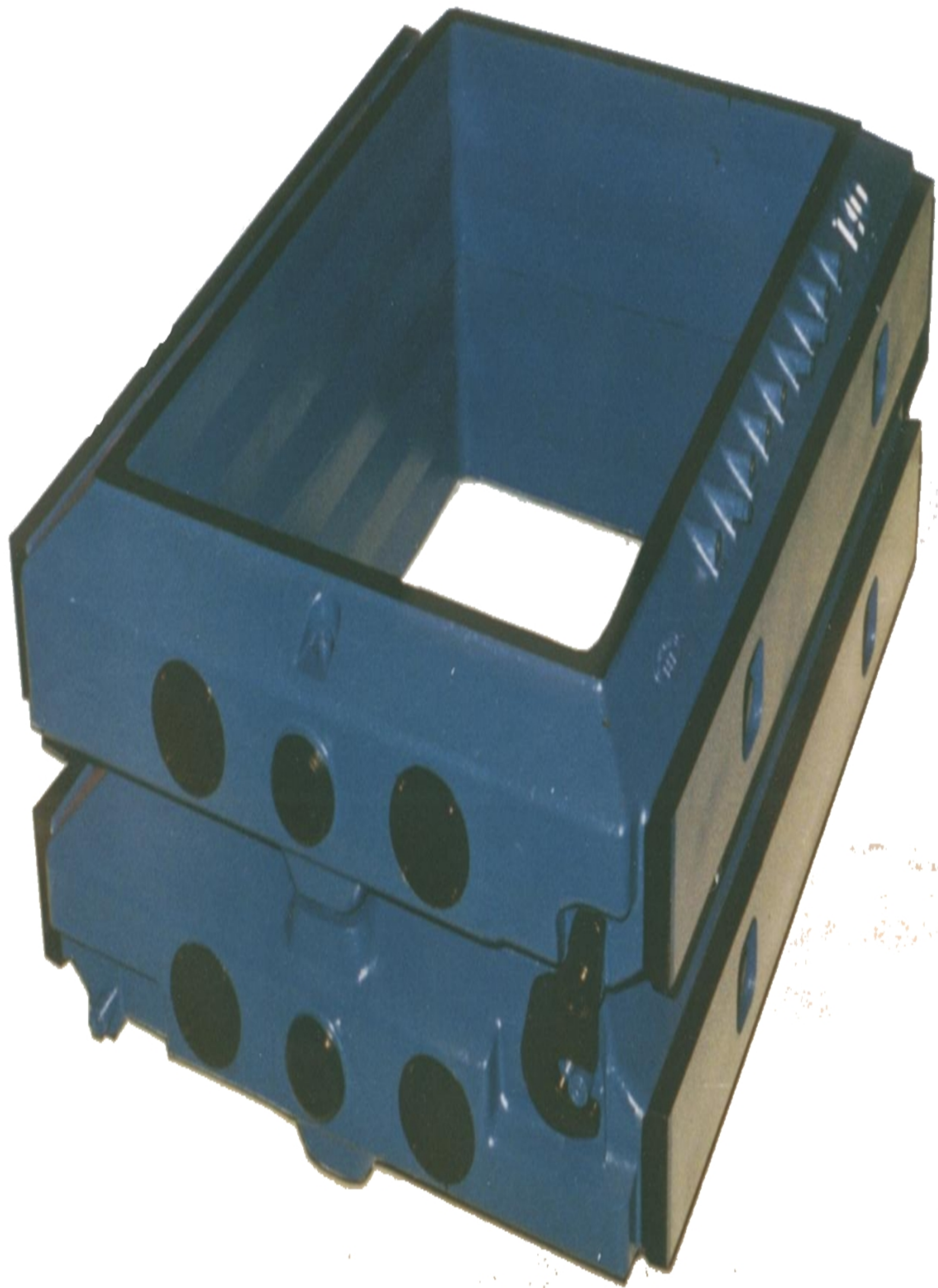




EMPIRE SYSTEMS INC.
INNOVATION FOR INDUSTRY



FLASKS

ESI manufactures flasks in quantities of 1 to 1000 for all types of molding systems... jolt squeeze, no-bake, semi-automatic, & high production lines. Our flasks run on all makes and models of molding lines: SPO, Osborn, BMD, KW, HWS, GF, Herman, Foundry Automation, BMM, IMM, & Tacconne molding lines and machines.



