WASCO*

Water soluble binder and coating system

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Introduction

HPDC offers a range of advantages, such as higher production rates and good surface finish; as a result, is the process of choice for many of the new lightweight casting parts.
One significant limitation of the process is the ability to produce complex internal cavity shapes. To overcome that obstacle, it is necessary to use disposable cores. They must be able to tolerate the high pressures, temperatures and speeds involved in the HPDC and Rheocasting process.

A new type of sand core, developed by Foseco provides a solution to these challenges.

These cores are made with an innovative water-soluble Binder WASCO and coating using standard sand core production equipment.

They therefore offer a more cost-effective and sustainable option for HPDC of complex, hollow shapes at high volume and are equally suitable for use in liquid HPDC or also in semi-solid (Rheocasting) process.

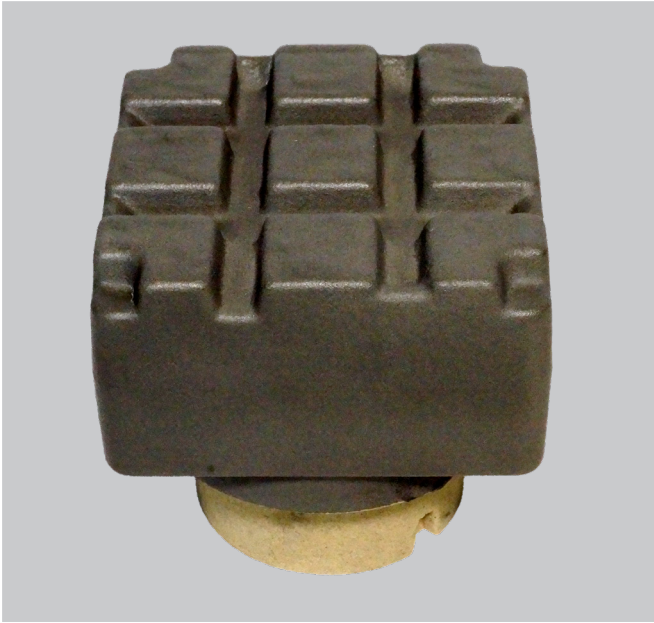
Product Description

For the new HPDC suitable cores, the sand mixture is prepared using binder WASCO HPB and additive WASCO HPA. After the core is cured a coating WASCO HPC will be applied. The coating protects the core against the intensification pressure on the end of the HPDC cycle.

- Sand core shooting on a core shooter with hot air curing
- High fluidity of the mixed sand
- Bending strength > 1000 N/cm^2 achievable
- Spraying or dipping of the coating

Benefits

HPDC is the most cost-effective forming process for Al castings. With the opportunity to use sand cores more complex parts, named structural castings can be produced. The competitiveness of the products can be increased by weight savings. More large components can be manufactured with a reduced number of single parts.
WASCO bonded cores can be manufactured on existing core making facilities. For decoring the castings are simply washed out with flushing water.
During the casting process no VOC will be released.
The used water and the sand can be separated and reused.



Water-soluble core with applied coating

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