

2026 Material Comparison

A comparative reference on hardside and softside luggage materials — cost, weight, durability and repairability — for brands specifying a new shell or body.

Issued by	CARRYON [®] — luggage supply chain partner, Shenzhen
Applies to	Hardside shells and softside body fabrics
Version	2026 edition
Basis	Comparative index, not a price list

How to use this document

- Cost figures are stated as a comparative index, not as prices. Material markets move.
- A quote for the same named material can differ by grade, thickness and supplier.
- Durability here means resistance to the failure modes customers actually report.
- Repairability is a commercial decision as much as a technical one.

How to read the index

Cost is expressed as an index with polycarbonate set at 100. An index of 60 means the material typically sits materially below polycarbonate on raw material cost at comparable specification, not that the finished case costs 40% less — hardware, labour and packaging dilute the difference. All figures are comparative and indicative for 2026; confirm current pricing with your supplier before committing to a cost model.

Hardside shell materials

Material	Cost index	Weight	Impact resistance	Repairability	Best fit
Polycarbonate (PC)	100 (baseline)	Moderate	High — flexes and recovers	Dents rather than cracks; often pushed back	Premium carry-on; brands selling durability
PC blend	80-90	Moderate	Good, below pure PC	Similar to PC	Mid-tier lines balancing cost and resilience
Polypropylene (PP)	55-70	Lower	Moderate — stiffer, can crack	Limited	Volume programmes, price-led tiers
ABS	40-55	Lower	Lowest — cracks under point impact	Poor	Entry price points, low-return channels
ABS with PC film	55-70	Lower	Improved surface, core still ABS	Poor	Visual upgrade at entry cost

Material	Cost index	Weight	Impact resistance	Repairability	Best fit
Aluminium	180-260	Highest	High — deforms rather than shatters	Dents can be worked out	Premium and heritage positioning
Recycled PC / PP blends	90-120	Moderate	Depends on feedstock and blend	As per base polymer	ESG-led lines; verify traceability documentation

Discussions about 'polycarbonate' without a grade and thickness are not technical discussions. Two factories quoting PC can be quoting materially different products.

Softside body materials

Material	Cost index	Abrasion	Water resistance	Repairability	Best fit
Nylon 6 / 6.6 (denier-led)	100-140	High	Moderate, coating-dependent	Good — patching is straightforward	Business and premium softside
Polyester (600D / 900D)	55-80	Moderate to high at higher denier	Moderate	Good	Volume softside, mid-market
Recycled polyester (rPET)	65-95	Comparable to virgin at same denier	Moderate	Good	ESG-led softside lines
Canvas / cotton blends	70-100	Moderate	Low without treatment	Good visually	Casual and lifestyle positioning
Coated / TPU-laminated fabric	130-190	High	High	Moderate — lamination complicates repair	Weather-exposed use cases

The four specification decisions that matter more than the material name

Decision	Why it changes the outcome
Denier and weave (softside)	A higher denier at the same material name changes abrasion performance more than switching material families
Thickness and wall structure (hardside)	Shell thickness and ribbing decide impact performance; grade alone does not
Coating and lamination	Drives water resistance and colour fastness — and usually decides repairability
Hardware material and grade	Wheels, trolley tubes and zippers fail more often than the body material in customer returns

In practice, returns are driven by hardware and assembly as often as by the shell or fabric. Specifying an expensive body material while leaving the wheel specification open is a predictable way to lose the durability argument you paid for.

Sustainability claims: what to verify before you publish

- Ask for the recycled content percentage and the source of the feedstock, in writing.
- Ask which standard the claim is measured against, and who verified it.
- Check whether the traceability documentation covers the whole chain or one step of it.
- Confirm what the claim covers — the shell only, or the finished product including hardware.
- Keep the wording on your product page proportionate to the documentation you hold.

An unverified sustainability claim is a compliance risk in most Western markets, and a reputational one everywhere. The documentation standard is higher than the marketing standard, and the gap is where brands get caught.