MATERIALS COMPANION — WHAT IT'S ALL FOR

Companion to the Materials Checklist — same categories, same order · Colorado Springs Utilities · July 2026

INSULATION MATERIALS

Dense-pack cellulose - The product: recycled fiber, borate-treated for fire/pests/mold. The coverage chart printed on the bag IS the density spec — hit the chart, hit 3.5 lb/ft³.

Dense-pack fiberglass - Alternate material where the spec calls for it. Its own density lane (1.8 - 2.6 lb/ft³) and only dense-pack-rated product qualifies.

InsulWeb / netting - Air-permeable containment for open cavities (FOG, netted walls): lets air escape, keeps fiber in. Not structural — a proper pack is self-supporting.

Extra bags - The calibration box eats material, waste happens, and running short mid-wall is how density discipline dies.

DELIVERY SYSTEM

3-in. hose, 50 ft min. - The throughput leg. Length is functional: fiber needs distance to spread evenly in the airstream — short hose sends slugs, slugs clog.

2.5-in. + 2-in. hose - The staged step-down that keeps fiber moving as diameter shrinks toward the fill tube.

Reducers - Gradual transitions (3 > 2.5 > 2 > tube). Every abrupt diameter jump is a clog factory.

Fill tubes (1 - 1.25 in.) - The whip — the last few feet where density is actually made. Summer/winter grades keep it snakeable but stiff; bevel cut slides past obstructions; 1-ft marks make it a depth gauge.

Clear tube section - A window into the flow: watch material move, spot a clog forming before the hose packs solid.

Duct tape - Smooth, airtight joints that separate with one box-cutter pass. Clamps cut hands and take too long — the slide's own rule.

Hose couplers + spares - Field repairs; a leaking joint is invisible pressure loss, and pressure is density.

Remote controller - Lets the installer at the wall run air and material independently: pack out, stop, move the tube, restart — without shouting to the truck.

MACHINE & POWER

Blowing machine - The pressure source. If it can't hold 2.9 psi (80 in. w.c.) deadheaded at the takeoff, it cannot dense-pack — no technique fixes it.

Spare airlock seals - THE wear part. Worn seals let air short-circuit back into the hopper: the symptom is density that won't come up. First suspect when pressure sags.

Spare air filters - Protect the blower intake in a dust storm of a trade. Dirty means it worked — swap it.

Machine hand tools - Seal swaps and adjustments happen in driveways, not shops.

Generator 9 kW+ - The blower's appetite. Weak power = low pressure = low density.

10-AWG short cords - Long, skinny cords drop voltage; motors compensate with amps; amps make heat; heat kills blowers. Short and fat.

Pressure gauge + tee - Proves the 2.9 at the takeoff AND at the tube end — a drop between them means leaks.

GFCI protection - Power tools, damp exteriors, long cords. Non-negotiable.

DRILLING & ACCESS

1/2-in. low-RPM drill - Torque tool for 2 - 3 in. holes at 400 - 600 RPM. The side handle is the kickback plan; the backup drill is the schedule plan.

Forstner bits - Clean, splinter-free holes — rim shears fibers before the center cuts. Clean holes = clean patches.

2.5-in. carbide hole saws - Through siding-and-sheathing stacks; carbide survives nails. Save every plug — it's the patch.

2-1/8-in. hole saw - Opens the sheathing for a core sample when QC escalates that far.

Zip tool - Unlocks vinyl and aluminum siding laps without destroying them. Cold vinyl is brittle vinyl — patience in winter.

Flat bars / trim pullers - Lifting siding courses and trim for access, reinstallable.

Chisel + end nippers - The asbestos-siding method: walk the nail head up, pull the nail straight out. Never drill, cut, or bend transite.

Stud finder + magnets - Magnets find the fastener lines; fastener lines find the studs — from outside, through sheathing.

Borescope - See inside the cavity before committing: existing batts, blocking, wiring, surprises.

Probe rod / fish tape - Maps the cavity through the drilled hole — top and bottom, every bay. No probe, no blow.

Chalk line - Aligned cantilever holes. 'Ugly is not sustainable' — the holes are your signature.

Tape measure - Cavity depths for density math; heights for the 50% water-line rule.

Non-conductive ladders - You're drilling blind into walls that may hold unknown wiring.

Utility knives - Netting, tape, bevel cuts, drywall scoring.

