

Carry-On Spec Guide

How to write a carry-on specification a factory can quote accurately — dimensions, tolerances, materials, hardware and the tests your product has to survive.

Issued by	LuggagePro — luggage supply chain partner, Shenzhen
Applies to	Hardside and softside carry-on programmes
Version	2026 edition
Companion documents	Global Carry-On Sizer Chart; 40-Point Factory Evaluation Checklist

How to use this document

- Write the spec for the factory's line-side operator, not for your marketing page.
- Every dimension needs a tolerance. A dimension without a tolerance will be argued about later.
- Where a decision is still open, mark it TBD and date it — do not leave it blank.
- Send the spec as a numbered revision, and retire the old one explicitly.

1. Why a vague spec costs more than a detailed one

A factory quotes what it can read. If the specification leaves the shell gauge, the wheel durometer or the zipper size implied, the factory will quote the cheapest reasonable reading of it — and the sample will be approved on that reading. The cost of the ambiguity does not disappear; it moves to the first production run, where it is far more expensive to correct. A spec that takes two extra days to write is the cheapest insurance in the programme.

2. Identification block

Field	What to write	Example format
Spec revision	Number and date. Supersede the previous revision explicitly.	Rev 03 / 2026-09-24
Brand / programme	Brand name and programme code	Brand X / Program A-1
Category	Product type and construction	Hardside 20in 4-wheel
Target market	Drives the compliance block	US / EU / UK
Order quantities	Per colourway and total	Qty per colour / total
Approved sample ref	Links the spec to the physical golden sample	Sample ref + approval date

3. Dimensions and tolerances

Overall dimensions must be stated as measured-versus-nominal, with the measurement method. Airline sizers measure the outside of the packed case including wheels, handles and any exterior pocket. A case specified at 55 cm overall but measuring 57 cm to the top of the trolley handle will fail a sizer gauge even though the body is correct.

Dimension	Nominal	Tolerance	Measure to
Body height	___ mm	± ___ mm	Case body only
Overall height	___ mm	± ___ mm	Including wheels and handle
Width	___ mm	± ___ mm	Widest point
Depth	___ mm	± ___ mm	Closed, empty
Packed weight	___ kg	± ___ kg	Fully packed

State whether the tolerance applies to the body, the assembly, or the packed case — the three are not the same, and the difference is where disputes live.

4. Materials block

Component	Specify	Do not leave open
Shell	Polymer type and grade, thickness, texture, colour reference	'Polycarbonate' alone — grade and thickness decide performance
Frame / midframe	Material, join method, seal type	How the two halves are joined and sealed
Lining	Fabric composition, weight, colour, whether it is removable	'Standard lining'
Zippers	Size, type, slider brand or equivalent, puller design	The zipper size and whether it is a security type
Wheels	Diameter, material, durometer range, bearing type, replaceability	Whether wheels are user-replaceable
Trolley system	Tube material, stage count, locking mechanism, handle grip material	Handle wobble tolerance under load
Handles / grips	Material, attachment method, load rating	Carry handle static load requirement
Interior hardware	Divider, straps, compression system, buckles	Buckle load rating

5. Test requirements to name in the spec

Naming the test and the acceptance criterion in advance is what turns a quality discussion into a measurement. The tests below are the ones most commonly requested by Western retail and marketplace programmes; confirm the exact method and pass level with your testing partner and your buyer before the first run.

Test	What it checks	Typical acceptance basis
Handle static load	Carry and trolley handle attachment under sustained load	No failure, no permanent deformation at the agreed load
Trolley handle fatigue	Extend / retract cycles and locking reliability	Full function retained at the agreed cycle count
Wheel roll and obstacle	Wheel and axle durability over distance and kerbs	No loss of function; wheel retained
Drop / impact	Shell and corner impact performance	No cracking or separation at the agreed drop height and orientation
Zipper durability	Slider and tape under repeated open / close	No jamming or tape separation at the agreed cycle count
Colour fastness / grading	Colour consistency against the approved standard	Within the agreed grey-scale grade against the master standard
Chemical compliance	Restricted substances for the destination market	Test report from an accredited laboratory, in date

Set your own numbers for load, cycle count, drop height and grade in the specification. Do not copy a competitor's figures, and do not let the factory propose the acceptance level for its own product.

6. Packaging and labelling block

- Retail packaging: type, dimensions, artwork reference, materials and print method.
- Master carton: dimensions, board grade, burst strength, units per carton, carton weight limit.
- Carton markings: shipping marks, SKU, colourway, country of origin, carton sequence numbering.
- Polybag and inserts: thickness, warning text per destination market, desiccant or not.
- Barcode and label: symbology, placement, and who supplies the artwork.

7. Revision control

Every change after sample approval must be issued as a numbered revision, with a short change log at the foot of the document stating what changed and why. A specification that is edited in place has no history, and no way to establish which version the factory actually built to. When a revision is issued, state explicitly that it supersedes the previous one and require written acknowledgement from the factory.

Handing a factory a specification they cannot quote accurately is not a test of their ability. It is a test of your document.