



Project description:

From a technological point of view, the production of turbine components such as the francis impeller requires considerable know-how during all stages of production. The moulds were created in just a few hours using Kerphalit – a moulding material particularly suited for iron and steel casting – in 0.3 mm thin layers. The possibility to produce large parts in one piece with undercuts, has a very positive effect on the accuracy of the cast part and reduces cleaning requirements, since the removal of the core separations does not result in any casting defects.

- **Purpose:**

Functional cast part

- **Challenge:**

Complex core

- **Solution:**

Tight tolerances of the 3D-printing-process guarantes a less extensive assembly.



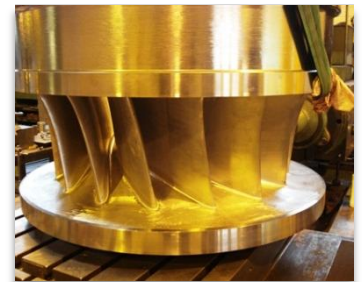
Finishing with air pressure



Sand mould of the francis impeller



Casting of the francis impeller



Casting of the francis impeller

Technical data:

Sandmoulds:	
Total size (mm)	2203x1400x980
Weight (kg)	201
Individual pieces	2
Material	Sand
Layer thickness (mm)	0,3
Lead time (days)	5
Build time (hours)	40

Sandcasting: fast, patternless, close-to production

voxeljet produces moulds for casting from dataset. Through implementing the Generis Sand Process the user benefits from crucial time and cost savings. Based on 3D CAD data the moulds are made fully automatically without tools using the layer building method in the required mould material. The laborious and costly route to the otherwise necessary mould set-up is dispensed with. Our ability to produce moulds with dimensions of 4 x 2 x 1 meters is unique worldwide.

Contact:

voxeljet technology GmbH | Paul-Lenz-Straße 1 | 86316 Friedberg | Germany
 Tel.: +49 821/7483-100 | Fax: +49 821/7483-111 | info@voxeljet.de | www.voxeljet.com