Iron Powder Production from Mill Scale Scrap.

Powdered Iron Metal Manufacturing Business

Introduction

Iron powder is powdered iron metal. Iron powder is used in manufacturing of sintered components, soft magnetic components, brazing, iron fortification, friction products, printing, surface coating, welding, brazing, chemistry, and polymer filtrations. Pure iron metal is very reactive chemically, and rapidly corrodes, especially in moist air or at elevated temperatures.

Iron powder is widely used for several purposes such as production of magnetic alloys and certain types of steels. Iron powder is also used as a uniform filler substance to increase the weight like of a plastic or polymer mold for specific engineering tasks. In the making of magnetic paints and magnetic boards, iron powders are used as a coating on the surface. Super fine iron powder is utilized for making such magnetic paints.

Some of its properties include used for automobile parts, used in engine parts like cam shaft pulley, crank shaft sprocket, steering parts, brake parts, ball joint, used for making high strength & ear resistant machine parts.

Uses of Iron Powder

There are numerous uses for iron powder based on its ultimate application. Some types of applications include, but are not limited to, the following:

- **Soft Magnetic Composites:** **Iron powder can also be used in the composition of soft magnetic composites. These composites are heat-treated and compressed until they become isotropic components that are in complex shapes while possessing 3-dimensional magnetic properties. These soft magnetic composites are often then used in electromagnetic applications.**
- **Brazing and Welding:** **When joining parts together through brazing techniques, iron powder is used to create a tight seal between components.**

- **Due to its high temperature tolerance, the iron powder melts into a liquid flux and fills the space between the other two parts that are to be joined together. For welding applications, iron powder can be found in cored wires or as part of a coating material added on coated welded electrodes.**
- **Friction Materials and Products: Certain products, such as vehicles, trains and aircraft, use friction to slow down. Iron powder is commonly placed into brake pads, drum brake lining and other applications to create the necessary amount of friction. The iron powder used as a filler can help increase the performance and durability of these products by dissipating the generated heat.**

- **Thermal Surface Coating:** Due to the thermal properties of iron, iron powder is sought after as a surface coating for parts that will experience high temperatures. This coating can improve the longevity and endurance of components that experience corrosion and high wear-and-tear during operation. The thermal surface coating can enhance the performance of the part or assembly.
- **Sintered Parts:** Iron powder can be placed into the main materials to create sintered parts, products and components. A sintered part is where the main material consists of powdered metals that are tailor-made as the powders go through immense pressure and heat to form a solid product. You will find many sintered components in large electrical machinery, automotive components and in power tools.

- **Printing:** **Iron powder is also found in printing applications such as copying machines, color printers and black-and-white printers where toner cartridges are used. Carrier cores possess iron powders as these cores are used to transport the toner by charging it, before moving the toner to the photoreceptor. Once there, the toner detaches during this electrophotography process.**
- **Other uses:** **In addition to the uses mentioned above, iron powder can also be placed into other products such as dyes, paints, oil filtration, chemical applications, and metal clays used by jewelers.**

Market Outlook

The sales volume of iron powder increased from 1231 K MT in 2013 to 1471 K MT in 2017, with an average growth rate of 4.56%.

Iron powder has two major types, such as atomized iron powder and reduced iron powder. Due to the good coactivity, high purity and high compressibility of atomized iron powder, it will have a huge market potential. Iron powder is widely used in automobile, machinery, chemical industry, magnetic materials and others. As the demand increases rapidly for downstream industries, the demand for iron powder will correspondingly increase. The increased consumption of iron powder is expected to continue during the remaining years of the next five years. Iron powder industry will usher in a stable growth space.

