

INOCULANT BROCHURE

PRECISION INOCULANT FOR
METALLURGICAL EXCELLENCE



METALLURGICAL EXCELLENCE

Ensures uniform graphite nucleation for consistent material properties.



SUBMERGED ARC-FURNACE

Ores transformed into high-purity products via controlled liquid metal submerged arc furnace process.



GLOBAL STANDARD QUALITY

Stringent quality control aligned with international foundry and casting standards.



SUSTAINABLE SOURCING

Responsibly sourced ore materials with optimised energy consumption in production.



**ENGINEERED FOR
METALLURGICAL EXCELLENCE**

MANUFACTURING EXCELLENCE



**ADVANCED
MANUFACTURING**



**CONSISTENT
QUALITY**



**IN-HOUSE R&D
EXPERTISE**



**70+ YEARS
OF LEGACY**



**RIGOROUS
QUALITY CHECKS**



**ISO
CERTIFIED**



ENGINEERING THE FUTURE OF INDUSTRY

For over seven decades, Electrosteel Castings Limited (ECL) has built a legacy of engineering and manufacturing excellence. Recognized as one of India's leading manufacturers of Ductile Iron Pipes and Fittings, ECL has continuously diversified its capabilities in metallurgy and industrial solutions. Today, with operations spanning 130 countries and five continents, the company delivers innovative, high-quality products backed by advanced technology, robust manufacturing, and an unwavering commitment to excellence.

GLOBAL CERTIFICATIONS

Electrosteel's quality systems are certified to ISO 9001 and validated by globally recognized authorities.



TOP 3

Preferred DI Pipe
Producer Globally

70+

Years of
Excellence

130

Countries
Served

INOCULANT OVERVIEW

Electrosteel Inoculants are engineered to enhance the metallurgical quality of gray and ductile iron castings across diverse foundry applications and environments.

Our precision-formulated systems deliver superior graphite nucleation, consistent undercooling reduction, and effective carbide suppression, ensuring long-term casting integrity and operational reliability.

Developed with advanced alloy formulation technology and stringent quality control, Electrosteel Inoculants combine metallurgical precision, process adaptability, and sustainable performance for modern foundries.



Precise Nucleation Control

Uniform graphite formation, reduced undercooling & carbide-free microstructure.



High Process Reliability

Consistent performance in ladle, in-stream & wire injection treatment methods.



Stringent Quality Assurance

Manufactured under precise chemical specifications with a BIS-certified ferrosilicon base.



Sustainable Manufacturing

Manufactured through energy-efficient processes with responsibly sourced raw materials.

WHY CHOOSE ECL INOCULANT

Our company takes pride in crafting products entirely in-house, starting from raw materials to the finished product. This ensures complete control over quality, innovation, and sustainability at every stage.

During the past few years, we have been producing premium-quality ferrosilicon products and supplying directly to key consumers at premium price.

We manufacture premium inoculant products using carefully selected ores in a submerged electric arc furnace.



QUALITY YOU CAN TRUST

Premium product quality with high product recovery.



INNOVATION AT THE CORE

Strong in-house R&D experts transforming innovation into impact.



CERTIFIED EXCELLENCE

International standards and certifications for quality.



BUILT FOR YOUR NEEDS

Customized formulations to meet specific customer requirements.



SUPPORT THAT STAYS

Delivers expert guidance and technical support.

INOCULANT PRODUCTS



ECL/SICA INOCULANT

ECL/SICA INOCULANT is a ferrosilicon-based inoculant for Ductile Iron and Gray Cast Iron in order to provide consistent metallurgical and mechanical properties. It consists of a precisely-balanced blend of inoculating elements such as Calcium and Aluminum. Its uniform size and composition reduce the risk of excessive slag formation.

SIZE



0.5 - 2mm
0.2 - 0.7 mm
2 - 6 mm

ECL/SICE INOCULANT

ECL/SICE INOCULANT is a high-performance ferrosilicon-based alloy enriched with Cerium and Calcium. It enhances nodule-formation, increases the nodule count, and prevents integrity degradation in Ductile Iron.

SIZE



0.2 - 0.7 mm
2 - 6 mm

ECL/SIBA INOCULANT

ECL/SIBA INOCULANT is a Barium-containing alloy inoculant. The combination of Barium and Calcium maximizes nodule count while reducing the tendency of iron to form carbides. It encourages the development of 'A' type graphite flakes in Gray Cast Iron.

SIZE



0.0 - 0.3mm
0.5 - 2mm
0.2 - 0.7mm
2 - 6 mm
6 - 12 mm

ECL/SIMGL FERRO SILICON MAGNESIUM

ECL/SIMGL ferrosilicon Magnesium is a high-quality rare earth based nodulariser, formulated with carefully selected levels of Calcium and Aluminium, optimised for Ductile Iron production. The high Calcium content helps regulate Magnesium reactivity during treatment, improving Magnesium recovery and reducing the intensity of the reaction.

