



SALT CORES

COMPLETELY WATER-SOLUBLE SALT CORES FOR FOUNDRIES

A joint project by CeramTec AG with the Austrian-Foundry-Institute (ÖGI).

MOTIVATION FOR THE DEVELOPMENT

CeramTec AG is a mass-producer of dry-compacted salt cores for cast pistons. Advanced applications for salt cores in aluminium castings require more complex shapes and a higher degree of freedom in design that could not be realized by the dry-compaction method. Consequently, completely water-soluble salt cores were to be developed through adaptation of the core shooting process and by using suitable an-organic binders and additives.

THE PROCESS

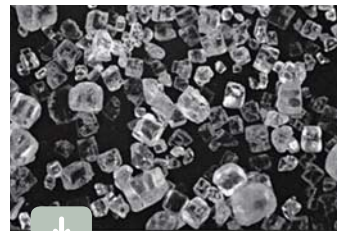
- The process is similar to conventional core shooting
- Conventional machinery can be adapted
- New and innovative binder systems and additives are used
- Production cycle time is comparable to the cold box process
- Fully automated production is possible

THE ADVANTAGES

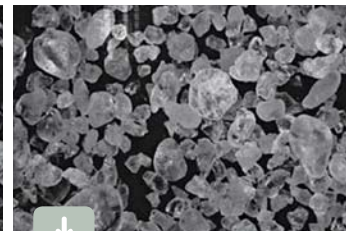
- Core removal is simple, there is absolutely no core residue
- Costly core removal operations are redundant
- No need for inspection for core residues
- No gas evolution during casting
- Emissions during core-storage and casting are minimal
- Good strength and stability of cores

POSSIBLE APPLICATIONS

- Gravity die casting of light- or heavy-metal casting alloys
- Low-pressure die casting of aluminium alloys
- When problems with core-removal are experienced
- For parts which must be absolutely free of core sand residues



Salt



Silicea Sand



Salt core from core shooting process

CeramTec
THE CERAMIC EXPERTS