Bansal Brothers

Ferro Silicon Magnesium & Nodularisers

Revolutionizing metallurgy for superior casting quality. Enhancing strength, flexibility, and durability in iron castings.

Ferro Silicon Magnesium Unveiled

1 Composition

Alloy of iron, silicon, and magnesium.

2 Primary Use

Nodularizer in ductile iron production.

3 Key Benefit

Enhances strength and flexibility of iron castings.

FeSiMg Composition Breakdown

Component	Percentage	Function
Silicon	40-50%	Enhances strength, deoxidizes
Magnesium	5-10%	Promotes nodular graphite formation
Iron	Remainder	Provides stable structure

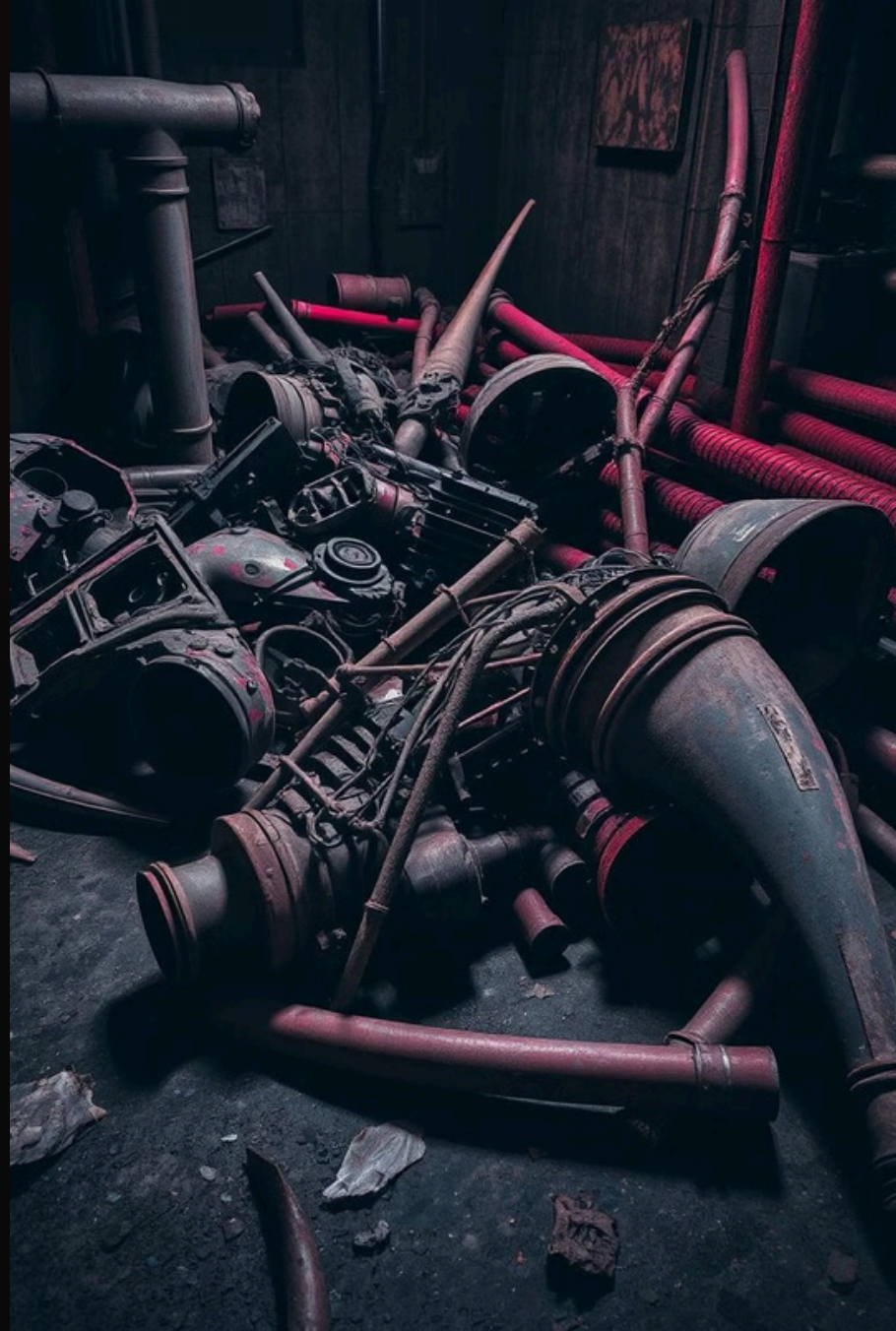
Made with Gamma

FeSiMg Applications

Automotive
Critical for engine and drivetrain components.

Wind Energy
Ensures durability in turbine components.

Pipeline
Used in flexible, durable pipe manufacturing.



Benefits of FeSiMg

Quality Boost

Enhances toughness and flexibility in castings.

Defect Reduction

Minimizes shrinkage and porosity issues.

Cost-Effective

Reduces need for additional treatments and repairs.

Nodularisers: An Introduction

Definition
Additives modifying graphite structure in cast iron.

Function
Transform flake graphite into spherical nodules.

Key Agents
Magnesium, Cerium, and Calcium are primary nodularisers.

Nodularisers in Action

1. **Mechanical Enhancement**
   Increases ductility, tensile strength, and impact resistance.

2. **Surface Improvement**
   Produces smoother surfaces, reducing finishing requirements.

3. **Design Flexibility**
   Enables production of complex, high-strength parts.

Nodulariser Varieties

1

FeSiMg
Balanced magnesium and silicon for versatile applications.

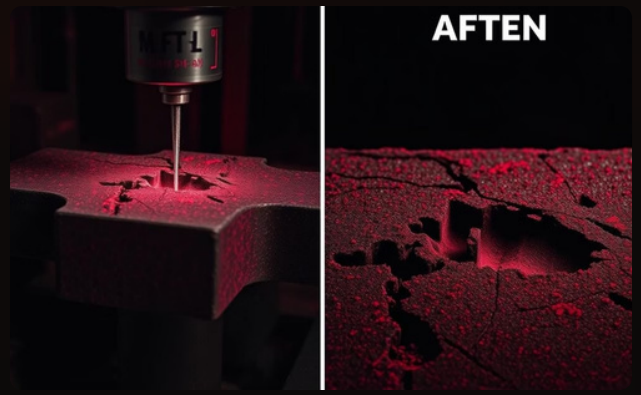
2

NiMg
Nickel-magnesium alloy for corrosion-resistant castings.

3

Ce-based
Cerium-based nodularisers for complex, challenging geometries.

Foundry Benefits of Nodularisers



Enhanced Durability

Ensures longer-lasting iron castings in various applications.

Improved Machinability

Easier machining reduces production costs significantly.

Strength-to-Weight Ratio

Ideal for automotive and aerospace industries.

Nodulariser Applications

Automotive

Crankshafts, gears, axles, and suspension parts.

Pipe Manufacturing

Water and sewage pipelines for flexibility.

Heavy Machinery

High-strength components for industrial equipment.

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