

FERROSILICON 75 (FeSi75)

Technical Specification, Application & Supply Guide

Grade FeSi75	Standard Size 10-50mm / 10-100mm	Packing 1 MT Jumbo Bag	Documents COA / MTC / MSDS
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Product Overview

Ferrosilicon 75 (FeSi75) is an iron-silicon ferroalloy with a nominal silicon level of at least 75%. It is commonly selected for steel deoxidation, silicon addition, alloy chemistry adjustment and other metallurgical operations where a higher silicon input per unit of alloy is required.

For purchasing, the grade name alone is not enough. The actual batch chemistry, impurity limits, particle size, fines/oversize tolerance and packing should be confirmed against the purchase specification and batch COA.

ZhenAn standard commercial reference: Si 75% min, Al 1.5% max, Ca 1.0% max, C 0.20% max, P 0.04% max and S 0.02% max, with Fe as the balance. For stricter low-Al, low-C or low-Ti requirements, the target chemistry should be sent separately for batch matching.



FeSi75 Quick Specification

Item	ZhenAn Reference Specification
Product	Ferrosilicon 75 / FeSi75
Si	75% Min
Al	1.5% Max
Ca	1.0% Max
C	0.20% Max
P	0.04% Max
S	0.02% Max
Fe	Balance
Form	Lump / Granule
Standard Supply Sizes	10-50mm / 10-100mm / Custom
Packing	1 MT Jumbo Bag / Custom
Documents	COA / MTC / MSDS / Packing List
Trade Terms	FOB / CFR / CIF

Specification note: Final acceptance should follow the chemistry and particle-size limits agreed for the order and the batch COA.

Technical Specification & Batch COA

FeSi75 should be evaluated as a complete chemistry, not only by silicon content. Aluminium, calcium, carbon, phosphorus and sulfur can matter differently depending on the steel grade, casting practice and cleanliness requirement.

Element	ZhenAn Reference	Purchasing Focus
Si	75% Min	Main silicon-bearing element; used in addition calculations
Al	1.5% Max	Important for inclusion and steel-cleanliness requirements
Ca	1.0% Max	May be restricted for specific downstream practices
C	0.20% Max	Check where carbon pickup is limited
P	0.04% Max	Controlled impurity
S	0.02% Max	Controlled impurity
Fe	Balance	Main balance element

What the Batch COA Should Confirm

- Actual Si result for the shipment batch
- Al, Ca, C, P and S against the agreed limits
- Batch or lot identification
- Test method or third-party inspection requirement, when specified
- Consistency between the approved sample/previous COA and the shipment batch

Why this matters

External FeSi75 suppliers publish materially different impurity limits. For example, Cometal lists several FeSi75 size grades with different Al/C/Ca/P/S/Ti/Mn/Cr limits, while high-purity FeSi75 products can use much tighter Al, C, P, S and Ti limits. The purchase specification must therefore define the required chemistry rather than relying on the name “FeSi75” alone.

Particle Size & Screening

ZhenAn standard supply focus: 10-50mm and 10-100mm lump sizes, with custom screening available when confirmed for the order.

Size / Form	Selection Point	What to Specify
10-50mm	Controlled medium lump size for regular furnace/ladle charging	Size yield, fines and oversize tolerance
10-100mm	Broader lump range for charging systems that accept larger pieces	Maximum oversize and fines limit
Granules / Custom	For defined feeding or weighing requirements	Exact lower/upper cut and tolerance

Industry Benchmark: Size Tolerance

Cometal publishes separate specifications for 10×50 mm, 20×80 mm, 2×10 mm and 0×3 mm FeSi75 products, and explicitly defines fines and oversize limits for the smaller fractions. This is a useful procurement model: the RFQ should state not only the nominal size but also the acceptable undersize/oversize condition.

Applications of FeSi75

Steel Deoxidation

Silicon has a strong affinity for oxygen, so FeSi75 is widely used as a deoxidizing and silicon-bearing addition in steelmaking. The actual result depends on furnace conditions, slag practice, addition timing and silicon recovery, so the batch COA should be used when calculating the required addition.

Silicon Addition & Alloy Adjustment

With at least 75% silicon in the standard grade, FeSi75 introduces more silicon per kilogram of alloy than lower-silicon grades. It can therefore be selected where the steel or melt practice is designed around a higher silicon input per unit of addition.

Foundry Use

FeSi75 can be used as a silicon source in cast iron and other foundry melts where silicon adjustment is required. For specialized inoculation or nodularizing functions, however, the exact alloy chemistry should be checked rather than assuming that standard FeSi75 is automatically a dedicated treatment alloy.

High-Cleanliness Steel: When Standard FeSi75 May Not Be Enough

High-purity FeSi75 is a separate product concept. Elkem's HP FeSi75 example uses very tight impurity limits and is described for steel applications where cleanliness and low inclusion/carbon levels are especially important. This should not be confused with the standard commercial FeSi75 specification.

