

## Binder systems for the hot-box process

Gioca HB are liquid furan binders for the production of hot-box foundry cores. Different grades are available in order to cover different requirements. These binders can be used at low level of addition with resulting reduction of risk of gas defect on casting.

The following standard amounts are suggested:

100	parts by weight of silica sand
0.30-0.35	parts by weight of hardener
1.20-1.40	parts by weight of binder

The optimal temperature range of the core box is 180-240°C.

If an improved flowability of the sand mix is required 0.05-0.20 parts by weight of ISOTOL SL or ISOTOL 506 may be added to the mixture. To increase the bench life 0.1-0.2 parts by weight of INIBITORE T50 can be added to the mixture.

Reaction mechanism:

Resin GIOCA HB + Hardener



Furan polymer + water.

Depending on the specific needs of the foundries, the following systems are available:

- **Gioca HB-AL** is a non-toxic binder. Studied for aluminum casting, with low gas emission during pouring and very good shake out. The content of free furfuryl alcohol is less than 25%.
- **Gioca HB-AL4** is a non-toxic furan binder with excellent shake out properties. The content of free formaldehyde is less than 0.1%.



Fig. 1 – Gioca HB-AL - Hardener G19