

ZIWA STEEL AND WIRE PRODUCTS LIMITED

BUSINESS PLAN

ZIWA STEEL AND WIRE PRODUCTS LIMITED
POST BOX : 347
MWANZA
TANZANIA

Introduction & Objective

Ziwa Steel and Wire Products is a limited liability company incorporated in Tanzania with the principal objective of manufacturing of nails, binding wire, hollow section tubes and pipes and MS plates. The future plan is to make the factory, a state of the art, modern factory which will be able to provide all metal requirements for the construction industry including galvanized products, universal beams to name a few. The principal shareholders of the company have extensive experience in various manufacturing industries such as rebars, industrial gases, aluminum pots and fishnets.

Company Details

Ziwa Steel and Wire Products Limited registered with the registrar of companies with registration No.148779201 and the TIN No is 148-779-201. The company registered office is located at 2nd Floor, NBC Building, Liberty Street, Mwanza, Tanzania.

Shareholders

MFRM HOLDINGS LIMITED - 99%

MAHEBOOB JAFFERALI RAMJI - 1%

Team Overview

Maheboob Jafferli Ramji

Maheboob Jafferli Ramji is a Tanzanian citizen with various business interests based across Tanzania. With over 50 years of business experience, he is currently the Managing Director of Nyakato Steel Mills and is a Director in the following companies: O2 Gases, Capri Heights, Buzuruga Plaza, Furaha Plaza, Ziwa Steel and Wire Products and MFRM Holdings.

Shenan Madhani

Mr. Shenan Madhani is a British citizen and graduated in UK from the London School of Economics. He is a qualified Chartered Accountant and has lived in Tanzania for nearly two years.

He is also Director in the following companies in Mwanza: Nyakato Steel Mills, O2 Gases, and Ziwa Steel and Wire Products, Edukwanza Consultants.

Details of Project Cost

Particulars	Amount in TSH
Land (66 Acres)	620,000,000
Land Development & Boundary Wall	1,100,000,000
Building	850,000,000
Plant & Machinery	8,500,000,000
Other expenses	150,000,000
Total Project Cost	11,220,000,000

Advantages of the Project to the country

The proposed project will be highly advantages to the country in that it will have a positive impact on:

