manufacturing sector is all geared up for better times ahead, as output strengthened further starting February 2003, on the back of higher growth of domestic-oriented industries and better performance of export-oriented industries. Domestic-oriented industries recorded double digit growth, spurred by higher consumption in food and beverages, and continuing demand for products of construction-related industries, particularly non-metallic minerals such as cement and concrete as well as higher growth of fabricated metal products in the second quarter of 2003. With the increased activities of the manufacturing sector, demand for natural gases surged upward, and contributed to higher growth of the domestic-oriented industries, in particular the industrial gases sub-sector. The export-oriented industries also performed better in 2003 and recorded a moderate growth during the first six months, due to a rebound in rubber products and textile industries, particularly the apparel.

External developments and strengthening domestic economy point to stronger growth in the manufacturing sector. Growth in export-oriented industries, in particular the electronics industry, is envisaged to gain strength following higher inter-regional trade, particularly between ASEAN and East Asia. Efforts to promote domestic consumption as well as advancements into higher value-added products will further boost growth of domestic-oriented industries. Taking cognisance of the on-going development processes, the overall value added of the manufacturing sector is expected to register a stronger growth of 7.2%.

(Source: Economic Report 2003/2004)

## 8.5 GOVERNMENT LEGISLATION AND POLICIES

The steel industry in Malaysia is not governed by any legislation which is unique to the industry. Nonetheless, the fact that the industry is capital-intensive in nature, relies heavily on imported inputs and is largely driven by demand from the local market, ensures that it receives a fair amount of attention from government policy makers.

A major issue confronting the local industry is the Government's policy on imports of flat steel products. The policy, which is meant to protect the local industry, was put into place in response to safeguard measures imposed by the US, EU and other countries (to protect their own steel industries) as well as the overcapacity problems experienced during the Asian financial crisis. Key elements of the policy include:

- Requirements for import permit for flat steel items; and
- b) Import duties ranging from 30%-50%.

The imposition of the above two (2) policies was to provide some measure of protection similar to other countries and to prevent the Malaysian steel industry from being a recipient of products diverted from elsewhere.

(Source: MISIF Report 2003)

However, management believes that there is no material impact on the operations and performance of the Group (including production costs and profits) arising from an increase in import tariffs as the Group is able to pass on the higher costs to their customers in the form of higher prices for their products. Furthermore, the tariffs were intended to be a measure to protect the local steel industry from being the recipient of steel products diverted from elsewhere.

## 8.6 THE INDUSTRY'S RELIANCE ON IMPORTS

Traditionally, steelmaking facilities in ASEAN countries consist of mini-mills with the production capacity for downstream products (both long and flat) much higher than for steelmaking. This disparity in the industry has required ASEAN countries, including Malaysia, to import large quantities of ore pellets, billets, HRC and CRC as feedstock for rolling activities. The use of scrap is particularly evident due to the use of electric arc furnaces ("EAFs") and cheaper cost compared to alternatives. Presently, about 65% of the scrap needed for steelmaking in Malaysia is imported.

Until the late-1990s, Malaysia had no capacity to produce hot-rolled flat products, such as sheets, strips and plates. Domestic demand for such products was completely met through imports. However, all that changed with the coming on-stream of Megasteel's 2.0 million mt HRC plant in 1999. Since then, HRC imports have steadily declined from 832,000 mt in year 2000 to 549,000 mt in year 2002. Despite the reversing trend, domestic demand is still largely imported from China, Japan, Thailand and Korea as Megasteel is currently producing HRC at only 50% of its plant capacity per year.

(Source: MISIF Report 2003)

## 8.7 FUTURE PLANS AND STRATEGIES OF THE MSB GROUP

The MSB Group plans to further expand the Group's present market share through the implementation of several strategies.

The Group intends to increase the efficiency of its present cold rolling mill plant in Shah Alam, Selangor Darul Ehsan. In doing so, the Group expects production cost to be reduced. The Group has also recently acquired two (2) adjoining pieces of vacant industrial land for future expansion purposes.

With the expected liberalization of the Malaysian steel industry following the full implementation of the AFTA, domestic HRC prices are expected to match international HRC prices. This will in turn enable MSCRC to source raw materials at more competitive prices.

The Group is also adopting the strategy to produce high grade and high quality CRCs in order to position the Group in a niche environment and to stay ahead of the competition.

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