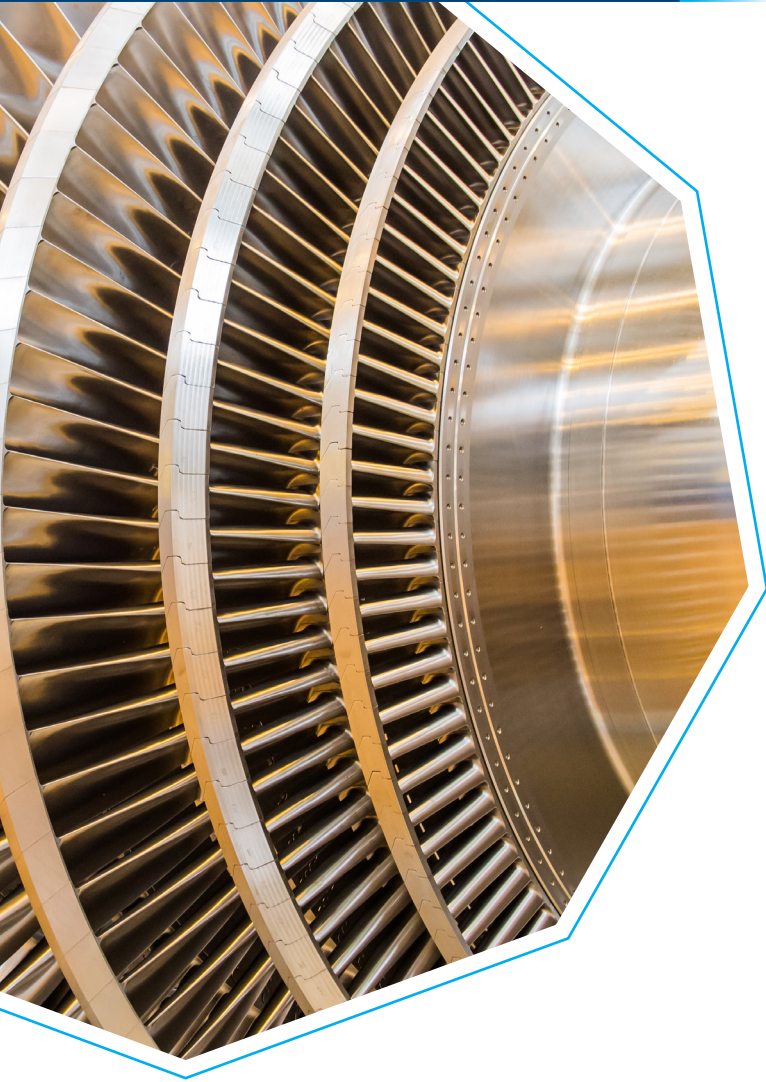


SOLITEC™ HI



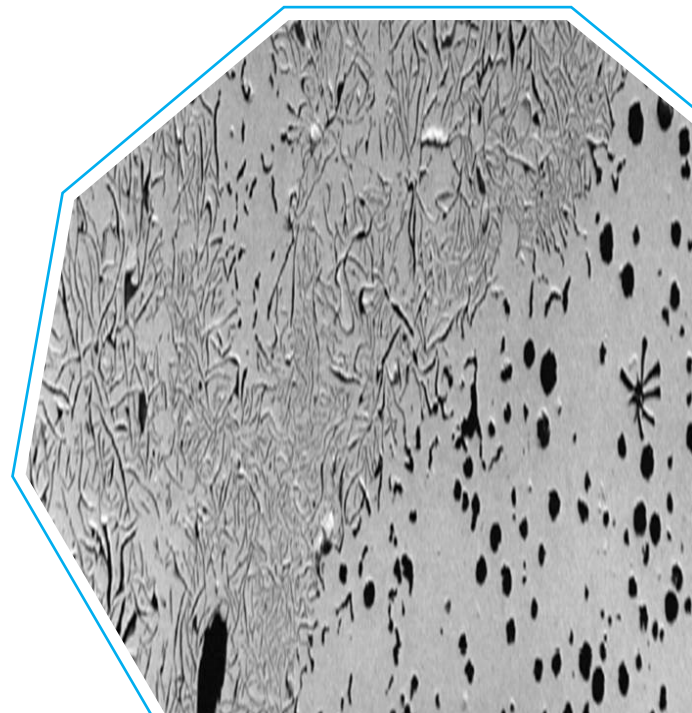
FAST-DRYING WATER-BASED SOLITEC™ HI SERIES FOR LARGE-SCALE CASTING

Alcohol-based coatings are used in many large foundries. They offer the advantage that the cores and molds dry faster, and the solvent can be burned off. This means high productivity and a degree of short-term flexibility. These advantages are offset by a number of disadvantages, such as the high cost of some raw materials (e.g., zirconium, alcohol) and the need for protective measures and compliance with occupational exposure limits. Sufficient spacing in the finishing area is necessary for fire protection. There must also be defined work areas for coating and flashing off. Compliance with the workplace limit values for ethanol or isopropanol is also necessary.

