

LIQUID INJECTION MOLDING SIMULATION (LIMS) SIMULATION OF LIQUID COMPOSITE MOLDING

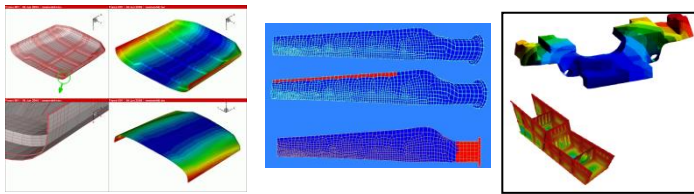
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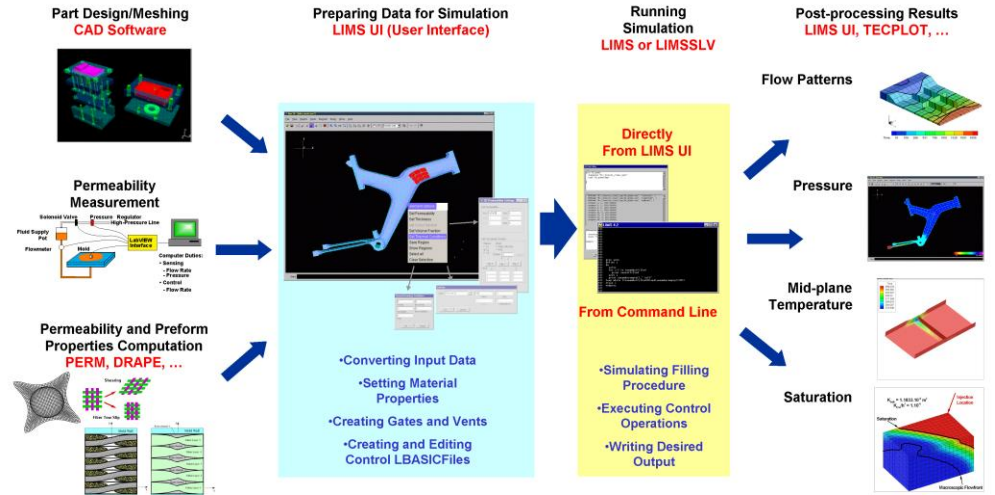
LIMS

- ◆ Predicts the resin flow patterns during LCM process.
- ◆ Estimates the process time and pressure requirements.
- ◆ Allows to determine the effect of flow disturbances and control actions on filling flow virtually, without the process being actually performed.
- ◆ Allows the user to optimize and control the resin injection.

COMPLEX PART SHAPE: COMBINATION OF 1D, 2D, 2.5D AND 3D ELEMENTS

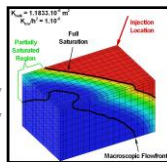
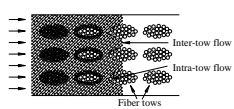


LIMS WORKFLOW



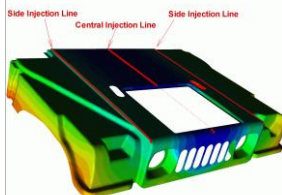
FULLY PROGRAMMABLE SIMULATION FOR ADAPTABILITY

Modeling Dual Scale Flow



Actively Controlled Sequential Injection

Simulating Controlled Injection Into Complex Part



Notes:
- Injection lines modeled by 1D elements
- Side lines open when flow reaches them (reaction to sensor tripping)

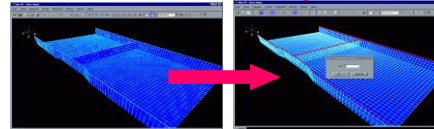
Compression RTM Model

Phase 3: Fill Time

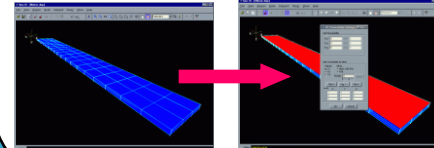


GUI ADJUSTED TO THE LCM NEEDS

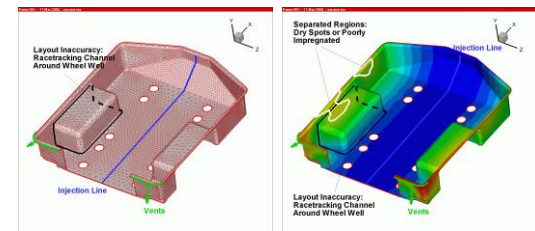
Creation of Race-tracking Channels



Creation of Distribution Media



MODELING DISTURBED FILLING PATTERN IN AUTOMOTIVE TRAILER



ACKNOWLEDGEMENTS

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