

Backpack Spec Sheet Template

The clauses that decide whether a backpack is built to your standard or to the factory's closest match
Version 1.0 · 17 September 2026 · Built from the construction language behind our own backpack programmes

Why this document exists

A backpack specification usually fails for one of two reasons. Either it lists **nouns** instead of specifications, or it describes the bag only from the outside. `D-ring` is a noun; **25 mm inner-width D-ring, on the shoulder-strap adjuster** is a specification — and only one of those two can be quoted against accurately.

The second failure is structural. A backpack is a load-bearing frame worn on a body. Weight travels from the shoulder straps into the **strap roots**, and from there into the bag. Almost every field failure begins at a strap root, which is why the reinforcement clauses in section 3 matter more than the fabric clause.

This template gives you the fill-in-the-blank blocks in the order a factory quotes them, then the terms your factory already uses — so you and the sample room are speaking one language.

1 · Hardware: specify by inner strap width, in millimetres

Webbing hardware is sized by the **inner width of the strap it takes**, not by the outer shape. Three widths cover almost everything on a backpack. Write the millimetres on every line of the sheet.

Inner width	Typically used on	The four parts you will need to name
20 mm	Lightweight and compact bags, decorative straps, small closures	D-ring · swivel snap hook
25 mm	The workhorse: shoulder straps, sternum straps, lid compression	Centre-bar buckle · strap adjuster
30 mm	Load-bearing straps on larger bags, waist belts, haul loops	Ladder-lock · triangular ring

All hardware on one strap must share a single inner width. A 25 mm D-ring on a 25 mm strap, with a 20 mm adjuster, is the most common cause of a reworked first sample — and it is invisible on a flat drawing.

2 · Fabric: fibre, weave, coating and finishing — not the D number

A D number describes yarn thickness. It is not a performance grade. Durability, weather resistance, hand-feel and packability come from the fibre, the weave, the coating and the finishing taken together. A spec that names a fabric and stops there has left every one of those decisions to the factory.

D number	Where it usually belongs	Fibre and weave decide the rest
210D	Linings, stuff sacs, internal pockets	Nylon — light, tough, abrasion-resistant
420D	Daypacks, commuter and laptop bags	Polyester (PET) — abrasion and UV resistant, easy care, cost-effective
600D	The common main body fabric for backpacks	Polyester Oxford — durable and cost-effective, holds shape
900–1200D	Bodies that see abrasion; tool and travel bags	Ballistic nylon — dense, coarse-denier, built for business bags
1680D	Base panels, corner panels and other wear points	Ripstop — a weave that stops a tear spreading
—	Felt, neoprene and microfibre for laptop liners	Canvas — heavy plain weave, matte and structured

Two clauses that catch buyers out

Ripstop is a weave, not a waterproofing claim. A ripstop fabric resists a tear spreading through it; whether it sheds water depends on the coating and the finish, which are separate clauses.

Recycled content is a fibre source, not a performance grade. Do not assume a recycled yarn performs like virgin yarn of the same number — specify the recycled content as a target alongside the fibre, the weave and the finish, and test the submitted swatch.

3 · The carry system — six clauses that must be written

This is where a backpack differs from every other bag. Leave any of these six to the factory and you will get a schoolbag. Each clause below is a line you can paste into section 5 of your spec sheet.

Clause	What to write	Why it decides the product
Shoulder strap form	S-shaped or J-shaped , following the shoulder, neck and chest curve. Not straight	Straight straps are the single clearest sign of a bag designed on a flat drawing
Contact face	Foam padding under mesh — sandwich mesh or 3D spacer mesh — against the body	A bare webbing face carries load but does not carry comfort; it is also the cheapest thing to substitute
Sternum strap	One sternum strap between the two shoulder straps, with a side-release buckle, adjustable, at chest height	Stops the straps sliding outward under load. Its absence is a fit complaint
Load-lifter strap	One load-lifter (load-control) strap per shoulder strap, angled from the top of the strap to the body, adjustable	Sets the angle of the bag against the back. Without it the load hangs off the shoulders
Back panel	Sectioned padding with a mesh face and ventilation channels — not one flat panel	Breathability is a structure, not a fabric choice. Channels must form a continuous path for air
Strap roots	Box-X bartack at both ends , face side, plus internal reinforcement fabric on the reverse face	Every strap root is a stress concentration. This is where field failures happen

A word on the top handle. On a backpack the top handle is a webbing or soft-goods handle, reinforced at both ends — not a moulded hard-shell handle. Specify the form, the attachment method and the internal structure separately: a handle is three decisions, not one.

4 · The reinforcement vocabulary your factory already uses

These are the terms the sample room and the line already use. Using them removes the translation step between your drawing and the operator's hand — and the first column is the phrase to write in the spec.

Strap and root reinforcement	What it does
Bar-tack / bartack	Dense zigzag lock at a stress point. The default reinforcement
Box-X stitch	A square with an X inside. The standard for wide, heavily loaded webbing
Backstitch	Reverses over the seam end. Stops a seam running open
Triangle stitch	A triangular run of stitching across a D-ring tab
Double parallel stitching	Two rows of stitching along a strap edge
Leather patch reinforcement	A leather tab stitched over the attachment point
Fold-back webbing	The strap end folded back on itself and stitched
Sandwich webbing	Webbing sandwiched between two layers of fabric before stitching
Binding tape reinforcement	A binding tape wrapped over the raw edge at the joint
D-ring triangular tab	A triangular fabric tab holding the D-ring to the body
Internal reinforcement fabric	A stiffening panel inside the bag behind the attachment
Rivet fastening	A metal rivet through the joint, usually alongside stitching

Tack and seam terms worth naming	Where it belongs
Single / double cross tack	Short tacks at the end of a narrow strap
Box tack, box-X tack	Wide, load-bearing webbing; the strongest of the tack family
Chevron tack (herringbone)	Decorative and functional tacks on webbing ends
End reverse tack, binding tack	Finishing a webbing end or a bound edge
Flat-felled seam, French seam	Enclosed seams on a visible or fraying edge
Double-needle flat seam, coverstitch	Load-bearing seams on heavy fabric
Topstitching, edge stitching	Single or double stitching run for strength and finish
Notching, skiving	Relieving an inward curve; thinning a thick edge on a curve

5 · Clauses to paste into your spec sheet

Fill in the blanks before you send it. An unfilled blank is a factory decision, not a specification.