The SOLITEC™ HI series was specially developed for large-scale casting. Thanks to their special formulation, the water-based coatings in the series dry quickly and thus guarantee safe compliance with workplace limit values. In addition, the formulations are zircon-free.

TECHNOLOGICAL ADVANTAGES

- Water-based and zircon-free
- A highly refractory solid matrix with sulfur-stop characteristic
- Improved flow & brush properties
- Reduced drying time (in air)
- Obvious color change to indicate the drying progress
- Reduced casting defects and improved surface finish



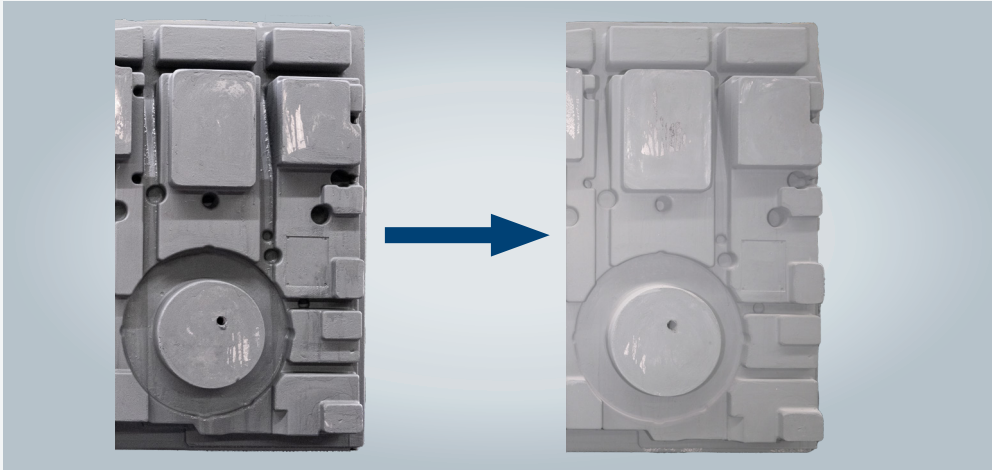


Figure 1: Color change comparison from wet (left) to dry (right) coating

Fast-drying SOLITEC™ HI series

Switching from an alcohol-based coating to water offers several advantages. SOLITEC™ HI water coatings are particularly suitable for flooding large and complex cores and molds and offer the shortest possible drying times. SOLITEC™ coatings with a wet-dry indicator are a new, innovative solution that indicates the degree of drying to the user via a color change (Figure 1). This property prevents the use of incompletely dried coating and promotes safety in the production process.

Efficient formulations such as zircon-free or sulfur-stop coatings, improve the castings' surface quality, significantly reducing the cleaning and post-processing effort.

Finally, the exchange of alcohol leads to a reduction in the VOC emissions and an improvement in the workplace limit values.

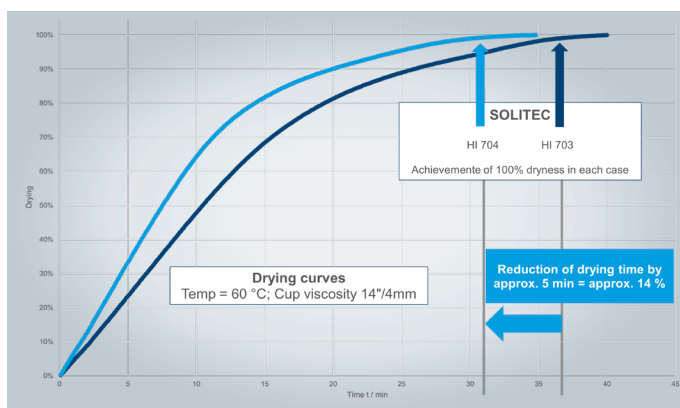


Figure 2: Drying curve in comparison under laboratory conditions

The latest coating innovation, SOLITEC™ HI 704

SOLITEC HI 704 is the latest, quick-drying and zircon-free brush, flood, and spray coating for chemically bonded cores and molds. The high-solids coating is more flexible in terms of thermal and physical expansion behavior than a zirconium coating. The graphite content creates a particularly easy separation between the sand and the casting. The binder used in the formulation keeps the water on the coating surface and prevents water migration into the sand's interior, promoting rapid air drying.

SOLITEC™ HI 704 offers another improvement over the previous version: during dehydration, the color changes from dark gray to light gray, making it easier to evaluate the drying progress.

The drying time of this version is further reduced compared to the previous version, SOLITEC™ HI 703, and increases productivity by approx. 14% (Figure 2).

YOUR SUSTAINABILITYPLUS

Cost-effectiveness

- Cost reduction
 - Price stability due to the zirconium-free formula
 - Often lower specific weight than zirconium-containing variant
 - Water-based products are cheaper than equivalent alcohol-based products
 - Replacement of alcohol for dilution with inexpensive water (drinking quality)
- Productivity increase
 - Avoidance of casting errors, less cleaning and post-processing effort
 - Fast-drying in air
 - Higher quality through improved micro-structure in nodular graphite casting due to sulfur stop

Environment & social

- Water-based formulation
- Lower VOC emissions
- Easy compliance with occupational exposure limits
- No radioactivity, as it is zircon-free