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A Case Study On Zft 700 an Live Industrial Casting

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ABSTRACT
In this paper simulation done for an industrial casting with the help of Auto Cast X based on vector element method. Simulation done before pouring & predict mould thickness, hotspot location, shrinkage, feeder optimization and gating system design prediction. Actual pouring was performed at Jash Engineering Foundry Division at indore.
Keywords: shrinkage, feeder optimization, yield

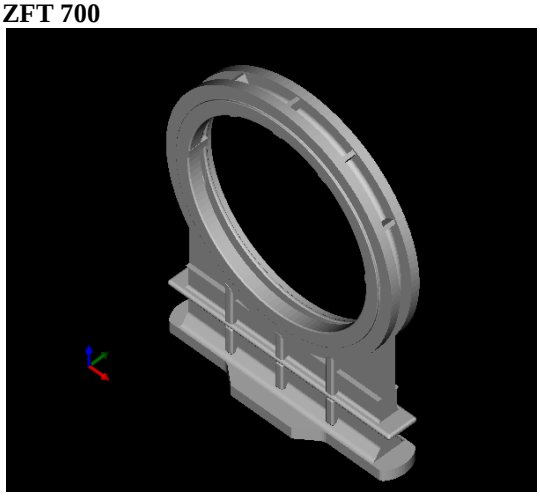
I. Introduction

Successfully launching a new cast Product into today's competitive market depends on fast, efficient product development, coupled with quick and flexible manufacturing process.

Auto Cast has a knowledge-based system involving large eddy simulation for combining all the three essential task-

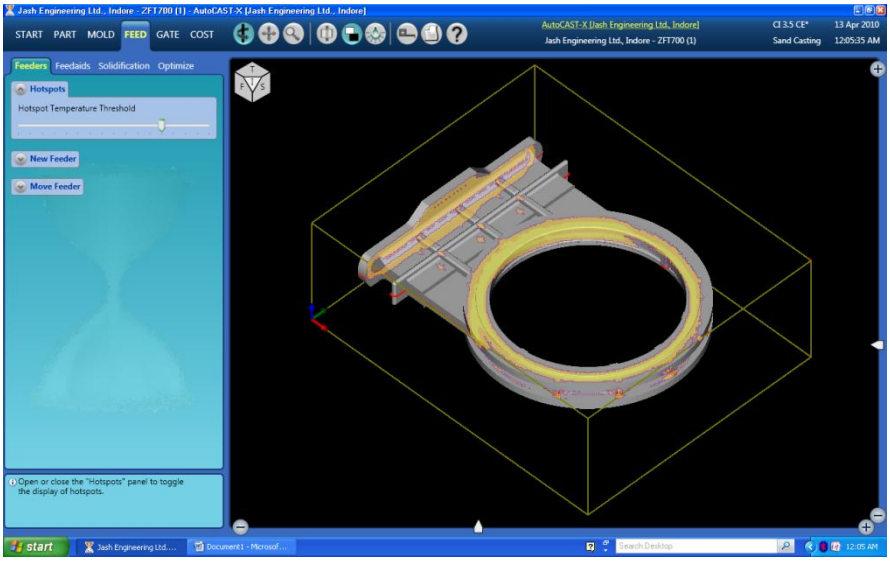
- Casting design
- Model creation
- Process simulation

ZFT 700



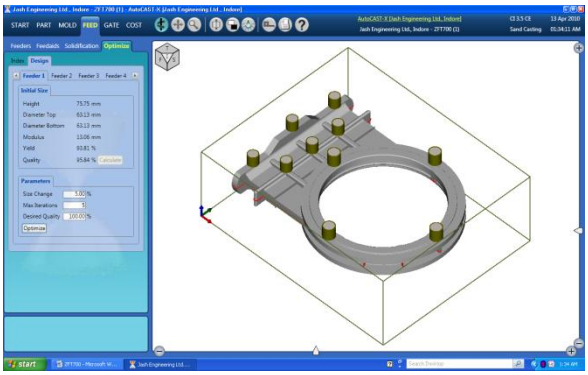
Dimensions	**1163.5 mm X 895 mm X 253 mm**	**Part Surface Area**	**2.86**
Min. Thickness	**2.04 mm**	**Max. Thickness**	**26.8**
Part Weight	**269 kg**	**Part Volume**	**37583 cm^3**

