

MDI specializes in manufacturing quality corrugated plastic products that help businesses push, pull, store and transport products across the country. Whether you need a reusable container for closed loop distribution or a custom packaging application, MDI has a competitively priced solution that will keep your business moving forward.



Comparison Test

		Polypropylene	Polyethylene	Kraft Cardboard	Unit
Thickness		4mm	4mm	4mm	lbs/MSF
Density		0.9	0.947	n/a	g/mL
Impact Resistance		14	19.2	5.6	in.lbs
Mullen Burst		300+	218.2	116.8	psi.
Edgewise Crush		86.9	55.5	37	lbs/inch
Water Absortiveness	COBB	7.7	1.6	75.8	g/m2
Box Compression	Vertical Flutes	980.8	472.9	529	lbs.
	Deflection	0.682	0.495	0.485	in
	Horizontal Flutes	841	139.9	162	lbs.
	Deflection	1.553	0.306	0.342	in
Handle Strength	Weight in Box	100	50	40	lbs.
	Total Jolts	100	97	3	

Test Definitions

Density

Measurement of weight per mL of water displaced when sample is submerged in water. Measurements were conducted in accordance with applicable sections of ASTM D792, "Standard Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement", Test Method A.

Impact Resistance

A weight is dropped from different heights to determine the energy needed to crack or break a sample. Testing was conducted in accordance with applicable sections of ASTM D5420, "Standard Test Method for Impact Resistance of Flat, Rigid Plastic Specimen by Means of a Striker Impacted by a Falling Weight (Gardner Impact)". Test Geometry GE was used. Testing was conducted after refrigerated conditioning for 24 hours.

Handle Strength

Boxes were loaded with 20 lbs and handles were jolted 100 times before proceeding with more weight. Each package was conditioned for a minimum of 24 hours to lab ambient conditions prior to testing. All packages were tested immediately upon removal from conditioning. The NSDA Drop/Jolt fixture was set for a 1.5-inch jolt. Each container was loaded with an initial 20 lbs. and if testing reached 100 jolts an additional 20 lbs. was added until failure.

Mullen Burst

The amount of pressure required to cause a corrugated board to rupture. Testing was conducted in accordance with applicable sections of TAPPI T810, Bursting Strength of Corrugated and Solid Fiberboard.

Edgewise Crush

Force is applied perpendicular to the flutes and maximum force is recorded. (compressive strength of small sample). Testing was conducted in accordance with applicable sections of TAPPI T839, Edgewise Compressive Strength of Corrugated Fiberboard (Clamp Method).

Water Absortiveness

Measures the amount of water absorbed by material after a specified time of submersion. Testing was conducted in accordance with applicable sections of TAPPI T441, Water Absorptiveness of Sized Paper, Paperboard and Corrugated Fiberboard (Cobb test).

Box Compression

Empty boxes were compressed until failure. Testing was conducted in accordance with applicable sections of TAPPI T804, Compression Test of Fiberboard Shipping Containers. Five (5) empty cartons were compressed in a top-to bottom orientation until a 10% drop in load from peak was detected.

MDI's commitment to sustainability

MDI's portfolio of plastic containers offers a reusable solution to businesses in any industry. Our products are made of high-quality polypropylene or polyethylene material and are 100% recyclable.

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