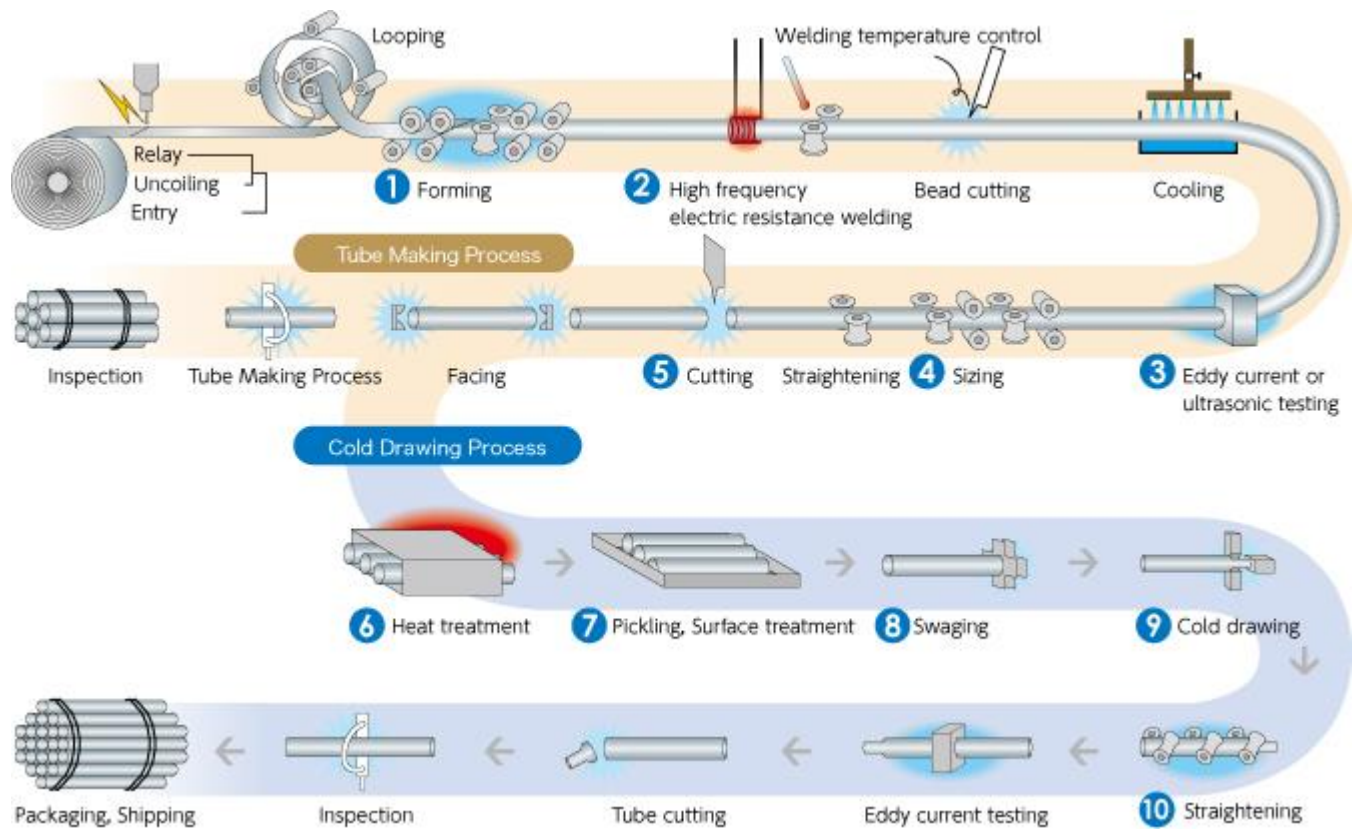
- ✓ Employment creation.
- ✓ Income generation for economic development.
- ✓ Transfer of technology and offer training to Tanzanians.
- ✓ Supply of best quality of steel and wire products in the Lake region.
- ✓ Increase the growth and development for the country.
- ✓ Increase foreign exchange reserves by exporting material to neighboring countries.

Tube Mill Manufacturing Process

Steel strip in coil, which has been slit into the required width from wide strip, is shaped by a series of forming rolls into a multiple length shell. The longitudinal edges are continuously joined by high frequency resistance/induction welding.

The weld of multiple length shell is then head treated electrically, sized and cut to specified lengths by a flying cut-off machine. The cut pipe is straightened and squared at both ends.

Moreover, as an example of our application of new technology, we are attracting attention for our practical application of a high ductility mill, which produces steel tubes with good workability.



Ziwa Steel will supplies a variety of steel pipes for use as line pipe, taking advantage of the company's abundant product line.

Ziwa Steel possesses products and manufacturing facilities which are capable of responding to diverse customer requirements. The company is also energetically engaged in various technical development efforts.

Grinding Balls Manufacturing Process

The grinding ball is a grinding medium used in ball mill and material used in grinding mills, widely used in metallurgical mines, cement building materials, thermal power generation, flue gas desulfurization, magnetic materials, chemical industry, coal water slurry, pellet, slag, ultrafine powder, fly ash, calcium carbonate, quartz sand, and other industries ball mill. But how to produce the qualified grinding balls? What's the grinding balls manufacturing process?

1. Melting. The furnace the factories most used are the medium frequency induction furnace, fast and stable. It's easy to add the ferrochrome and the other elements inside. The raw material we required is the iron scrap. Grey iron is not good enough for producing grinding balls. Because of the carbon contents too much. After melting, we have to clean up the slags and pouring the pure liquid iron into the metal mold. To ensure the right chemical composition, after melting and before pouring, the operator should get some to do the analysis test. Its each chemical composition is right. Then we can do the next step.

