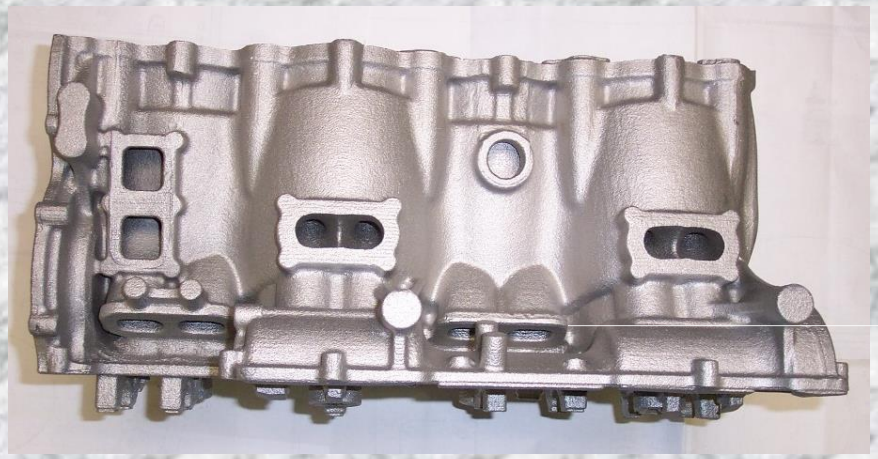
Prototype Casting Specialists



RCT Printed Sand

- Computer generated models describe the mold geometry to a Rapid Prototype sand printing machine

Rapid Casting Technology (RCT) offers unprecedented flexibility to produce complex, finely detailed, patternless castings. While reducing production costs and time to market, RCT eliminates the need for physical tooling to produce a casting. By removing the constraints of hard tooling, this allows extreme casting design to become a reality.

RCT Process

- Data Import
- Product Design Validation
- Gating Design
- Mold Package Construction
- Core Model Validation
- Casting
- Casting Inspection & Validation

Data Import

- ATD can accommodate most of our customers CAD formats.

Native CAD formats are always preferred, but other acceptable export formats include STEP, Parasolid, & Iges.

Native preferred formats:

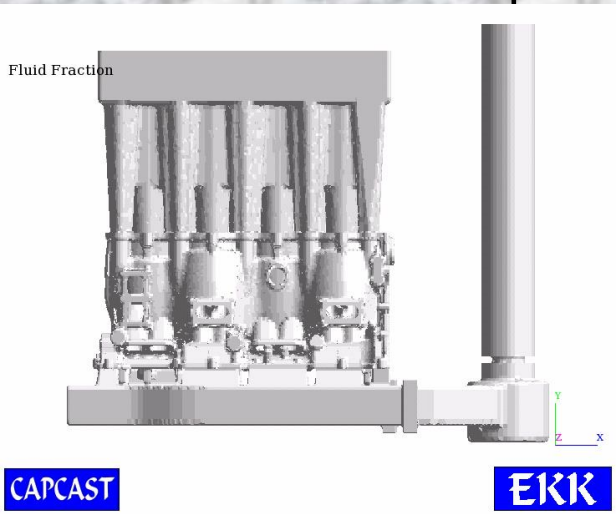
- Catia V4 & V5
- NX
- SDRC – Ideas / NX Ideas
- Pro – E
- Solid Edge

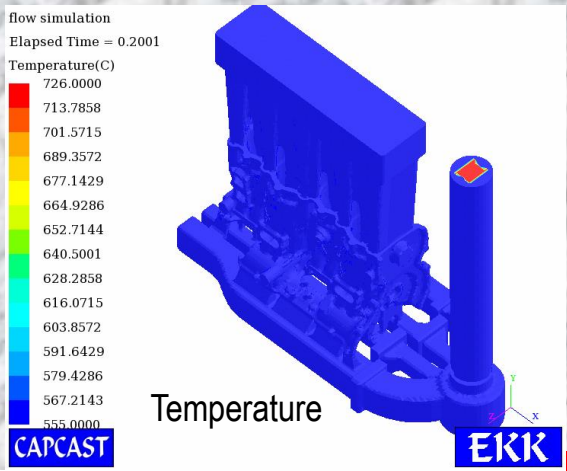
Non-native preferred formats:

