Sustainable Materials
PROS AND CONS

	PROS	CONS
Virgin PETG (Polyethylene terephthalate glycol)	When extreme precision and accuracy are required, virgin plastic is a better option than recycled. Virgin PTEG is produced under immense heat and pressure producing a stronger molecular structure than recycled PETG, which can become weaker in high heat. Resin is mostly crystal clear. Printing adheres better to virgin PETG than recycled PETG.	Producing virgin plastics uses a large amount of energy and water. Cost is 7-13% more than recycled PETG. When sent to a landfill, it can take decades to break down virgin PETG. In landfills, PETG products break down into microscopic fragments that pollute the oceans and world's water supply, threatening aquatic life.
Recycled PETG (Polyethylene terephthalate glycol)	Quality is almost equivalent to that of virgin resin. Saves on costs for the product as well as for the resin manufacturer. Cost is 7-13% less than virgin PETG material. Replacing new plastic with recycled plastic can reduce greenhouse emissions by 70%. Using recycled plastics instead of virgin reduces the use of fossil fuels and landfills. Opportunity to brand products as "eco-friendly."	There may be certain cosmetic issues such as yellow tinting or black flecks in the recycled material. Material can weaken in high heat molding. Can have issues with scratch-prevention liners not staying adhered to the material.
Virgin Acrylic: Clear White 2447 White 7508 Black 2025 P-95 Clear	Clear virgin acrylic is one of the most transparent plastics available, with light transmittance percentage of 92%. It is UV-resistant and offers weatherability. It has been known to last up to 30 years without yellowing when used outdoors. Virgin acrylic is produced under immense heat and pressure yielding a stronger molecular structure than recycled acrylic. Cost is 30-50% less than recycled acrylic.	Acrylic products do not decompose easily in landfills and can take centuries to breakdown. During the manufacturing process, there's a release of highly toxic gasses requiring workers to wear protective clothing and equipment. Acrylic is the least recycled plastic due to the lack of facilities to recycle it properly.
Recycled Acrylic Clear White 2447 White7508 Black 2025 P-95 Clear	Clear recycled acrylic has light transmittance of 92%, like virgin acrylic. It is UV-resistant and warranted against yellowing, like virgin acrylic. Adheres to the standards and guidelines for LEED V4.1 Leadership in Energy and Environmental Design. Fabricates like 100% virgin material. Ok to cut, route, laser, polish, thermoform, print, glue. Made from 100% recycled material. Available in two sizes (48" and 96" sheets) and six thicknesses.	Cast material only. Cannot be extruded. Cost is about 30-50% higher than virgin acrylic. The process to create recycled acrylic requires special handling and equipment. Few manufacturers provide a recycled product line, so limited availability.

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InStore DESIGN•DISPLAY

	PROS	CONS
Virgin + Partial Recycled Corrugated Box Plain Brown Box Not 100% recycled	All corrugated boxes offer some percentage (30-50%) of recycled materials mixed with virgin materials. Virgin corrugated fibers are longer and stronger than their recycled counterparts, thus making them a better option for heavy-duty boxes and those that need to travel long distances. Corrugated boxes with virgin materials hold up better against heat and moisture than 100% recycled corrugated boxes, meaning they offer superior protection to products stored in humid conditions. An all-around better box. Can be made in white.	Creation of corrugated boxes with virgin materials requires more deforestation. The manufacturing process for corrugated boxes with virgin materials is more energy and water intensive than the process for 100% recycled corrugated boxes. Modern consumers want businesses they patronize to be as environmentally conscious in their choice of boxes as possible. Cost for a corrugated box with virgin material is 10% higher than one made with 100% recycled corrugate.
100% Recycled Corrugated Box	100% recycled corrugated boxes reduce rates of deforestation and are very easy for end users to recycle. When corrugated material is recycled, it is reused instead of going to a landfill where packaging materials account for as much as one-third of all landfill materials. Keeping boxes out of landfills also reduces the amount of methane emitted when they decompose. Consumers desire sustainable, eco-friendly materials. Cost corrugated box with 100% recycled corrugate is about 10% lower than one made with virgin corrugate.	A white box cannot be made. A 100% recycled corrugated box is weaker. Making it more susceptible to warping or crushing. Not all tapes (e.g., clear acrylic tape) adhere well to 100% recycled corrugated material. Lower quality inks may bleed when printed on 100% recycled corrugated material, thus requiring higher quality and more costly ink. Labels tend to have a difficult time sticking to boxes made from 100% recycled corrugated material.

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