Shoulder straps: S-shaped, foam-padded, mesh contact face.

Strap roots: box-X bartack at both ends on the face side, plus internal reinforcement fabric on the reverse face.

Sternum strap: side-release buckle, adjustable, at chest height.

Load-lifter strap: one per shoulder strap, adjustable, connecting the top of the strap to the body.

Webbing and hardware: one inner width across the whole bag: ____ mm.

Webbing ends: finished with strap keepers or bartack. No loose raw ends.

Main compartment: two-way zipper. Lid, front and side pockets: separate zips.

Laptop compartment: separate, foam-padded, not a single open pocket.

Base panel: 1680D or reinforced corner panels at the wear points.

Shell and lining: confirmed against the submitted swatch - fibre, weave, coating and finish - not against the fabric name or the D number.

6 · Fourteen things that go wrong on the drawing and in the spec

The error	What the sample room should be told
Shoulder straps drawn as flat parallel boards	S-shaped or J-shaped, following the body curve
No sternum strap	Sternum strap with a side-release buckle, at chest height
No load-lifter strap	One load-lifter strap per shoulder strap, angled to the body
Glossy webbing, or bare webbing at the contact face	Matte webbing throughout; mesh or foam contact face
Strap roots with no reinforcement	Box-X bartack at both ends, both faces
Top handle drawn as a moulded hard-shell handle	Webbing or soft-goods handle, reinforced at both ends
Single-pull main zipper	Two-way main zipper; separate zips for lid, front and side
Back panel as one flat panel	Sectioned padding, mesh face, ventilation channels
No base reinforcement	1680D or reinforced corner panels at the wear points
Webbing ends raw or floating	Strap keeper or bartack finish on every end
Laptop compartment as one open pocket	Separate padded compartment with its own closure
Mixed hardware widths on one strap	One inner width on every item, written in millimetres
Fabric specified by name or D number only	Fibre, weave, coating and finish, against a signed swatch
No test list at all	Requirements listed, with the method to be confirmed by your laboratory

7 · Before you send it

- 1. Fill in every blank.** A blank is a decision you have handed to the factory, and it will be made on cost.
- 2. Attach the swatch, sign it, and keep the signed swatch on site.** The fabric clause means nothing without a physical reference both sides have signed.
- 3. Ask for a pilot sample and check the strap roots first** — before the fabric, before the logo. Load the bag and look at the

roots.

4. **Write your test list as requirements, and let your laboratory name the method.** List what has to pass — strap-root strength, seam strength, abrasion, colour fastness, hardware durability — and have the lab map each one to the current published method and confirm its edition before it goes into a purchase order.
5. **Attach the spec, the acceptance criteria and the inspection plan to the purchase order.** A specification that is not attached to the order is advice, not a requirement.

8 · What to check on the pilot sample, in order

Work down this list before you look at anything cosmetic. The pilot sample is the cheapest chance you will get to find a structural error — and the decorations are what everyone looks at first.

#	Check	A pass looks like	A fail looks like
1	Load it first	Six to eight kilograms in the main compartment before you judge anything	You judged an empty bag — which hides every structural error
2	The strap roots	Box-X bartack on the face, both ends of both straps, fabric flat around it	A single straight stitch run; puckered fabric; a gap between tack and seam
3	The shoulder straps under load	The straps sit on the shoulder and the bag hangs against the back	Straps slide outward, or the bag pulls backwards off the shoulders
4	Sternum strap	At chest height, adjusts freely, holds position under tension	Too high or too low, or the buckle releases under load
5	Load-lifter straps	One per strap, adjustable, and adjusting it visibly changes the bag's angle	Absent; decorative; or anchored to the body instead of the strap top
6	Webbing ends	Strap keepers fitted, or a bartack finish — ends flat, sealed, no tails	Raw cut ends, loose tails, or heat-sealed ends gone hard and sharp
7	Hardware widths	Every item on a strap takes the same strap width, as specified	A 25 mm ring mated to a 20 mm adjuster; the strap bunches at the buckle
8	The base panel	1680D or reinforced corner panels at the point the bag is set down	The same 600D as the body, exactly where the abrasion is
9	Zips under load	The main zip runs with the bag full; two-way pulls meet cleanly	The zip binds at the corner; the pull twists; the slider skips a tooth

None of the nine is cosmetic, and none of them can be fixed after the pattern is cut. That is the whole argument for inspecting the pilot sample rather than the production run.

A note on what this is not. This template is a commercial checklist. It is not a standard, it is not a specification, and it is not legal advice, and nothing in it states or implies a requirement of any regulation. **No test method is cited here by name or number, deliberately** — a method number that has not been verified against your product is worse than no number at all, so the test clauses are left for your own laboratory to map and confirm. Where a material or component is named, the submitted and signed swatch governs. Confirm every clause with your own factory and your own laboratory before it goes into a purchase order.