

Steel Hatch FEA Test Results

Material Data

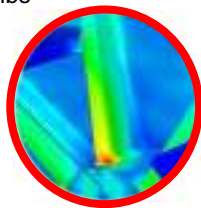
ASTM A27 / A27M
Standard Specification for Steel Castings
Grade: 70-36

Yield Stress: 36 ksi
Tensile Strength: 70 ksi
Elongation: 24 Percent

Typical Design Load: 8500 lbs over 100 square inches at Center

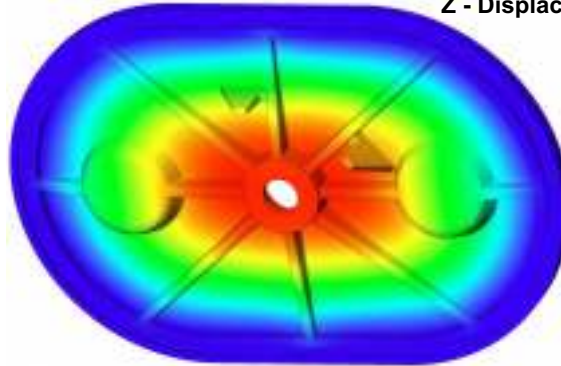
Maximum Deflection: 0.008 Inches

Weight: 79 lbs



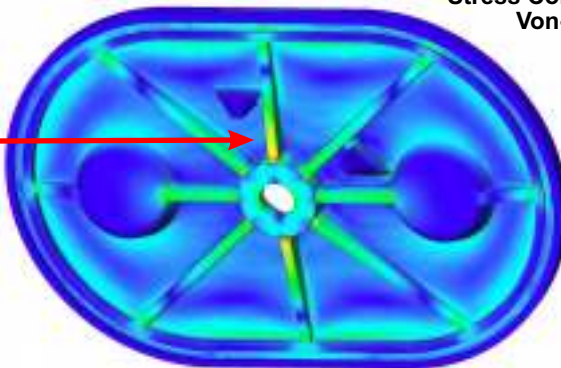
Analysis Performed at 2:1 Safety Factor

Displacement Contours
Z - Displacement



Scientific	Equiv.
- 7.743e-003	.0077"
- 7.098e-003	.0071"
- 6.453e-003	.0065"
- 5.808e-003	.0058"
- 5.162e-003	.0052"
- 4.517e-003	.0045"
- 3.872e-003	.0039"
- 3.226e-003	.0032"
- 2.581e-003	.0026"
- 1.936e-003	.0019"
- 1.291e-003	.0013"
- 6.453e-004	.0006"

Stress Contours
Von-Mises



Scientific	Equiv.
- 1.800e+004	18 ksi
- 1.650e+004	16 ksi
- 1.500e+004	15 ksi
- 1.530e+004	13 ksi
- 1.200e+004	12 ksi
- 1.050e+004	10 ksi
- 9.000e+003	9 ksi
- 7.500e+003	7 ksi
- 6.000e+003	6 ksi
- 4.500e+003	4 ksi
- 3.000e+003	3 ksi
- 1.500e+003	1 ksi

* FEA Results for comparison purposes only.
** Subject to change without notice

Aluminum Hatch FEA Test Results

Material Data

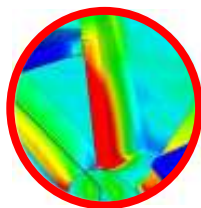
ASTM A26 356 Alloy
Standard Specification for Steel Castings

Yield Stress: 9.5 ksi
Tensile Strength: 19 ksi
Elongation: 24 Percent

Typical Design Load: 8500 lbs over 100 square inches at Center

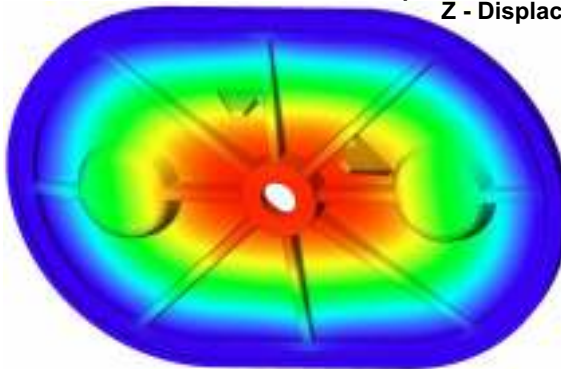
Maximum Deflection: 0.022 Inches

Weight: 31 lbs



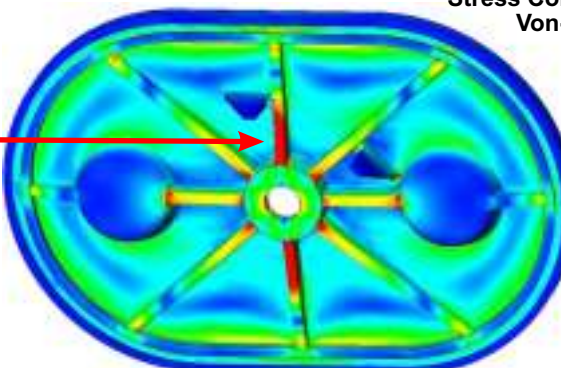
Peak Stress Levels not fully Penetrating Reinforcement Rib.

Displacement Contours
Z - Displacement



Scientific	Equiv.
- 2.237e-002	.022"
- 2.050e-002	.021"
- 1.864e-002	.019"
- 1.678e-002	.018"
- 1.491e-002	.015"
- 1.305e-002	.013"
- 1.118e-002	.011"
- 9.320e-003	.009"
- 7.456e-003	.007"
- 5.592e-003	.006"
- 3.728e-003	.004"
- 1.864e-003	.002"

Stress Contours
Von-Mises



Scientific	Equiv.
- 9.500e+003	9.5 ksi
- 8.708e+003	8.7 ksi
- 7.917e+003	7.9 ksi
- 7.125e+003	7.1 ksi
- 6.334e+003	6.3 ksi
- 5.542e+003	5.5 ksi
- 4.750e+003	4.7 ksi
- 3.959e+003	3.9 ksi
- 3.167e+003	3.1 ksi
- 2.375e+003	2.3 ksi
- 1.584e+003	1.5 ksi
- 7.922e+002	0.7 ksi

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