Lot PT 16051, Jalan Azalea 1/1,
Section 20, 48300 Bandar Serendah,
Selangor Darul Ehsan.

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ESTABLISHED METAL

INDUSTRIES SDN BHD

MS
SIRIM
MS 146 : 2014
PC 002302

CIDB MALAYSIA

COMPANY PROFILE

CONTENTS

INTRODUCTION

Established Metal Industries Sdn Bhd was incorporated on 26 June 1991, as a Private Limited Company under the Companies Act 1965, Malaysia.

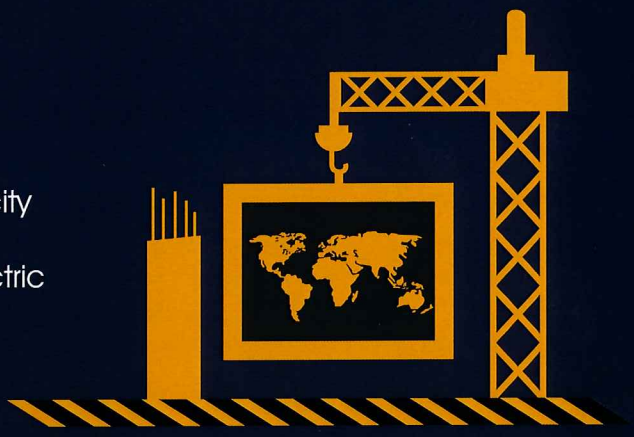
Upon its inception in 1991, the company's initial business activities were in general contracting and metal fabrication works. Since 2009 the company has diversified into the manufacturing of steel bar and steel related products.

The Company's steel manufacturing facilities are located at Lot PT16051, Jln Azalea 1/1, Section 20, 48300 Bandar Serendah, Selangor Darul Ehsan, on 29.224 acres of leasehold land owned by The Company.

EXPANSION OF MANUFACTURING FACILITY (25,000MT PER MONTH / 300,000 MT PER ANNUM)

Year 2011

- Established Metal in 2011 started its Phase 2 expansion project to expand its production capacity which commenced operations in July 2013.
- The investment cost included a more efficient Electric Induction Furnace , Billet Casting Machinery and automated steel bar Rolling Machinery.



Year 2014

- Established Metal in 2014 started its Phase 3 expansion project to further expand its production capacity .
- The investment included a more cost efficient Blast Furnace and Basic Oxygen Furnace to extract high quality molten steel from raw iron ore.

MISSION

- Established Metal Industries strives to provide and deliver exceptional quality products, continuous improvements and growth opportunities while fostering mutual beneficial relationships with our suppliers and customers.

VISION

- We aspire to be the most trusted and preferred manufacturer with high quality products and services.
- Providing uncompromised quality products
- Developing sincere relationships

ROLLING FACILITY/EQUIPMENT

Automated Cooling Bay

Automated Steel Roller

Automated Packing

OTHERS FACILITIES / MACHINERIES

Dust Collector

PLC Control Centre

Control Cabinet

Transformer Building & Water Cooling System

ELECTRIC INDUCTION FURNACE FACILITY

12 Tons Electric Induction Furnace c/w Dust Collector and Scrap Metal trolley

BILLET CASTING

Billet Casting of 120mm Diameter

BLAST FURNACE EQUIPMENT

In year 2015, the Company invested in a new Blast furnace c/w sintering and Basic Oxygen furnace to convert iron ore to high quality steel billets.

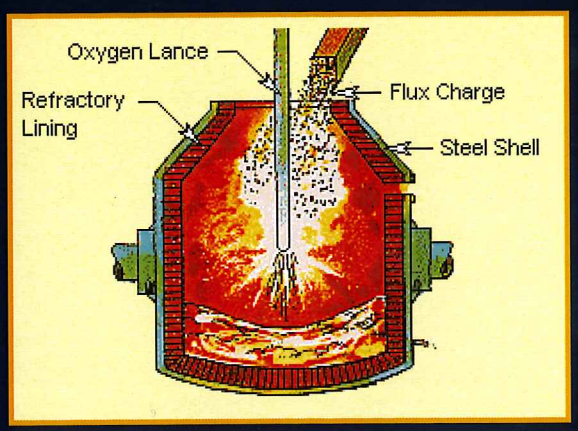
A blast furnace is a type of metallurgical furnace used for smelting to produce industrial metals, generally iron.