SIZE



5 - 25mm
4 - 32mm

ECL/SIBI INOCULANT

ECL/SIBI INOCULANT is a bismuth - containing alloy inoculant. The combination of Bismuth and Calcium maximizes nodule count while reducing the tendency of iron to form carbides. It encourages the development of 'A' type graphite flakes in Gray Cast Iron.

SIZE



0.0 - 0.2 mm
0.5 - 2mm
0.2 - 0.7mm

PRODUCT DETAILS



ECL/SICA INOCULANT		Composition: <table><tr><th>Silicon</th><th>Aluminium</th><th>Calcium</th><th>Iron</th></tr><tr><td>68-75 %</td><td>1.00% Max</td><td>1.20% Max</td><td>Balance</td></tr></table> Application: Gray cast iron	Silicon	Aluminium	Calcium	Iron	68-75 %	1.00% Max	1.20% Max	Balance				
Silicon	Aluminium	Calcium	Iron											
68-75 %	1.00% Max	1.20% Max	Balance											
ECL/SICE INOCULANT		Composition: <table><tr><th>Silicon</th><th>Calcium</th><th>Aluminium</th><th>Rare Earth</th></tr><tr><td>70-75%</td><td>1.1 – 1.9%</td><td>0.8 – 1.2%</td><td>1.7 – 2.25%</td></tr></table> Application: Ductile iron	Silicon	Calcium	Aluminium	Rare Earth	70-75%	1.1 – 1.9%	0.8 – 1.2%	1.7 – 2.25%				
Silicon	Calcium	Aluminium	Rare Earth											
70-75%	1.1 – 1.9%	0.8 – 1.2%	1.7 – 2.25%											
ECL/SIBA INOCULANT		Composition: <table><tr><th>Silicon</th><th>Barium</th><th>Aluminium</th><th>Calcium</th><th>Iron</th></tr><tr><td>65-70%</td><td>2 – 3%</td><td>1.5% Max</td><td>1 – 2%</td><td>Balance</td></tr></table> Application: Gray cast iron	Silicon	Barium	Aluminium	Calcium	Iron	65-70%	2 – 3%	1.5% Max	1 – 2%	Balance		
Silicon	Barium	Aluminium	Calcium	Iron										
65-70%	2 – 3%	1.5% Max	1 – 2%	Balance										
ECL/SIMGL FERRO SILICON MAGNESIUM		Composition: <table><tr><th>Silicon</th><th>Rare Earth</th><th>Aluminium</th><th>Magnesium</th><th>Calcium</th><th>Iron</th></tr><tr><td>40-48%</td><td>1.1 – 1.9%</td><td>0.8% Max</td><td>5-7%</td><td>2.5 – 3.5%</td><td>Balance</td></tr></table> Application: Ductile iron	Silicon	Rare Earth	Aluminium	Magnesium	Calcium	Iron	40-48%	1.1 – 1.9%	0.8% Max	5-7%	2.5 – 3.5%	Balance
Silicon	Rare Earth	Aluminium	Magnesium	Calcium	Iron									
40-48%	1.1 – 1.9%	0.8% Max	5-7%	2.5 – 3.5%	Balance									
ECL/SIBI INOCULANT		Composition: <table><tr><th>Silicon</th><th>Bismuth</th><th>Aluminium</th><th>Calcium</th><th>Iron</th></tr><tr><td>68-75 %</td><td>2-3%</td><td>1.5% Max</td><td>1-2 %</td><td>Balance</td></tr></table> Application: Gray cast iron	Silicon	Bismuth	Aluminium	Calcium	Iron	68-75 %	2-3%	1.5% Max	1-2 %	Balance		
Silicon	Bismuth	Aluminium	Calcium	Iron										
68-75 %	2-3%	1.5% Max	1-2 %	Balance										



OUR VALUE PROPOSITION



PREMIUM PRODUCT QUALITY

Delivering superior products that exceed customer expectations consistently.



QUALITY ASSURANCE

Ensuring consistent standards that guarantee reliable product performance.



RELIABLE DELIVERY

Providing timely deliveries that support uninterrupted business operations.



CUSTOMER CENTRICITY

Prioritizing customer needs to build long-term trusted relationships.



CUSTOMIZED SOLUTIONS

Offering tailored grades that meet diverse industrial requirements.



PERFORMANCE TESTING

Enabling trial orders to evaluate product quality and performance.



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TALK TO OUR INOCULANT EXPERTS

Looking for inoculants tailored to your needs?
Get in touch with our experts for product
information, technical guidance, and
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ONE SOURCE. ENDLESS SOLUTIONS.

Electrosteel Castings Limited offers a wide range of industrial solutions engineered for performance, protection, and aesthetics across diverse industries and environments.

TALK TO OUR INOCULANT EXPERTS

Looking for inoculants tailored to your needs? Our experts are here to help.

- ✓ Product Selection
- ✓ Technical Guidance
- ✓ Application Support

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OUR PRODUCTS



DUCTILE
IRON PIPES



DUCTILE
IRON FITTINGS



VALVES



RUBBER
PRODUCTS



INOCULANTS



CEMENT



PAINTS

...and more

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