

SIBAR[®] INOCULANT FOR GRAPHITIZING TREATMENT

The grades of this inoculant are as follows:

SIBAR[®] 2, SIBAR[®] 4, SIBAR[®] 4M, SIBAR[®] 7, SIBAR[®] 7M, SIBAR[®] 12, SIBAR[®] 22

Each grade contains a range of chemically active elements such as **Ca, Al, Ba, Mn** and **Si** in optimum proportions. Each subsequent grade is more efficient than the preceding one with their consumptions being equal. The efficiency of inoculants and the duration of their inoculating effect increase with increases in contents of barium in them in combination with high contents of silicon and specified amounts of calcium and aluminum. However, an addition of manganese makes the duration of the inoculating effect grow longer with the content of barium being relatively low. The most efficient inoculants of these grades in terms of their effect duration make it possible for graphite inclusions remain in irons in large quantities for thirty minutes following their treatment.

Each of these inoculants can be used for graphitizing treatment of both gray and ductile irons. The choice of the grade depends on the technical and economic expediency of its application for solving particular production tasks.

Treatment of irons with SIBAR[®] inoculants makes it possible to achieve the following objectives:

- to prevent formation of cementite inside the portions of castings whose cross sections are thin and on the surface of castings
- to make the structure of castings having complicated cross sections more uniform
- to improve the mechanical properties of irons

Standard sizes of inoculant particles:

- 0.8-3 mm for inoculants introduced into the molten metal as it enters a ladle
- 1-10 mm for inoculants placed at the bottom of a ladle
- 0.2-0.8 mm for inoculants introduced into the molten metal as it enters a mold
- Cored wires

In the case when molten metal is poured into a ladle, 1.0-3.0 kg of inoculants is consumed per 1 t of iron. In the case when molten metal is poured into a mold (delayed modification), twice as small an amount of inoculants may be consumed.



Select the correct size of modifiers. Large particles of a modifier do not have sufficient time to dissolve and float. As a result, the final stages of reactions occur on the surface of molten metal leaving part of it untreated.