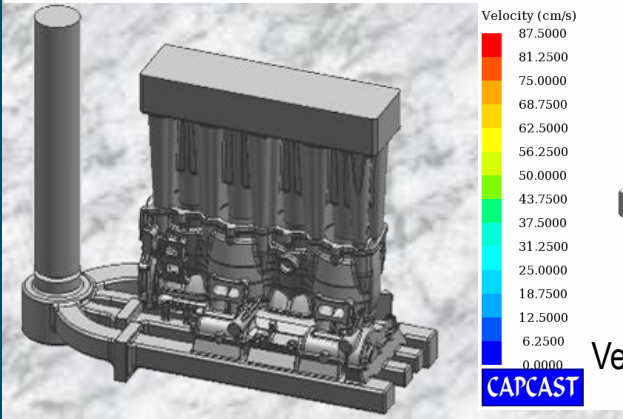
- STEP
- Parasolid
- IGES

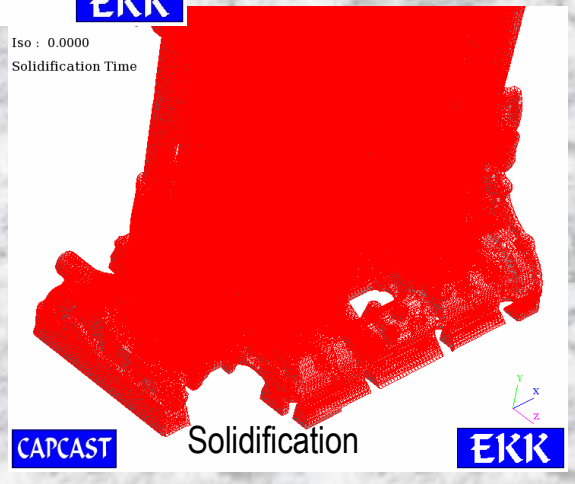
Gating Design

- Simulation & analysis up front verifies the gating design even before the core package construction finalized.