Standard FeSi75 vs High-Purity FeSi75

Item	Standard ZhenAn FeSi75 Reference	High-Purity Industry Example*
Si	75% Min	75-77%
Al	1.5% Max	≤0.050%
C	0.20% Max	≤0.020%
P	0.04% Max	≤0.015%
S	0.02% Max	≤0.0030%
Ti	Confirm if required	≤0.020%
Use focus	General steelmaking / foundry / silicon addition	Stringent steel-cleanliness applications

*High-purity example: Elkem HP FeSi75 0.02 Ti data sheet as reproduced by LookPolymers. These values are an external industry example, not a ZhenAn standard product specification.

Typical Physical Reference Values

Property	Reference Value
Density	Approx. 3.20 g/cm³
Melting range	Approx. 1200-1350 °C
Water solubility	Insoluble (high-purity FeSi75 reference)

Reference basis: Density and melting-range values are consistent across the FeSi75 data-sheet references reviewed; they are reference physical properties, not batch acceptance criteria.

Quality Control & Shipment Documentation

Control Point	Inspection Focus
Chemical Analysis	Verify Si, Al, Ca, C, P and S against the agreed order limits.
Particle Size Inspection	Check nominal size, fines, oversize and screening condition.
Visual Condition	Check lump condition, excessive powdering, contamination and foreign material.
Packing Inspection	Verify bag condition, net weight, marks and loading condition.
Batch Traceability	Match the COA/lot identification with the material prepared for shipment.

Documents Available for Order Confirmation

Document	Purpose
COA	Batch chemical analysis and specification confirmation
MTC	Material test information when agreed
MSDS	Handling and safety information
Packing List	Bag quantity, net weight and shipment packing
Commercial Invoice	Commercial shipment document
Loading Photos	Packing and container-loading evidence
Third-Party Inspection	SGS / BV / TÜV or other agreed inspection scope

Packing, Storage & Delivery

- Standard packing: 1 MT jumbo bag
- Custom packing can be discussed according to the order
- Keep FeSi75 dry during storage and transportation
- Minimize repeated dropping and rough handling to reduce breakage and fines
- Trade terms: FOB / CFR / CIF
- For size-sensitive orders, define fines and oversize tolerance before packing

Safety

Use the applicable MSDS for handling and transport requirements. Ferrosilicon data sheets commonly emphasize moisture protection and dust-control precautions; the shipment-specific MSDS should govern final safety instructions.



How to Request an FeSi75 Quote

- Grade: FeSi75
- Required Si and impurity limits (Al, Ca, C, P, S; Ti/Mn/Cr if required)
- Particle size and fines/oversize tolerance
- Order quantity
- Packing requirement
- Destination port
- Trade term: FOB / CFR / CIF
- Required COA / MTC / MSDS / third-party inspection
- Previous acceptable COA, if available

RFQ Field	Example
Product	FeSi75
Si	≥75%
Al	≤1.5%
Ca	≤1.0%
C	≤0.20%
P	≤0.04%
S	≤0.02%
Size	10-50mm
Quantity	_____ MT
Packing	1 MT Jumbo Bag
Destination	_____ Port
Documents	COA / MTC / MSDS

Technical FAQ

Does FeSi75 always contain exactly 75% silicon?

No. FeSi75 is a grade designation. The actual batch Si result should be checked against the agreed minimum and the batch COA.

What is the difference between standard and high-purity FeSi75?

Standard FeSi75 is typically specified around the required Si level plus commercial impurity limits. High-purity FeSi75 uses much tighter limits for elements such as Al, C, P, S and Ti for applications with more stringent steel-cleanliness requirements.

Why should particle-size tolerance be included in the RFQ?

Nominal size alone does not define fines or oversized pieces. A size-sensitive furnace or feeding system should specify the accepted size yield, fines and oversize limits.

Can FeSi75 be supplied in 10-50mm?

Yes. ZhenAn uses 10-50mm as a standard FeSi75 supply size and can discuss other ranges according to the order.

What should be checked on the FeSi75 COA?

At minimum, check actual Si plus the agreed impurity limits. If the process is sensitive to Al, Ca, Ti or other elements, include those limits in the purchase specification.

Contact

GET FeSi75 COA & PRICE

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References Used for This Product Document

ZhenAn FeSi75 product/specification pages: <https://www.china-ferro-alloy.com/ferro-alloy/ferro-silicon/ferrosilicon-production.html> and <https://www.china-ferro-alloy.com/ferro-alloy/ferro-silicon/75-ferro-silicon-deoxidizer-alloy-additive.html>

Ferrosilicon Data Sheet (FeSi75) on Scribd: <https://www.scribd.com/document/895407703/Ferrosilicon-Data-Sheet>

Cometal, Ferro Silicon 75%: <https://cometalsa.com/en/products-and-services/lumpy-ferroalloys/ferro-silicon-75/>

Elkem HP FeSi 75 0.02 Ti High Purity Ferrosilicon, reproduced by LookPolymers: <https://www.lookpolymers.com/pdf/Elkem-HP-FeSi-75-002-Ti-High-Purity-Ferrosilicon.pdf>

Reference-use note: External supplier specifications are used to explain industry specification structure, particle-size control and high-purity FeSi75 concepts. They are not presented as ZhenAn product specifications. ZhenAn values in this document are based on current ZhenAn product pages and should be replaced by a final internal COA/specification if a newer controlled standard is available.