

Product data sheet

Foundry-Grade 75 inoculant

1. Alloy Description

Foundry-Grade 75% ferrosilicon contains 0.5 to 1.0% calcium – an element that has been found to reduce carbides and improve machinability in cast irons. For cost effective inoculation of grey and ductile iron requiring moderate chill reduction foundry-grade ferrosilicon has become a universally recognized product.

2. Effect in Iron

Different inoculants suppress chill to various degrees. The most potent inoculants minimize the undercooling during solidification in both thin and medium casting sections.

While foundry-grade ferrosilicon will reduce chill in medium to heavy sections, it may not eliminate chill in castings having thin sections or edges and corners subjected to rapid solidification. To prevent hard spots in these castings one of Elkem's stronger chill reducers, such as Ultraseed® or Superseed® inoculants are recommended.

3. Application

Like other inoculants foundry-grade ferrosilicon can be added to molten iron when it is poured into the ladle. It may also be added to the mould or directly to the pouring stream. Whichever method is used, foundries should make sure that the inoculant dissolves completely and mixes thoroughly in the iron.

Since inoculants lose their ability to reduce chill if the metal is held for extended periods before casting, late additions of inoculants are recommended.

4. Chemical Analysis

Major elements:		typical
Si	73 - 78 %	75%
Ca	0.5 – 1.0 %	0.8%
Al	1.0 – 1.5 %	1.2%
Fe	Balance	

5. Sizes

Available in various sizes for ladle applications as well as in MSI gradings .

6. Packing

The product is available in various forms of packing upon request.

7. Physical Data

Apparent density	3.1 g/cm ³
Bulk density	1750 kg/cm ³
Melting range	1325 °C(liquidus) 1208 °C (solidus)

Solubility:

Water	: Insoluble
Mineral acids	: Soluble, releases hydrogen

May form phosphine and arsine gas in contact with water, acids or bases.

8. Chill suppression

Regular ferrosilicon was the first widely used inoculant, considered for many years to be merely a late addition of silicon. However, the success of various ferrosilicon inoculants comes from the introduction of small amounts of calcium or other elements during the production of the inoculants.

Regular foundry-grade ferrosilicon is not recommended in thin sections or more critical castings.

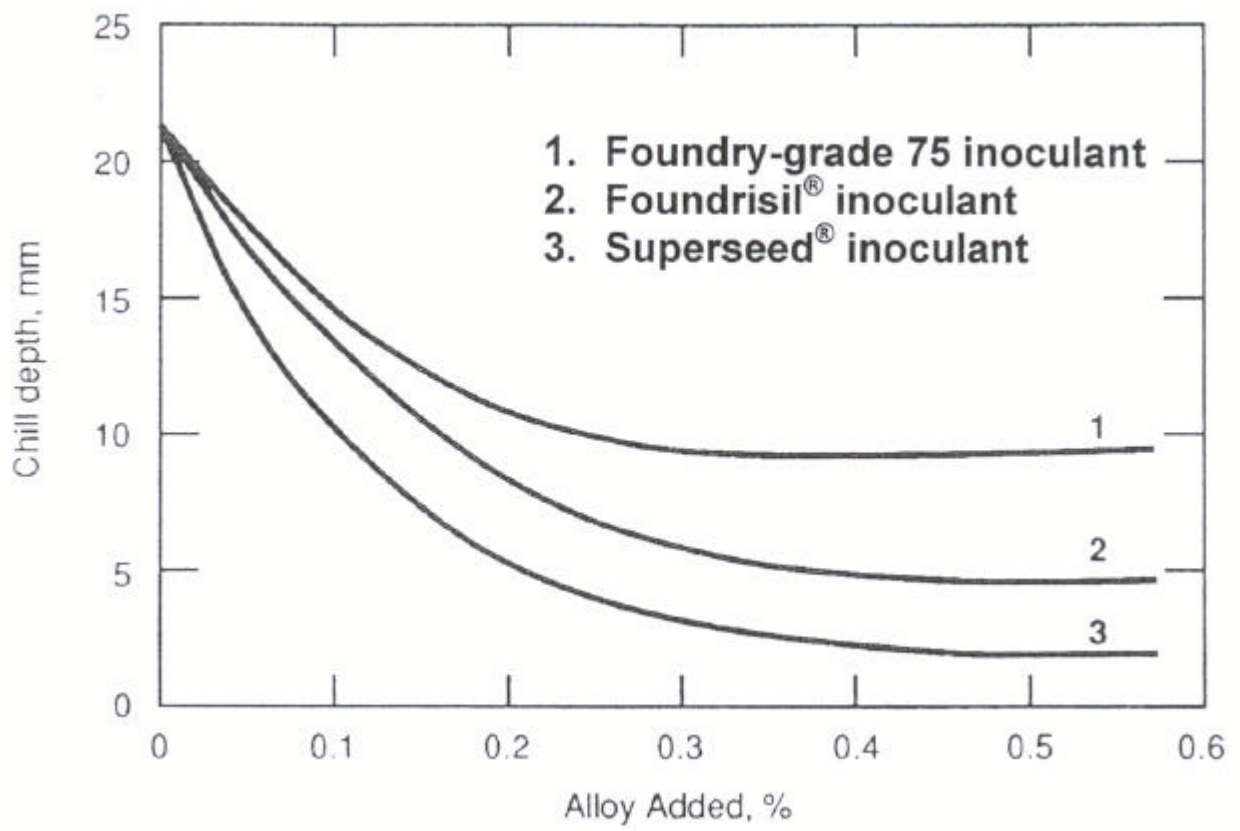
(See illustration on page 2)

9. Local Elkem representative

For further information please contact our sales representative. Our specialists will help you solve any individual problems.

10. Health, Safety and Environment

See Elkem Safety Data Sheet No. 101.



Ability to reduce chill of F.G.FeSi versus other proprietary inoculants.