2. Molding. There is different method to form the balls. For instance, we can use the [manual metal mold](#) to produce or sand mold; or we can use the automatic machines to produce, like [automatic sand-lined metal mold grinding balls production line](#); or Disa production line or any other green sand molding line. With the help of the pouring machine or pouring ladle, pouring the liquid into the prepared mold. For manufacturing grinding balls, we required one-time pouring. If the last pour is unfilled, then the formed balls we regard as the discarded product.



3. Separating. As we all know, if we want to ensure the no holes inside of the balls and get better quality of the inner structure, there will be a pouring gate that is used for feeding enough molten iron to the balls. So after the balls formed, they are connected with the runners and gates. Have to separate. There are also two methods, one is an [auto separating machine](#) which can process grinding balls over 40mm, and the hourly productivity can up to 3-5tons. This type is suitable for medium and large grinding balls factories to achieve high efficiency. Another manual method is using a [separate machine](#); the principle is that the friction between the balls to make separation. But for some big size of the balls, like dia130mm, the operator usually uses a grinder to cut. So after separating, then to go to the last step.

4. Heat treatment. Heat treatment is a vital process for a good ball. This process will change the ball's characteristics, increase the hardness, reduce the inner stress. To achieve the formed grinding balls have good impact value and low wear rate. This process includes quenching and tempering. And the [heat treatment machine](#) also has several types with different daily processing ability.

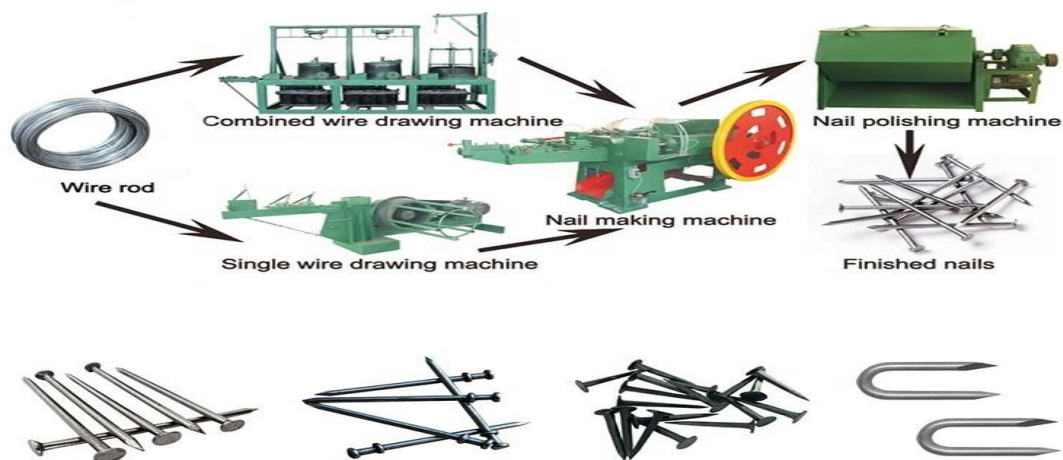
After above 4 steps, the excellent balls produced, and can package and sell.

Nails Production Chart

Most nails are made from coils of metal wire. The wire is fed into a nail-making machine which can produce up to 700 nails per minute. The nails may then be further twisted or formed, cleaned, finished, and packaged.

Forming

- 1 Wire is drawn from a coil and fed into the nail-making machine where it is gripped by a pair of gripper dies. The shape of the head of the nail has been machined into the end of the dies.
- 2 While the dies clamp the wire in place, the free end of the wire is struck by a mechanical hammer. This deforms the end of the wire into the die cavity to form the head of the nail.
- 3 With the wire still clamped in the dies, a set of shaped cutters strike the opposite end of the nail, forming the point and cutting the nail free from the rest of the wire coming off the coil.
- 4 The dies open and an expelling mechanism knocks the nail into a collection pan below the machine. The free end of the wire is drawn from the coil and fed into the machine. The cycle then begins again.



Iron bars

Raw material for manufacturing the TMT Bar are iron ore, coal, dolomite. In this process raw materials are piled, recovered and mixed in required proportion.