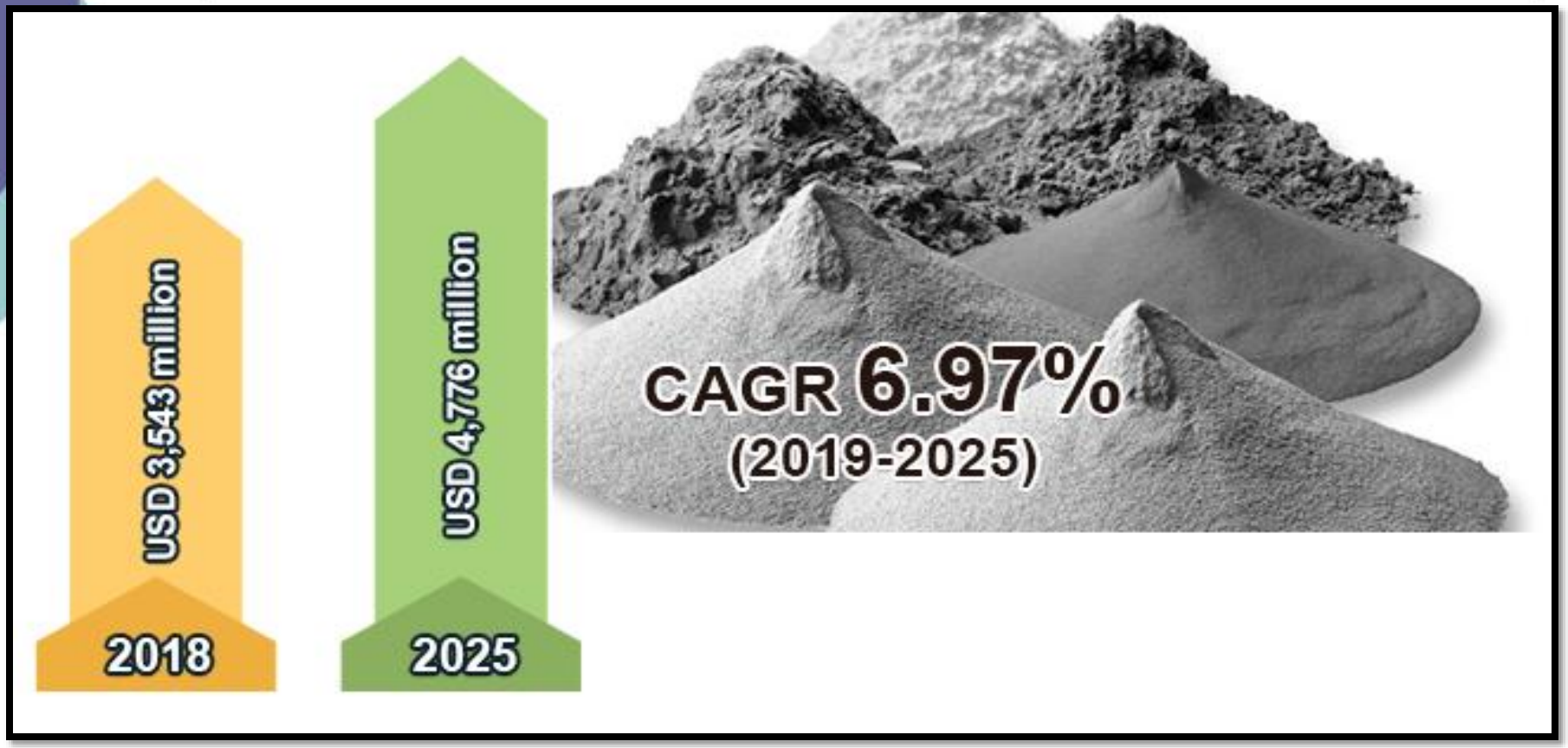
Metal Powder Market

The Global Metal Powder Market is expected to reach USD 4.76 billion by 2025, from USD 3.10 billion in 2017 growing at a CAGR of 4.9% during the forecast period of 2018 to 2025. The upcoming market report contains data for historic years 2016, the base year of calculation is 2017 and the forecast period is 2018 to 2025.

The metal powder is a finely powdered form of solid metal that usually contains smaller particles with a maximum dimension of approximately1000 μm. These particles are the smallest unit of powder. Most metal powders contain particles that range from 25 to 200 μm in size. Generally, these powders are purely metallic, while in some cases they are mixed with other forms, such as ceramics or polymers.

The metal powder is an intermediate between liquid and solid metal. These powders are used in a variety of consolidation processes, such as extrusion, injection molding, blending, compaction, and sintering. Grinding and gas atomization are the most common methods used to produce metal powders.

