

# SNAM INOCUBES®

## CHEMICAL ANALYSIS

ELEMENT	PERCENTAGE
SILICON	60 - 69%
CALCIUM	0.5 - 2.0%
ALUMINIUM	0.5 - 1.5%
ZIRCONIUM	2 - 3%
MANGANESE	1.9 - 2.8%
BARIUM	0.30 - 1.0%

Block Diameter : 20mm  
Block Diameter : 25 mm  
Block Diameter : 30 mm

Block Weight : 20 gms.  
Block Weight : 30 gms  
Block Weight : 50 gms.

### Addition rate

The recommended addition weight for ductile iron is between 0.08% and 0.12% of the poured box weight. Generally most application utilize a 0.10% addition. For grey iron, typical addition is 50% of that for ductile iron.

However a number of factors will affect this and these may include:

- Degree of inoculation required
- Hold time in ladle
- Metal Temperature
- Pour Time

Excessive pour time can mean insufficient inoculant being available and last metal being under inoculated. In such cases it may be necessary to increase the percentage addition above that recommended.

### Placement in print

The block should be ideally printed wherever possible in order that the block remains in position during the pouring period.

An incorrectly printed or unprinted block could be washed through into the mould cavity resulting in the possibility of undissolved material in the casting.

## Snam Alloys Pvt. Ltd.

Kariamianickam Village, Nettapakkam, Pondicherry - 605 106. India. Phone : 91-413-2699440, 2699106. Fax : 91-413-2699199  
e.mail : info@snam.co.in website: <http://www.snam.co.in>

The information given in this data sheet is based upon our current knowledge and is intended to provide general notes about our products and their uses. It should not be construed, therefore, as guaranteeing specific properties of the products described or their suitability for a particular application, nor as providing complete instructions for use.



### **Type of print**

As the inocubes have a good dimensional accuracy, standard core prints can be utilized. The normal recommended printed depth is between 25% and 35% of the block height.

Under certain pouring conditions, i.e. pressure pouring or small pouring cup design, a print depth of between 30% and 35% is more suitable to prevent the blocks from being dislodged because of the velocity of the metal stream.

### **Position of print**

The block is normally printed at the base of the downsprue. However some foundries have placed it in a print in the runner system to avoid initial impingement of metal. Care should be taken while placing the block to avoid choking of the metal stream.

Care should be taken to ensure that the distance between the block print and the ingate is sufficient to provide adequate dissolution time

### **Placement on Filter**

There are occasions when due to mould design it is more convenient to place the block on top of the filter in the downsprue which can be glued in place if necessary.

### **Metal Temperature**

This is normally in the range of 1370 to 1500 degrees centigrade depending upon the type/ thickness of casting being produced .

### **Flow rate**

This is clearly a vital factor as it obviously controls the solubility rate on which the whole principle of mould inoculation depends.

From experience we recommend the following flow rates:

Weight of metal poured	Flow Rate
20 Kg	2 – 3 Kg per second
40 Kg	3 – 4 Kg per second
60 Kg	4 – 6 Kg per second
80 Kg	5 – 6 Kg per second
100 Kg	5 – 7 Kg per second

Too fast a pouring rate in relation to block weight can give rise to inadequate inoculation, because the full dissolution of the block does not occur.

Too slow a pouring rate in relation to block weight and the block becomes fully dissolved before the pour has finished, resulting in poor inoculation of the last metal poured.

A recommended dissolution rate of 0.08-0.12 Kg/sec/cm<sup>2</sup> is typical.