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SEALING & BLOCKING

Cardboard stock - Cheap dams that convert an open floor system into cavities you can actually pack — stapled and foamed.

Rigid foam sheets - Stiffer dams, and the 'tents' that keep water lines on the warm side of the pack (the 50% rule).

Stapler + staples - Netting attachment at ~3-in. spacing — tight enough to hold blower pressure without bulging.

Foam gun + canisters - Air-seals dams, band joists, and plumbing penetrations BEFORE material flies — seal, then insulate.

Caulk / sealant - Finish seals at plugs, trim boards, and penetrations; interior and exterior grades.

Duct mastic + brushes - Seals panned returns before packing. A leaky return in a FOG becomes a fiber vacuum.

Housewrap tape - Repairs the drainage plane where exterior holes cut it — the wall still has to shed water.

PLUGGING & PATCHING

Tapered wood plugs - Driven snug into sheathing holes; the friction fit outlasts foam alone.

Foam plugs - Fast closure for interior holes and odd sizes.

1x4 pine trim - Cantilever hole covers that read as intentional trim. Real wood — exterior moisture turns MDF to oatmeal.

Ext. caulk + backer rod - Seals plugs and trim into the weather barrier.

5/8-in. Type X drywall - Restores the garage-ceiling FIRE SEPARATION the FOG cut opened (IRC R302.6). 'Some drywall' fails inspection; Type X passes.

Screws, mud, tape - Drywall repairs fastened and finished to code and to customer standards.

Plaster patch - Interior blows in older homes end in plaster, not drywall.

Sheathing scraps - Sometimes replacing a strip beats plugging a row of holes.

Paint touch-up kit - The customer never remembers your density — they remember the finish.

PROTECTION & CLEANUP

Drop cloths - Interior blows shed fiber everywhere the hose goes.

Corner guards - A dragging hose chews painted corners in one pass.

Plastic + painter's tape - Containment for the dust that finds every open doorway.

Dust-collar rags - Wrapped at the tube-to-hole joint: kills blowback at the source.

Shop vac + spares - The reputation tool. Spills happen; what the homeowner sees at 5 pm is your cleanup.

Trash bags, broom - Every empty bag goes home with you — it's also your QC tally.

PPE & SAFETY

N95s / P100 respirators - N95 is the floor; half-face P100 is the standard for enclosed interior blows.

Safety glasses - Blowback and drilling debris.

Gloves - Hose work, siding edges, staples.

Hearing protection - The machine side of the job is loud all day.

Knee pads, work lights - FOG and crawl work is done kneeling in the dark.

First aid + extinguisher - Standard crew kit.

Voltage tester - Confirms knob-and-tube is actually dead before anyone trusts a promise that it is.

LEAD-SAFE KIT (pre-1978)

Current certifications - RRP work requires a certified firm and a certified renovator on the job — paper first.

6-mil poly + tape - Containment around drilling and cutting zones.

HEPA vacuum - The only vacuum allowed for lead dust; a shop vac spreads what it should capture.

Spray bottles / wipes - Wet methods suppress dust while drilling painted surfaces.

Suits + waste bags - Keep the dust off the crew and contained for disposal.

Signage + verification cards - RRP's required posting and cleaning-verification documentation.

Renovate Right pamphlets - Required homeowner education before work starts.

QC & DOCUMENTATION

Tally sheet + coverage charts - THE routine density verification: bags used / net SF must match the chart, every job. This line is the whole QC system's backbone.

Gram scale (0.1 g) - Weighs a core or a calibration check in ten seconds. No arguments with a scale.

Core tube (2-in. DWV) - The escalation tool — in-progress checks, red flags, disputes. Not routine holes in a customer's finished paint.

Calibration box (2 cu ft) - Proves machine settings before the wall does: a proper pack adds +7 lb at 3.5 lb/ft³.

IR camera - Finds VOIDS, not density — needs a real temperature difference. A cold streak is a probe-or-core conversation.

Blower-door access - Test-in/test-out proves the work and guides program QA. CSU's insulation rebate itself is receipt- and R-value-based — the test is craft and QA, not the payment gate.

Camera / phone - Before-and-after documentation settles questions months later.

Signed receipt forms - Type, area, R-value, bag count — plus CSU wants the receipt on company letterhead with product details and cost.

Specs, SDS, RED Calc - The references that settle field arguments before they become change orders.