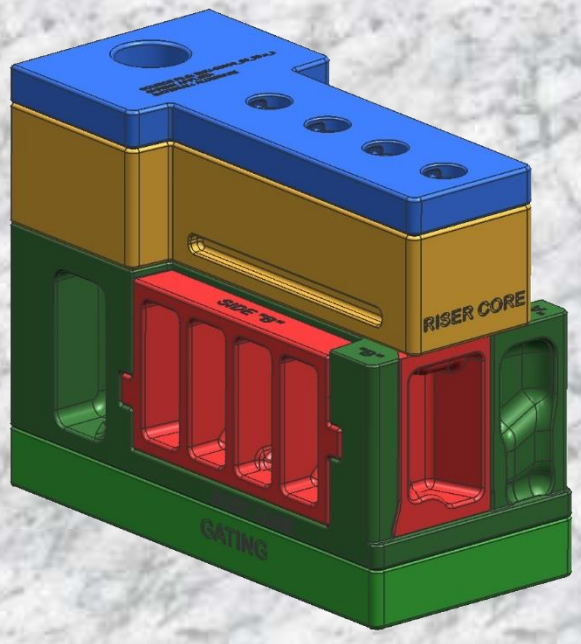


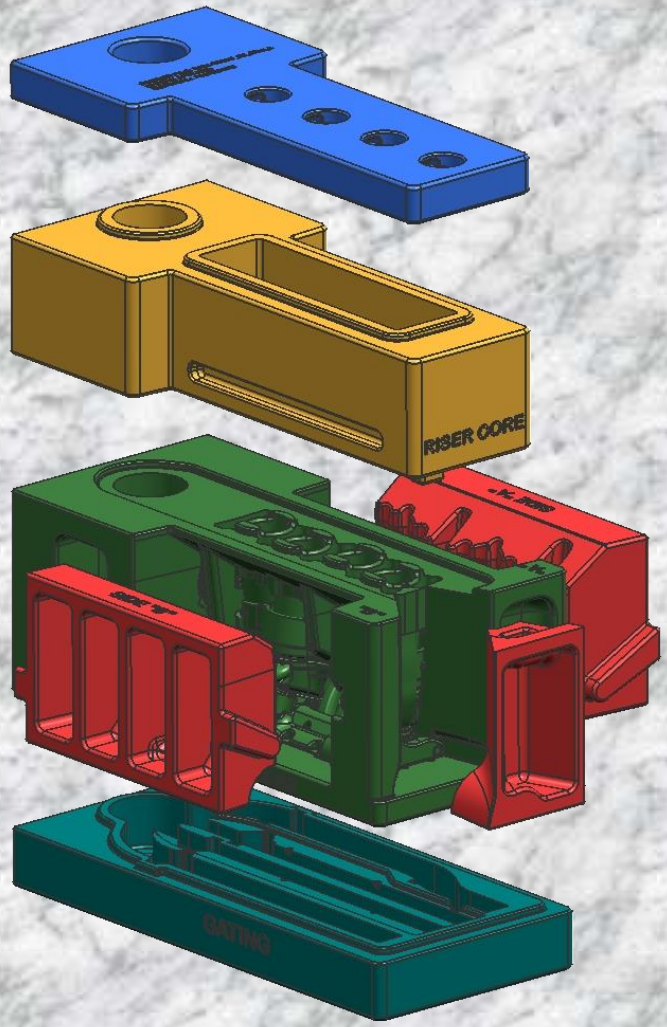




Mold Package Construction

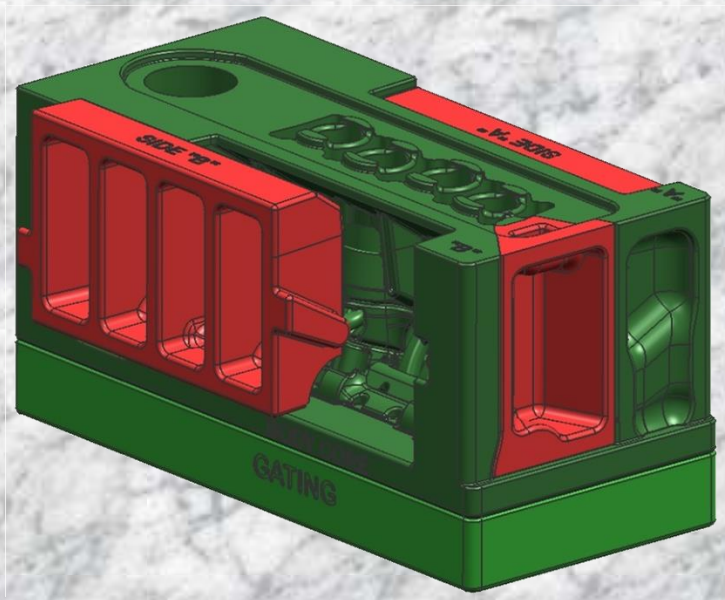
- Core package design is scrutinized for all manufacturing process considerations





