

# ADVANTAGES & DISADVANTAGES OF PLASTICS



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## ADVANTAGES

## DISADVANTAGES

## COMMON USES

### Polystyrene

Good impact resistance, machine-able, low cost, FDA compliant, bright white, multiple opacities, formable, good general-purpose use, recyclable

Poor solvent resistance, can become brittle, can crack under environmental stress, poor thermal stability, does not score and fold well

Signage, packaging, molded applications, POP, cost-effective general-purpose use, backlit applications

### Polypropylene (Synthetic Paper)

Superior clarity for clear products, good chemical resistance, flexibility, recyclable, soft hand feel, scores and folds very well, FDA approved for indirect food contact

Difficult to bond, can suffer from UV degradation, high thermal expansion and shrinkage, less tear resistant than PVC or PET

Tags, synthetic menus, signage, package, low-cost high-clarity applications

### Rigid Vinyl (PVC)

Excellent durability, easy to use, most widely used print plastic, resistance to UV degradation, good rigidity, low flammability (resists ignition)

NOT SUITABLE FOR LASER CUTTING, not considered environmentally friendly in most applications, lower thermal stability, does not score and fold well

Signage, gift cards, credit cards, general-purpose plastic, applications requiring good rigidity, POP, shelf wobblers

### PET (Polyester)

High impact resistance, high optical clarity, high toughness, good chemical resistance, higher heat stability

Lower impact strength than PETG, can be difficult to cut, expensive

Button panel, nameplates, packaging, high-heat applications (heat-stabilized varieties)

### Polycarbonate

High impact strength, high heat stability, high clarity, very durable, formable, unbeatable strength

Often over-engineered for the application, prone to stress cracking, requires high processing temperatures, toxic chemicals used to produce, expensive

Nameplates, overlays, button panels, harsh-environment products, outdoor weatherable applications

MGX is a leader in specialty substrate manufacturing offering a variety of sizes, gauges, and functionality to meet specific job requirements. Substrates are engineered for HP Indigo and dry toner digital presses. We are North America's first and only HP-authorized treatment facility for HP Indigo and serve customers worldwide. With over 30 years of experience, our team's customer service is as fine-tuned as the quality products we supply.