



IMPROVED STEELMAKING PROCESS

FERRO SILICON FOR STEEL

Why use our Ferro Silicon for steel

Silicon (Si) is an important alloying element in steel: it increases strength, wear resistance, elasticity and scale resistance and it lowers electrical conductivity and magnetostriction. Silicon is also used in steelmaking as deoxidiser, slag reduction agent and as fuel. Choosing the right Ferro Silicon (FeSi) grade can improve your steelmaking process and steel quality.

1

Reliability you can count on

Thanks to strict quality management and our very experienced production staff, we reliably deliver what you need, where you need it, when you need it.

2

Premium alloys, tailor-made

Elkem offer you one of the widest premium quality FeSi portfolios. Our production flexibility allows for tailor-made products that meet your most stringent requirements. You benefit from our latest FeSi developments and innovative products.

3

Technical support

Above all, your processes, challenges and value drivers determine which product can improve your results. Our technical staff actively supports you in choosing the right alloy or in developing the right solutions for your success.

Three powerful product families

Elkem is dedicated to provide the best solutions for each specific application. By combining our technical knowledge and market understanding, we are strengthening our development activities in these three main areas, striving for continuous innovation for your success.



The ideal Ferro Silicon portfolio for your electrical steel production: with ElekSil™ you get the best Si source for your electrical steel requirements.



Stainless steel production gets better and more efficient with StainSil™, a cost-efficient FeSi alternative to improve production process.



Whether bearing steel, tyre cord steel, spring steel or rail steel, PuriSil™ takes your special steel grades to the next level.

Overview of our product families

Grade name	Description	ElekSil™	PuriSil™	StainSil™
C-series	Low C	×		×
F-series	Low Al		×	×
A-series	Low Ti/C	×	×	
L-series	Low Ti/C/Al	×	×	
M-series*	Low Ti/C with Mn	×		
A+-series*	Low Ti/C with Al	×		
MA series*	Low Ti/C with Mn+Al	×		

* Currently under development

Overview of our capabilities

Element	Specification
Si	65 %, 75 % or as required
Al	Down to 0.01%
C	Down to 0.01%
Ti	Down to 0.01%
P	Down to 0.015%
Ca	Down to 0.02%
Others can be guaranteed to very low levels upon request. Alloying elements are possible upon request.	



Improve your electrical steel with ElekSil™

Electromobility and the need for electrical machines with better efficiency have opened the door to new business opportunities for electrical steel. ElekSil™ is the ideal Si source for your electrical steel production. Whatever electrical steel you produce: together we will find the ElekSil™ alloy you need to make it better.

The specific alloy for your needs

Our product portfolio contains all our know-how and in-depth knowledge of the electrical steel market. The ElekSil™ range of alloys can be tailored to your needs, depending on your process, your product range, and your challenges. Our team is ready to listen to you, share its expertise and advise you to find the best solution adapted to your process.

Highest quality, absolutely innovative

Ferro Silicon is a key raw material in electrical steel production. It is used as an alloying element to raise Si to the desired level (up to 3.5%) while ensuring top quality and cost-efficient production processes.

Our latest innovations, such as ElekSil™ M and ElekSil™ A+, offer new steelmaking possibilities in line with new steel grade developments.

How ElekSil™ benefits your production

- ▶ Reaching ultra low carbon and titanium contents in NGO grades
- ▶ Stable chemistry and sizing leading to consistent performance
- ▶ Improved processes documented
- ▶ Innovative alloys to help you develop next-generation electrical steel grades



High-end stainless-steel with StainSil™

The stainless steel market continuously raises the bar for quality. Improve the results of your stainless steelmaking with StainSil™, which helps you match the demanded quality.

Products exactly fitting your processes

Your stainless steel production process is unique. We support you in choosing the right alloy and offer you a wide range of Ferro Silicon grades. Our experts are ready to work with you to develop the best solutions for your success.

Minimum slag, maximum value creation

Ferro Silicon is primarily used at the argon oxygen decarburisation converter (AOD) as a slag reduction agent, in order to recover Cr-oxides from the slag. For an efficient process, especially at AOD, you can rely on StainSil™, with consistent quality, both in chemistry and sizing.

How StainSil™ benefits your production

- ▶ Reduce blowing time, carbon pickup and Si consumption
- ▶ Stable chemistry and sizing leading to consistent performance
- ▶ Solutions for mirror-finished quality



Upgrade your special steel with PuriSil™

Be it for springs or for tools, for railroad tracks or tyre cords: PuriSil™ is the right choice for your special steel production. It provides your steel products with the right quality ingredients and delivers highest purity.

Use PuriSil™ to improve your results

Details are particularly important in your production of special steel. Our experts help you find the right alloy for your process depending on your end-products and challenges.

The right alloy for every special steel recipe

When you are in the business of producing special steels the right choice of Ferro Silicon for deoxidation or alloying is of prime importance. For such steel grades, cleanliness is crucial: Any Al inclusions and/or Ti inclusions must be avoided.

With PuriSil™ F and L you'll find excellent solutions for such applications. PuriSil™ F grades are also very good solutions to help with nozzle clogging issues.

How PuriSil™ benefits your production

- ▶ Consistent quality to meet your cleanliness requirements
- ▶ PuriSil™ F grades to limit Al pollution
- ▶ PuriSil™ L grades to limit both Al and Ti pollution
- ▶ Avoid nozzle clogging at casting with PuriSil™ F grades

**TRUE
PARTNERSHIP** + **QUALITY
PRODUCTS** = **POWERFUL
STEEL**

Benefit from our strategic partnership

If it comes to steel production, Elkem can offer you much more than alloys: valuable insights and process know-how. The experience of more than five decades combined with extensive R&D and lab facilities enable us to reach the most stringent specifications and to continuously innovate.



Innovation

In order to keep you up to date with the latest technology and master your challenges, we constantly question the status quo and work on new innovations. With the help of our experienced technical and research staff, you can improve processes and products in more ways than you would think of.



Quality and reliability

At Elkem, you receive consistent product quality that exactly meets your expectations and specifications. We also offer you on-time delivery so that you can always meet your deadlines. You can rely on getting the right product at the right time. This is the kind of partnership you can build a business on.



Teamwork

Close and trustful cooperation is the key element of successful partnerships – and it's second nature to all at Elkem. Let us work together to find the best solution for your project and develop unique products for your customers.

Striving for sustainability

We continuously seek for a balanced treatment of the environment and an efficient use of resources in a sustainable manner.



For more information visit our website at elkem.com/sustainability

Elkem supports you

Elkem's high quality products help our customers to achieve consistency in their steel quality. Our skilled Technical Service team, together with our local sales force, are ready to share their experience to assist you, our customers, in improving your process efficiency.

Get in touch with your regional Elkem representative at elkem.com/steel

Quality Certification

Elkem Iceland
ISO 9001, ISO 14001

Elkem Rana
ISO 9001, ISO 14001

Elkem ASA

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