Global Metal Powder Market



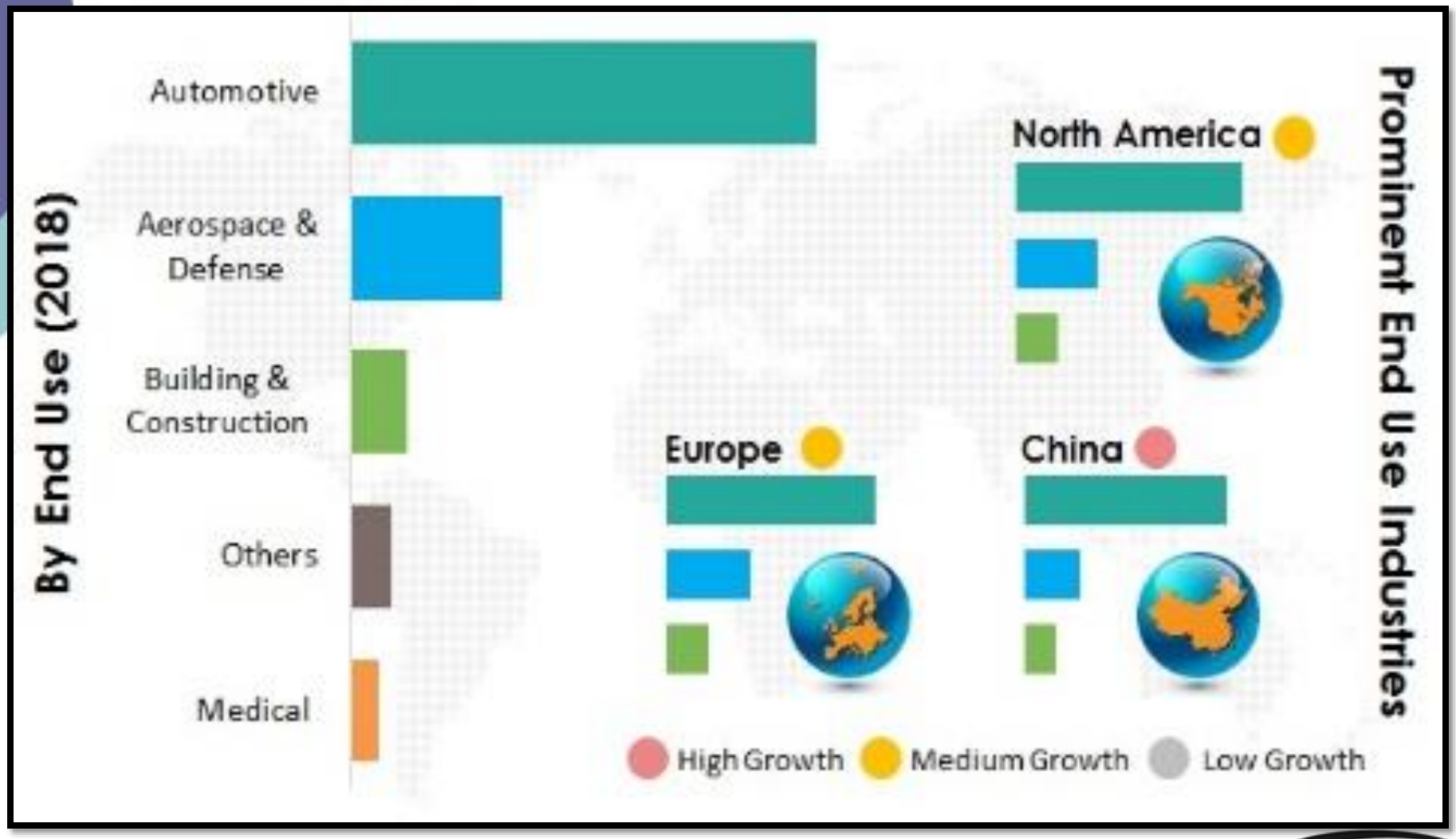
Metal powder is expected to witness high demand from the automotive industry in the years to follow. Increasing focus on titanium based powder across the globe, increasing demand from various end-use industries with technological advancements coupled with rapidly increasing demand of sustainable products for reducing environmental impact of metal industry have triggered the use of metal powder on a regular basis, thus driving the growth of the metal powder market.

Ferrous and nonferrous are two types of metal powder used in the market. Among these types, ferrous metal powder accounted for largest market share and expected to grow at highest CAGR to retain its dominance over the forecast period.

The growing demand of ferrous type of Metal Powder in construction and automotive application are anticipated to boost its market in near future. Generally, three types of methods are used for the production of metal powder and those are physical, chemical and mechanical. Among these methods, metal powder manufactured using the chemical process accounted for largest market share and expected to dominate in near future.

The automotive segment is likely to exhibit major growth in the future, owing to the rapid developments and increasing investments made in the industry across the globe. The construction and electronics and electrical sectors are estimated to register considerable growth in the future, owing to the increasing number of research and development activities in the respective industries.

