

## Rapid Shell Build Process

### Duration

2.35 mins

### Speaker

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### Transcript

My invention is called the Rapid Shell Build Process and it's a process that I developed to massively decrease the time taken and the cost of producing an investment casting system. I was involved in changing the process from the use of an alcohol based binder system to a water based binder system, so my idea came from having small children and then coming up with this thought about nappies. So I did all the research and learnt all about the use of a super-absorbent polymer that would hold all the water within the system. So I developed it as part of the investment casting process.

The way this technology works is that the super absorbent polymers, if they're placed onto the ceramic shell as it's being built, will drag up the moisture and hold it within the system so you don't have to spend time removing the moisture during production. So you can produce the ceramic shell mould within two hours as opposed to seven days and then the water's held within the system so you can then remove the wax and the water doesn't actually leave the system until it's fired and you've got your ceramic shell mould.

The other benefits of the process are the fact that if you remove the need for moisture control and humidity control and air speed, that decreases the costs of running an investment casting shell room. Also it means that you can take up other processes that they can't wait seven days to produce a system. If you can produce them within one day you can take up things that have never been produced with an investment casting process before.

The support that I have received from the university involves Alta Innovations and the university themselves have taken up my process, produced two separate patents, both European and Worldwide, and the technique is there to go out into industry. The process has been proved with full scale industrial trials that I've carried out so what I'm looking for now is an industrial person to take up the process, get it to full scale in the industry to save themselves both time and money.

END OF RECORDING