The iron ore experiences beneficiation procedure to raise the iron substance. At this point metal fines are gathered to shape a mass of pellets and sinter to improve efficiency. The coal is changed to coke for future purpose.

Now limestone accompanies with the existing are deployed to the furnace. Hot air being supplied to the furnace through its nozzle that results melting the raw materials and come out from a pool that is on the bottom of the furnace. In this process when limestone molts a liquid because of its impurity comes out that is known as slag it is lighter in nature that is why it floats on the surface of the molten metal.

Primary Steel Making

During the initial stage of primary steel making, in oxygen furnace combining oxygen with carbon in the iron and that eliminates carbon dioxide is known as pre-treatment.

Then, the steel once again passes through the EAF (Electric Arc Furnace) for refining the composition of steel.

Now molten steel from EAF (Electric Arc Furnace) is transferred to a ladle and it transferred to the continuous casting machine. Liquid steel flows out of the ladle into the casting ladle and then into water cooled mold.

Solidification begins in the mold. Continuous Billets coming out from the CCM is sized according to the length required.

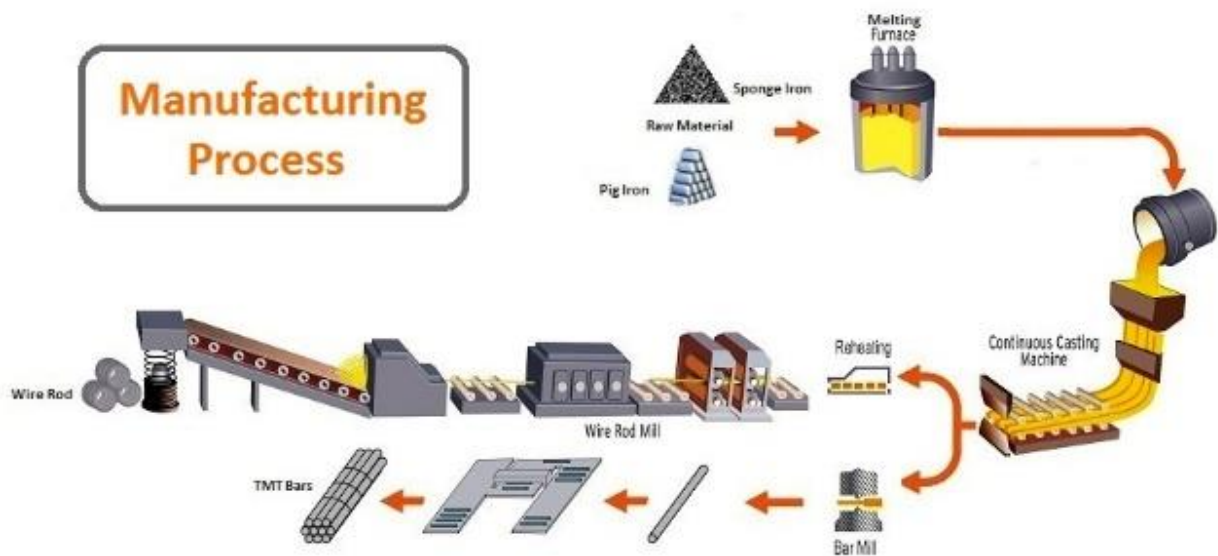
Thermo Mechanical Treatment

Quenching – Once the hot rolled bars releases from finished mill it enters to the water spray system that is known as ‘Thermex System’. The best quality tmt bars manufacturing process uses Thermex Technology that cool down the outer core rapidly and ensure the ductility of TMT Rebars. Rapid cooling hardens the outer core of the TMT Rebars to a depth optimized for each section, forming a martensitic rim while the core remains hot & Austenitic.

This cooling technology is known as Quenching.

Self Tempering – Once the rebars is out of the Thermex Quenching box, the core remains hot compared to the surface allowing heat to flow from the core to the surface causing Tempering of the outer Martensite layer thus forming a structure called ‘Tempered Martensite’.