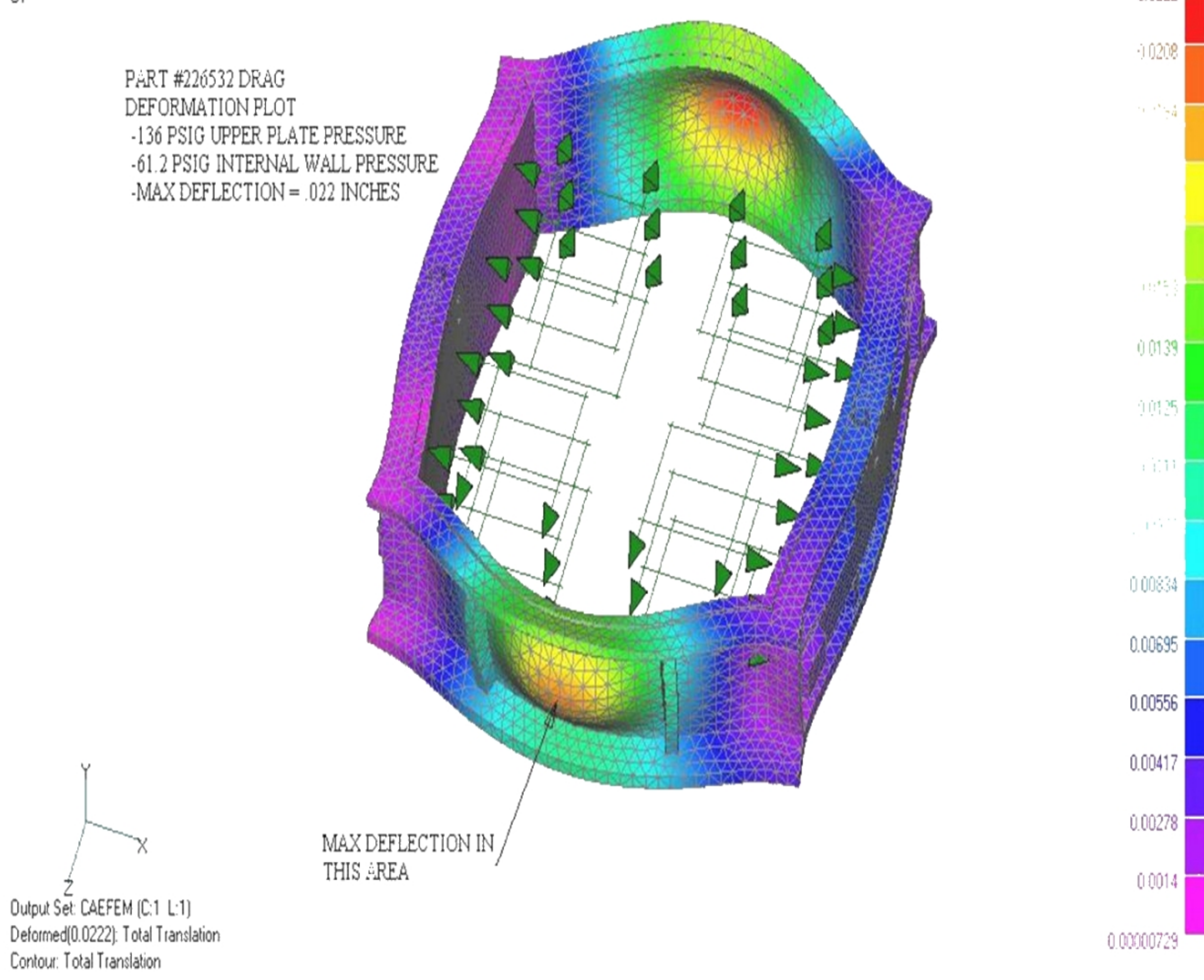
ESI manufactures flasks made of:

Cast-Iron, Ductile (SG/Nodular) Iron, & Steel Fabricated with-H.R. Steel plate, Alloy plate, & Hardenable alloys

Quality - IN ALL PHASES OF OUR PROCESS

Our quotation process includes analysis and recommendations for improvements flasks, Extended service life, & Improve mold quality. Every flask processed by ESI is designed in 3D CAD for the proper manufacturing criteria specific to your molding process and mold line requirements. All dimensions are qualified in decimals and applicable geometric tolerances are inserted based on the requirements of the entire molding process.