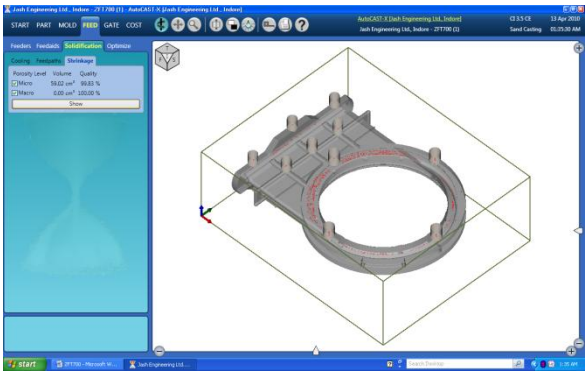
Feeder Location: Hot Spot



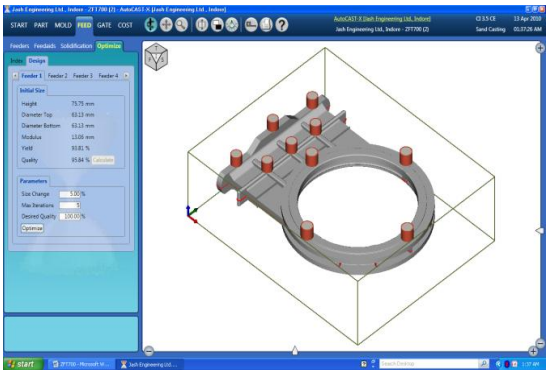
II. Feeder Optimization

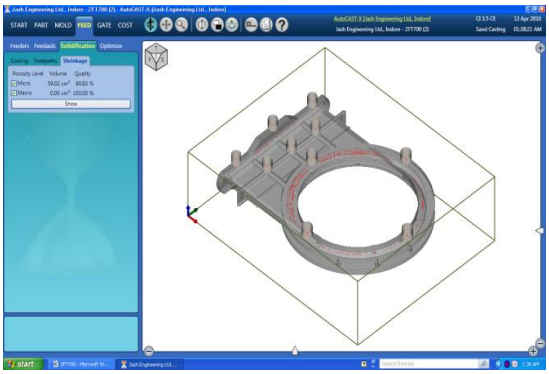
Feeder Layout 1 & Shrinkage Porosity inside casting



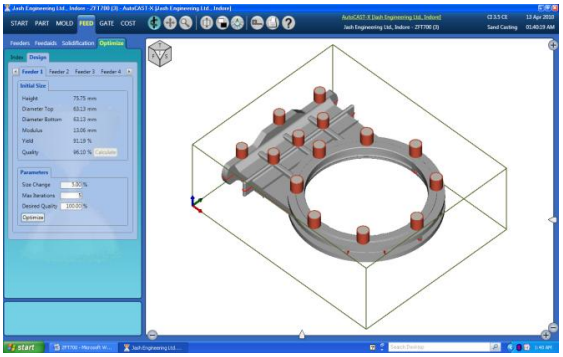


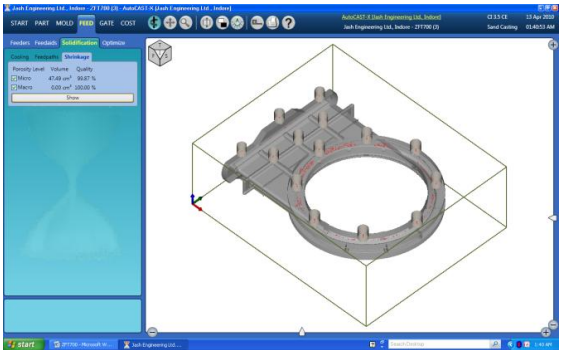
Feeder Layout 2 & Shrinkage Porosity inside casting



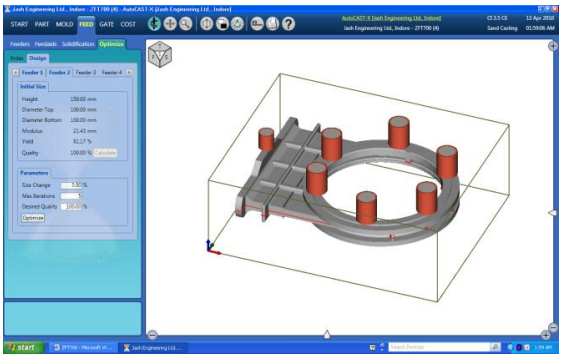


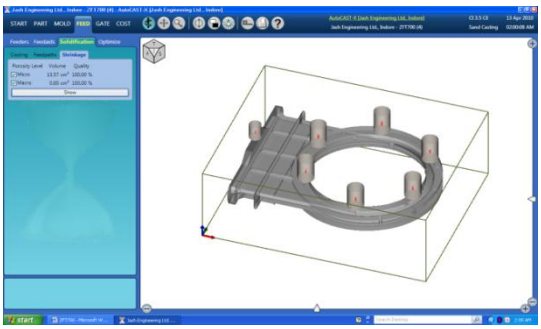
Feeder Layout 3 & Shrinkage Porosity inside casting





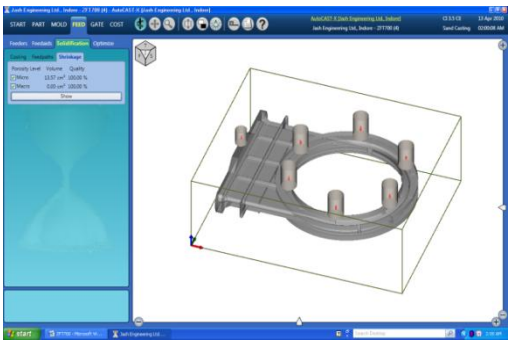
Feeder Layout 4 & Shrinkage Porosity inside casting





III. Result

We seen four different layout for feeder and layout four is suitable for our casting because all shrinkage porosity defect come inside the feeder.



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