Core Model Validation

- Electronic simulation of the core assembly
- Core location & clearance

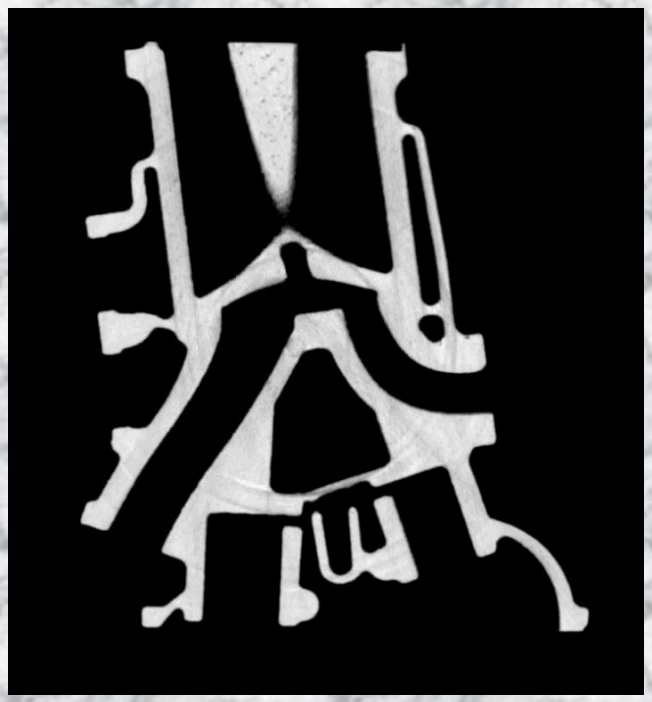


Casting

- Close communication with the foundry help to coordinate product realization

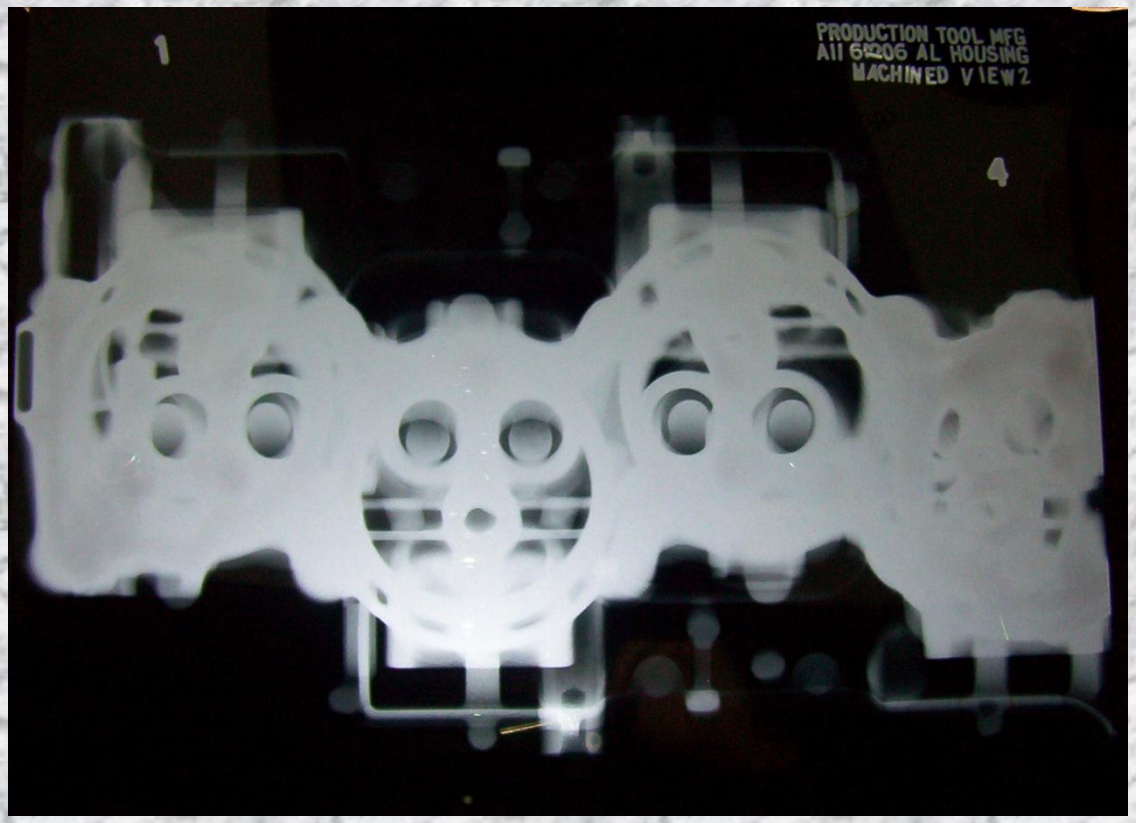
Casting Inspection & Validation

- Sample castings are inspected for process problems (core shift/breakage, porosity issues)