V1
L1
C1

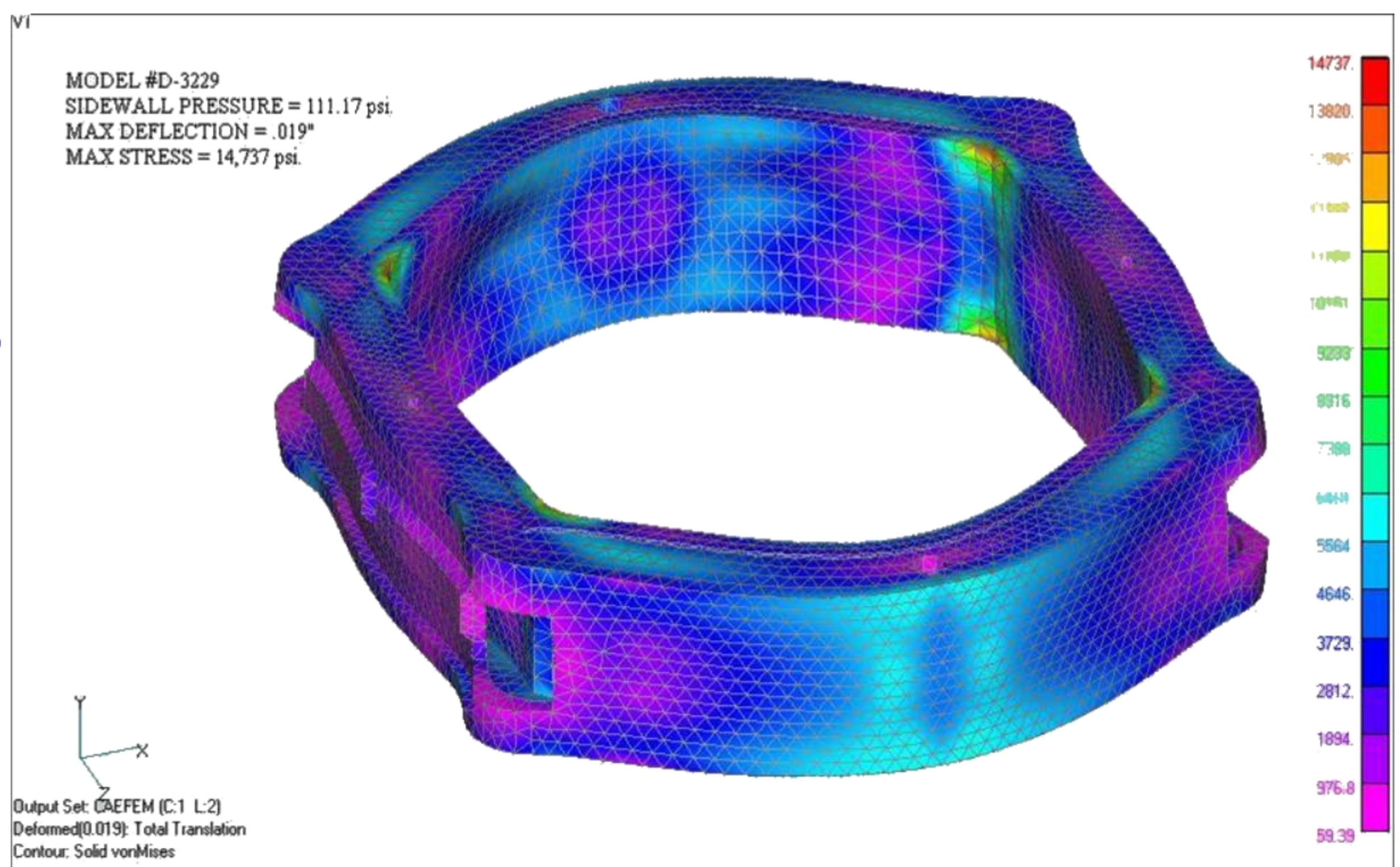


Our Design Criteria:

- Tooling and Fixture for Molding**
- Accuracy for controlling mold half and mold set total Quality**
- Stack up tolerances**
- Pattern/bolster engagement**

Our Analysis Criteria:

- Finite Analysis of all types of construction and materials**
- Squeeze force analysis**
- In-line thermal expansion**
- Stripping from the pattern**
- Closing contact and alignment points**
- Separator contact plane**
- Line index contact points**
- Long Term repeatable service life**



Quality Control from design thru assembly and shipping:

All working surfaces parallel to the parting line are tightly controlled for //, & ⊥ . Materials certification: mill certs., heat #, ladle #, test bars, spectrograph-baird- analysis, full mechanical and chemical traceability, micro structure analysis. Fixtures for all welded components and assemblies. Full high temperature thermal stress relieving. Patterns are inspected and prototyped. Routing for each order for critical points of manufacture-logged milestones.

Additional Products & Services

Precision Replacement Components...

For Mulling, Molding, and casting handling equipment.



Super-Conveyors...

The solution to applications involving the transportation of hot and abrasive materials.

Aerators....

The ability to accurately fill and distribute a uniform density of the aerated lump free sand onto the pattern in all molding processes is essential to superior mold quality.



Complete Rebuilds, Refurbishment & Upgrades...

**Mullers, Mixers, Sand Coolers, Jolt Squeeze Cylinders,
Molding Machines, Gear Boxes**



EMPIRE SYSTEMS INC.
INNOVATION FOR INDUSTRY

33683 Walker Rd.

Avon Lake, Ohio 44012 USA

Telephone: (1) 440-653-9300

Fax: (1) 440-653-9303

Email: info@empiresystemsinc.com

www.empiresystemsinc.com