Atmospheric Cooling – Once the self tempering is over the bars get ready for atmospheric cooling. This is done on cooling bed on normal temperature. In this step the austenitic core turns as ferrite-pearlite structure. Thus the final structure consists of strong outer layer with ductile core. This process increases the tensile strength that makes it highly ductile and weldable.



ZIWA STEEL MWANZA
Projected - Financials - 6 years

venue	Year 1			Year 2			Year 3			Year 4			Year 5			Year 6		
	Price per ton	Tons	Total	Price per ton	Tons	Total	Price per ton	Tons	Total	Price per net	No. of pi	Total	Price per ton	Tons	Total	Price per ton	Tons	Total
Hollow Section Pipes & MS Plates	3,200,000	15,000	48,000,000,000	3,200,000	18,000	57,600,000,000	3,200,000	20,400	65,280,000,000	3,200,000	21,000	67,200,000,000	3,200,000	21,600	69,120,000,000	3,200,000	22,200	71,040,000,000
Nails	2,800,000	2,400	6,720,000,000	2,800,000	3,000	8,400,000,000	2,800,000	3,360	9,408,000,000	2,800,000	3,600	10,080,000,000	2,800,000	3,600	10,080,000,000	2,800,000	3,900	10,920,000,000
Total Revenue		54,720,000,000			66,000,000,000			74,688,000,000			77,280,000,000			79,200,000,000			81,960,000,000	
Cost of sales																		
Hollow Section Pipes & MS Plates	3,035,500	15,000	45,532,500,000	3,035,500	18,000	54,639,000,000	3,035,500	20,400	61,924,200,000	3,035,500	21,000	63,745,500,000	3,035,500	21,600	65,566,800,000	3,035,500	22,200	67,388,100,000
Nails	2,650,000	2,400	6,360,000,000	2,650,000	3,000	7,950,000,000	2,650,000	3,360	8,904,000,000	2,650,000	3,600	9,540,000,000	2,650,000	3,600	9,540,000,000	2,650,000	3,900	10,335,000,000
Total Cost of Sales		51,892,500,000			62,589,000,000			70,828,200,000			73,285,500,000			75,106,800,000			77,723,100,000	
Administrative expenses																		
Electricity			300,000,000			360,000,000			390,000,000			420,000,000			432,000,000			450,000,000
Wages / Salaries			90,000,000			114,000,000			120,000,000			126,000,000			132,000,000			144,000,000
Expat Salaries			180,000,000			204,000,000			228,000,000			228,000,000			252,000,000			264,000,000
Repairs and Maintenance			120,000,000			140,000,000			160,000,000			160,000,000			160,000,000			160,000,000
Other expenses			120,000,000			120,000,000			120,000,000			120,000,000			120,000,000			120,000,000
Interest on Term Loan (\$4m USD)			633,969,180			585,521,820			533,573,820			477,870,120			418,141,620			354,093,480
Interest on Term Loan (TSH 2bn)			226,963,929			196,241,746			161,623,222			122,614,202			78,657,861			29,126,757
Total Admin expenses			1,670,933,109			1,719,763,566			1,713,197,042			1,654,484,322			1,592,799,481			1,521,220,237
Net profit from operations			1,156,566,891			1,691,236,434			2,146,602,958			2,340,015,678			2,500,400,519			2,715,679,763
Tax payable			346,970,067			507,370,930			643,980,887			702,004,703			750,120,156			814,703,929
Profit after tax			809,596,824			1,183,865,504			1,502,622,071			1,638,010,975			1,750,280,363			1,900,975,834
Repayment of Principal on Term Loan (\$4m USD)			670,159,620			718,604,640			770,552,640			826,256,340			885,987,180			950,035,320
Repayment of Principal on Term Loan (TSH 2bn)			242,240,700			272,962,900			307,581,400			346,590,400			390,546,800			440,077,800
Net cashflow			139,437,204			465,260,864			732,069,431			811,754,635			864,293,183			950,940,514