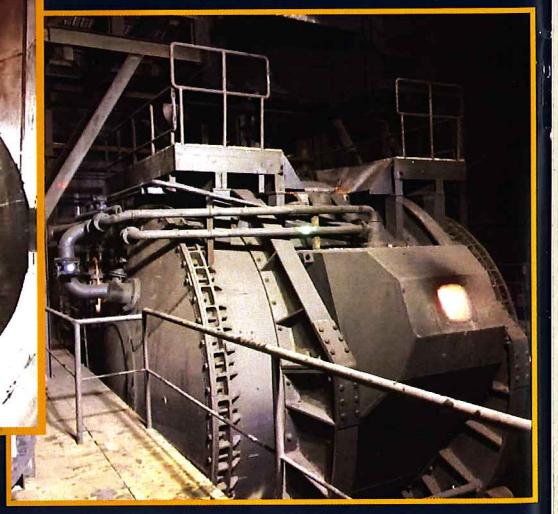
In a blast furnace, fuel, ore, and flux (limestone) are continuously supplied through the top of the furnace, while a hot blast of air is blown into the lower section of the furnace through a series of pipes called tuyeres, so that the chemical reactions take place throughout the furnace as the material moves downward. The end products are usually molten metal and slag phases tapped from the bottom, and flue gases exiting from the top of the furnace. The downward flow of the ore and flux in contact with an upflow of hot, carbon monoxide-rich combustion gases is a countercurrent exchange process.

BASIC OXYGEN FURNACE

The oxygen steelmaking process converts the molten iron from the blast furnace - with up to 30% steel scrap - into refined steel. High purity oxygen is blown through the molten bath to lower carbon, silicon, manganese, and phosphorous content of the iron, while various fluxes are used to reduce the sulfur and phosphorous levels. The impurities and a small amount of oxidized iron are carried off in the molten slag that floats on the surface of the hot metal.

BOF FACILITY





PLANT & MACHINERIES

The Company currently undertakes the manufacturing of steel bars using the Electric Induction Furnace technology to melt scrap, converting it into liquid steel for the continuous casting machine and rolling mill to be processed into steel billets and steel bar respectively.