CT Scanning inspections for internal & external defects

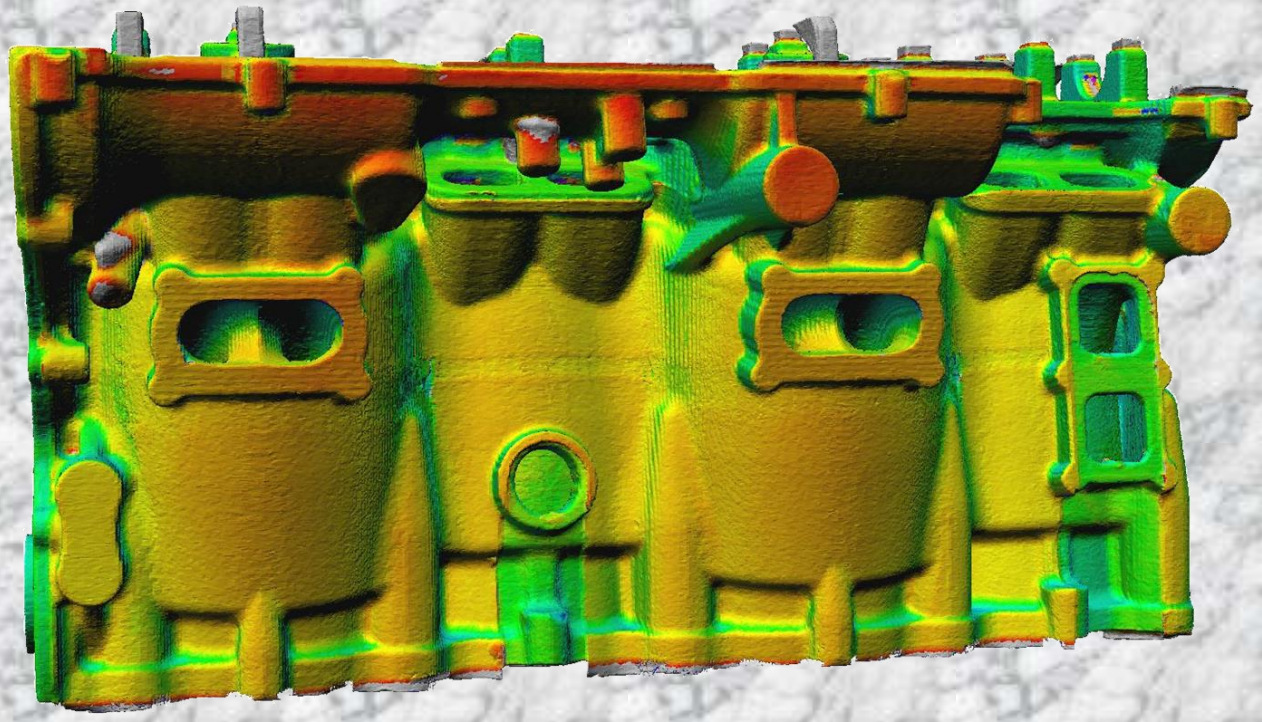
Casting Inspection & Validation



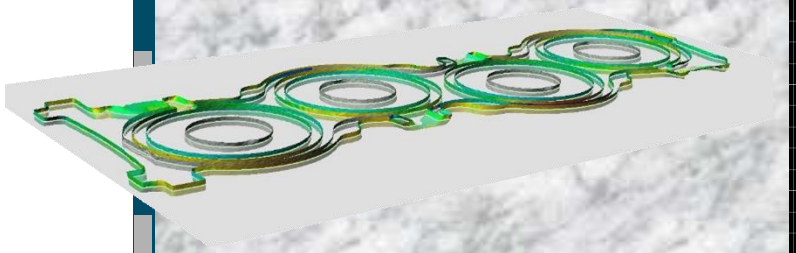
X-Ray inspections for internal shape defects

Casting Inspection & Validation

- To insure that only acceptable variances occur, sample parts are compared back to CAD models.



Casting Inspection & Validation



Mapping of Dimensional Casting Deviations