Metal Powder Market

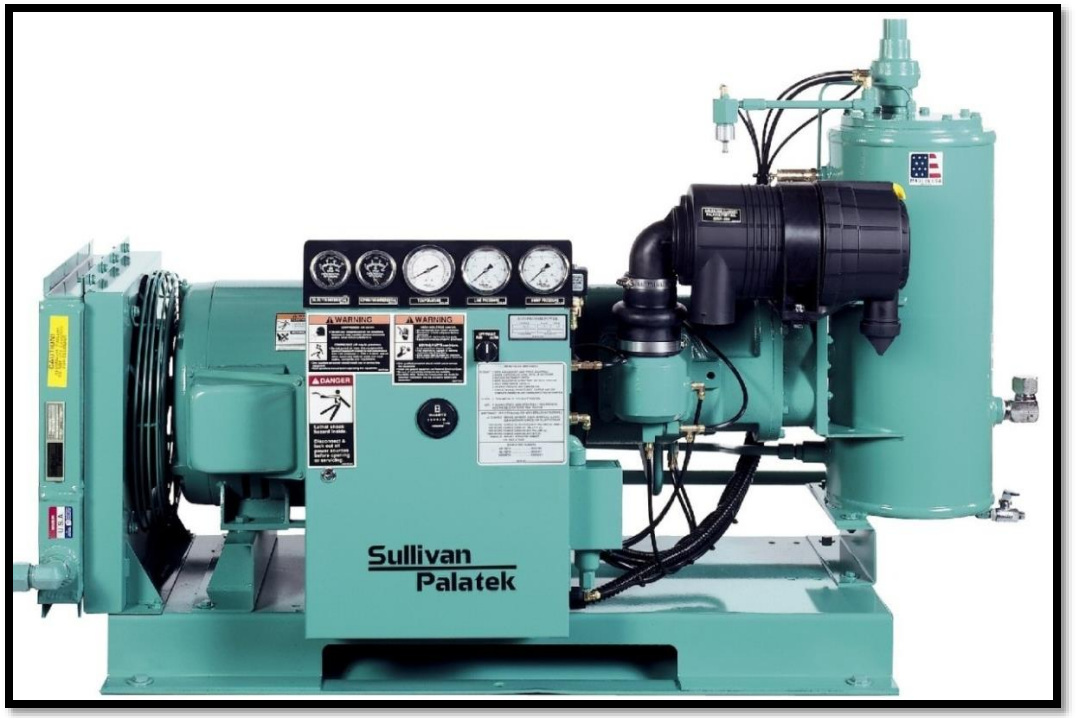


Some key players of the global metal powder market are ATI Powder Metals, Hoganas AB, Aubert & Duval, Rio Tinto, GKN Plc., Arconic Inc., Metaldyne Performance Group Inc., Hitachi Chemical Co., Ltd., Praxair Technology Inc., Renishaw, BOHLER Edelstahl GmbH & Co KG, Carpenter Technology Corporation, Sandvik AB, Miba AG.

Machinery Photographs

Filtration Unit

Atomizer



Air Compressor

Project at a Glance

COST OF PROJECT				MEANS OF FINANCE			
Particulars	Existing	Proposed	Total	Particulars	Existing	Proposed	Total
Land & Site Development Exp.	0.00	95.00	95.00	Capital	0.00	269.28	269.28
Buildings	0.00	215.20	215.20	Share Premium	0.00	0.00	0.00
Plant & Machineries	0.00	527.50	527.50	Other Type Share Capital	0.00	0.00	0.00
Motor Vehicles	0.00	15.00	15.00	Reserves & Surplus	0.00	0.00	0.00
Office Automation Equipments	0.00	87.00	87.00	Cash Subsidy	0.00	0.00	0.00
Technical Knowhow Fees & Exp.	0.00	35.00	35.00	Internal Cash Accruals	0.00	0.00	0.00
Franchise & Other Deposits	0.00	0.00	0.00	Long/Medium Term Borrowings	0.00	807.85	807.85
Preliminary& Pre-operative Exp	0.00	5.00	5.00	Debentures / Bonds	0.00	0.00	0.00
Provision for Contingencies	0.00	49.00	49.00	Unsecured Loans/Deposits	0.00	0.00	0.00
Margin Money - Working Capital	0.00	48.43	48.43				
TOTAL	0.00	1077.13	1077.13	TOTAL	0.00	1077.13	1077.13