Electric Induction Furnace

Continuous Casting

Rolling Mill

Molten Iron from blast furnace

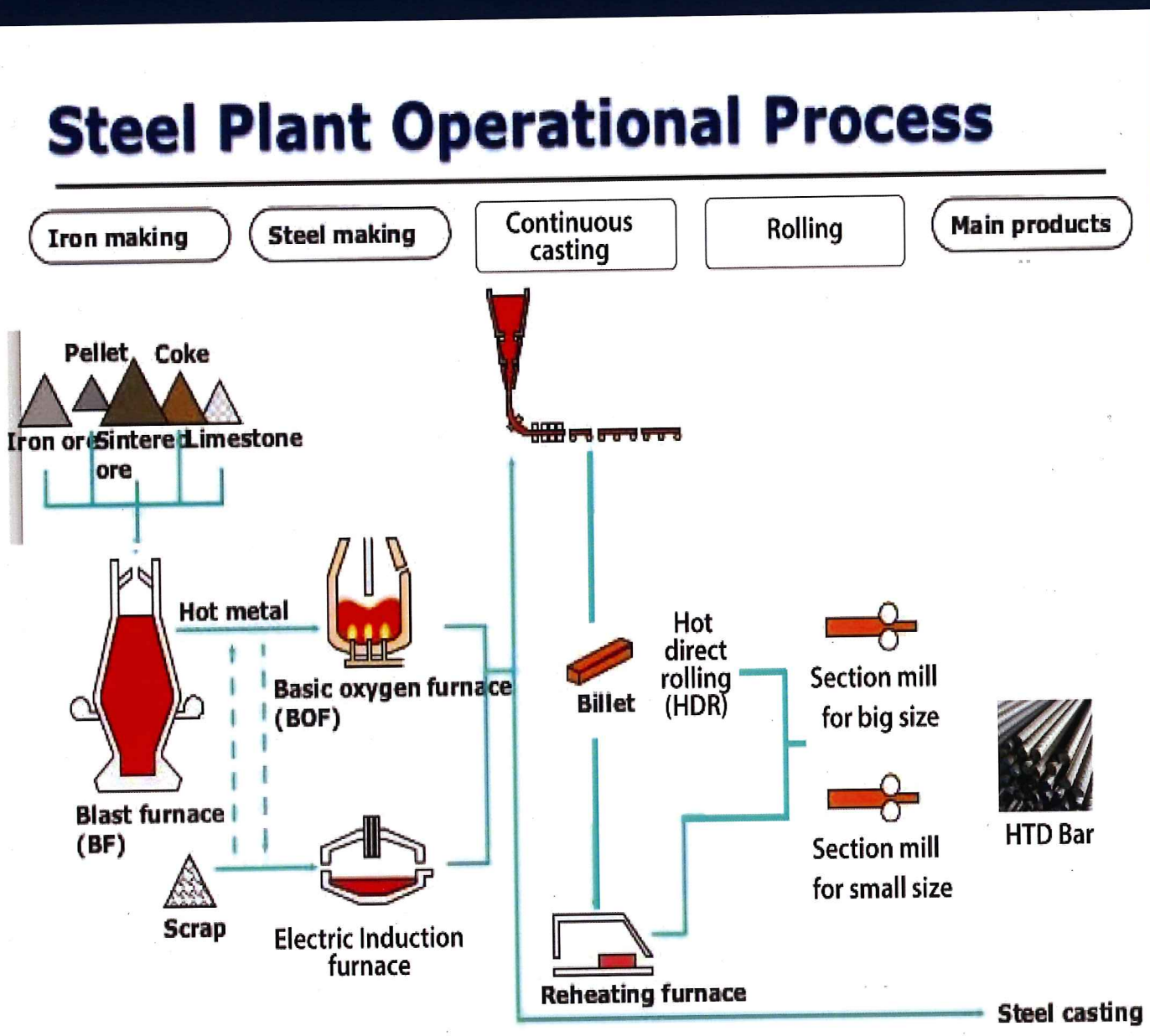
FINISHED PRODUCT

Established Metal manufactured the following sizes of High Tensile Steel Bar:-

Y9 Y10 Y12 Y16 Y20 Y25 R10 R12 R16

STEEL BILLETS

Steel Plant Operational Process

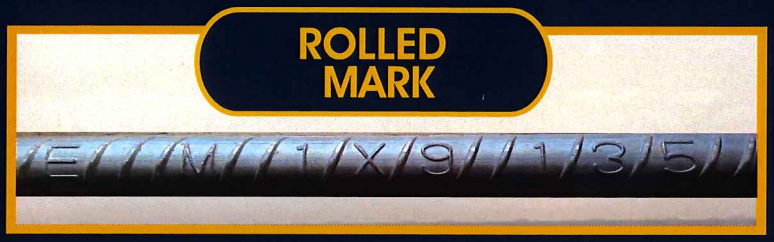


Testing chemical composition of Molten steel and billets equipment

QUALITY CONTROL FACILITIES

ESTABLISHED METAL INDUSTRIES HAS A QUALITY CONTROL AND QUALITY ASSURANCE MANAGEMENT SYSTEM IMPLEMENTED TO MEET THE REQUIREMENTS OF THE RELEVANT AUTHORITIES - SIRIM / CIDB.

Tensile yield / strength/ bending and rebending testing equipment



QUALITY CONTROL COMPLY WITH MS 146 : 2014

A) Dimension, mas per meter and tolerances

Nominal Diameter (mm)	Cross-Section Area (mm^2)	Mass Per Meter Run (Kg/m)	Pieces Per Bundle (12m)	Standard Length	Nominal Weight Per Bundle (±MT)	Deviation Over and Under The Nominal Mass Per Meter Run (%)
10	78.5	0.617	138	12	1.022	± 4.5%
12	113	0.888	96		1.023	
16	201	1.58	54		1.024	
20	314	2.47	34		1.008	
25	491	3.85	22		1.016	

B) Mechanical Properties
Tensile Properties

Yield Strength Mpa	Tensile/Yield Strength Ratio	Total Elongation at Maximun Force
500	1.08	5.00

D) Bending

Nominal Diameter	Max Mandrail Diameter
≤16	4d
>	7d

C) Mechanical Properties
Tensile Properties

	Carbon Max	Sulphur Max	Phosporus Max	Nitrogen Max	Copper Max	Carbon Equivalent Max
Cast Analysis	0.22	0.05	0.05	0.012	0.08	0.50
Product Analysis	0.24	0.055	0.055	0.014	0.85	0.50

FACTORY PREMISES

29 acres of industrial land located at Lot PT16051 Jln Azalea 1/1, Sec.20, 48300 Bandar Serendah. Total Built up is approx. 185,000 sq ft.

established metal industries sdn. bhd.
(Co. No. 219609 X)

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