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The following pages list the results of static load and impact load testing done on the following part.

- (24" Heavy Cover - P/N 3008-HD)

These three product are made of Exxon Mobil HDPE (HD 6605) produced by ExxonMobil Chemical. Please refer to their material specification sheets as to the materials thermal and mechanical specifications. The following list are some of this materials more relevant specifications.

- Tensile stress at Yield – 23 Mpa
- Tensile Impact @ -40C 325 KJ/m²
- Brittleness starts to accurse below -40° F

The parts used for these test were stored in a non-temperature controlled warehouse facility and subsequently exposed to the normal range of temperatures that these products will be exposed to throughout there life cycle. There are no amenable structural effects due to “normal environmental temperatures” that will effect the strength of these parts.

(24" Heavy Cover - P/N 3008-HD)

Static Load Test Method - Part was placed a 24" riser (P/N 3008). A 6" metal disk was used to distribute the load across the center of this cover.

Load	Deflection	Observation	Over All Results
500 lbs	3/16" deflection	no amenable rib deformation	PASSED
1000 lbs	3/8" deflection	no amenable rib deformation	PASSED
1500 lbs	5/8" deflection	no amenable rib deformation	PASSED
2000 lbs	3/4" deflection	no amenable rib deformation	PASSED
2500 lbs	1-1/8" deflection	no amenable rib deformation	PASSED
3500 lbs	2" deflection	no amenable rib deformation	PASSED
4000 lbs	2-1/4" deflection	detectable rib deformation	PASSED
4500 lbs	2-1/2" deflection	rib deformation	PASSED
5000 lbs	2-3/4" deflection	rib deformation	PASSED

5000 lbs was the max load of our testing rig. Although the cover deflected significantly it did not rupture / fail at that loading.

Center Impact Load Test Method - Part was placed a 24" riser (P/N 3008). A 10 lbs. 2" diameter steel rod within a guide tube was raised incrementally and dropped onto center of cover surface.

Load Rating	Observation	Over All Results
50 ft lbs	small part dimple blemish	PASSED
70 ft lbs	small part dimple blemish	PASSED
110 ft lbs	small part dimple blemish	PASSED
150 ft lbs	small part dimple blemish on cover surface. Stress fractures and cracking of ribbing accrued in the inside of this part	PASSED

(24" Heavy Cover - P/N 3008-HD)

Off Center Impact Load Test Method - Part was placed a 24" riser (P/N 3008). A 10 lbs. 2" diameter steel rod within a guide tube was raised incrementally and dropped off center onto top cover surface.

Load Rating	Observation	Over All Results
50 ft lbs	small part dimple blemish	PASSED
70 ft lbs	small part dimple blemish	PASSED
110 ft lbs	small part dimple blemish	PASSED
150 ft lbs	small part dimple blemish on cover surface. Stress fractures and cracking of ribbing accrued in the inside of this part	PASSED

150 ft lbs was the max load of our testing rig. Although the top surface of this cover was damaged by the impact load it did not rupture this part.