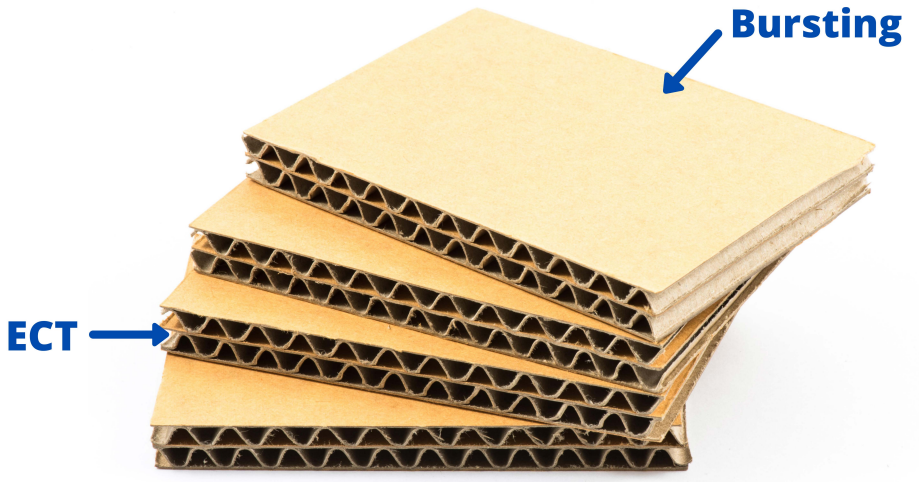
Bursting Strength vs. Edge Crush Test

Determining strength factors of a corrugated box is important because it can affect the protection and presentation of your product. If the box is too weak, the box may puncture or collapse. If the box is too strong, you might be paying for more material then needed. When determining the strength of a box, the corrugated box industry uses two test, the Bursting (Mullen) Strength Test and the Edge Crush Test (ECT).

The Bursting Test is reported in pounds and is related to the handling durability of the box material. It is measured and determined by the force required to puncture or rupture the actual corrugated box. Unlike the Edge Crush Test, this Bursting Test is unrelated to the ability of the board to withstand internal or external forces to the box.

The Edge Crush Test is reported as an ECT value and is related to the stacking strength of the actual box. It is measured and determined by compressing a piece of the box on edge between two plates perpendicular to the direction of the flutes until a peak load is determined.



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Below are tables that report Bursting Test measures, Edge Crust Test measures, and the Suggested Loading Limit per Box. Note that the Edge Crush Test gives a *minimum* value because corrugators may use different types of formulas to determine the ECT for each corrugated box.

Corrugated Board Strength Equivalencies: Single Wall Corrugated

Bursting Test	Min. Edge Crush Test	Max. Suggested Loading Limit Per Box
175#	29 ECT	50 pounds
200#	32 ECT	65 pounds
275#	44 ECT	95 pounds

Corrugated Board Strength Equivalencies: Double Wall Corrugated

Bursting Test	Min. Edge Crush Test	Max. Suggested Loading Limit Per Box
200#	42 ECT	80 pounds
275#	48 ECT	100 pounds
350#	51 ECT	120 pounds
400#	61 ECT	140 pounds
500#	71 ECT	160 pounds

Corrugated Board Strength Equivalencies: Triple Wall

Bursting Test	Min. Edge Crush Test	Max. Suggested Loading Limit Per Box
1100#	90 ECT	280 pounds

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