Project at a Glance

Year	Annualised		Book Value	Debt	Dividend	Retained Earnings		Payout	Probable Market Price	P/E Ratio	Yield Price/ Book Value
	EPS	CEPS	Per Share		Per Share	Per Share				No.of Times	
	`	`	`	`	`	%	`	%	`		%
1-2	3.87	8.39	13.87	24.00	0.00	100.00	3.87	0.00	3.87	1.00	0.00
2-3	6.84	10.76	20.71	18.00	0.00	100.00	6.84	0.00	6.84	1.00	0.00
3-4	9.73	13.14	30.44	12.00	0.00	100.00	9.73	0.00	9.73	1.00	0.00
4-5	12.52	15.48	42.96	6.00	0.00	100.00	12.52	0.00	12.52	1.00	0.00
5-6	15.18	17.76	58.14	0.00	0.00	100.00	15.18	0.00	15.18	1.00	0.00

Project at a Glance

Year	D. S. C. R.			Debt / - Deposits Debt	Equity as-Equity	Total Net Worth	Return on Net Worth	Profitability Ratio					Assets Turnover Ratio	Current Ratio
	Individual	Cumulative	Overall					GPM	PBT	PAT	Net Contribution	P/V Ratio		
	(Number of times)			(Number of times)		%	%	%	%	%		%		
Initial				3.00	3.00									
1-2	1.26	1.26		1.73	1.73	1.98		23.45 %	10.82 %	8.58%	1060.94	87.32%	1.13	0.81
2-3	1.55	1.40		0.87	0.87	1.06		29.05 %	19.12 %	12.98 %	1237.38	87.29%	1.27	1.30
3-4	1.90	1.55	1.90	0.39	0.39	0.54		32.83 %	24.91 %	16.18 %	1414.14	87.29%	1.31	1.97
4-5	2.32	1.72		0.14	0.14	0.25		35.39 %	29.01 %	18.50 %	1590.90	87.29%	1.28	2.81
5-6	2.82	1.90		0.00	0.00	0.09		37.08 %	31.90 %	20.18 %	1767.66	87.29%	1.20	8.08

Project at a Glance

BEP	
BEP - Maximum Utilisation Year	5
Cash BEP (% of Installed Capacity)	59.53%
Total BEP (% of Installed Capacity)	63.45%
IRR, PAYBACK and FACR	
Internal Rate of Return .. (In %age)	23.89%
Payback Period of the Project is (In Years)	2 Years 4 Months
Fixed Assets Coverage Ratio (No. of times)	3.515

Major Queries/Questions Answered in the Report?

1. What is Iron Powder Manufacturing industry ?
2. How has the Iron Powder Manufacturing industry performed so far and how will it perform in the coming years ?
3. What is the Project Feasibility of Iron Powder Manufacturing Plant ?
4. What are the requirements of Working Capital for setting up Iron Powder Manufacturing plant ?

5. What is the structure of the Iron Powder Manufacturing Business and who are the key/major players ?

6. What is the total project cost for setting up Iron Powder Manufacturing Business?

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Tags

#Production_of_Iron_Powder, #Iron_Powder_Production, #Iron_Powder, #Production_of_Metal_Powders_PPT, Process for Production of Iron Powder, Iron Powder Manufacturing Plant, Iron Powder Manufacture in India, Metal Powder Manufacturing, Iron Powder Manufacture, #Iron_Powder_Industry, Manufacture of Iron Powder, Iron Powder Manufacturing, Production of Metal Powder, Metal Powder Plant, #Metal_Powders_Business, Manufacturing of Metal Powder, Production of Metal Powder, #Powder_Manufacture_of_Metal, Project Report on Iron Powder Manufacturing Industry, #Detailed_Project_Report_on_Iron_Powder_Production, Powdered Metal Parts, Iron Powder from Mill Scale Scrap, Mill Scale Powder, Mill Scale Powder Manufacture, Iron Mill Scale, Iron Powder from Mill Scale, Project Report on Iron Powder Production, Pre-Investment Feasibility Study on Iron Powder Production, Techno-Economic feasibility study on Iron Powder Production, #Feasibility_report_on_Iron_Powder_Production, Common Uses for Powdered Metals, Free Project Profile on Iron Powder Production, How to make Iron Powder, Powdered Metal, Making Metal Powder, Project profile on Iron Powder Production, Download free project profile on Iron Powder Production, #Manufacturing_of_Iron_Powder, Powdered Iron Metal, Iron-Based Powder-Metal (PM), Iron Powder Uses

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