



EPOXY OUTPOST PRESENTS

DIY EPOXY FLOORS

A practical, safety-first guide for garages, basements, and other interior concrete floors.

GARAGE PATH

BASEMENT PATH

INTERIOR PATH

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Choose a path, then follow the same core process

The coating is only as strong as the concrete beneath it. Before buying a kit, confirm that the slab is clean, sound, dry, and suitable for the product you select.

1. Garage

Vehicle traffic, oil, hot tires, entry slip risk.

2. Basement

Moisture, ventilation, occupants, drains.

3. Other interior

Laundry, workshop, storage, hobby rooms.

Stop before coating if...

You find active water intrusion, persistent moisture under a taped plastic test, crumbling or moving concrete, an unknown old coating that will not bond, or conditions outside the product label. Fix the cause or call a qualified flooring professional.

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Important: This guide is a planning framework, not a substitute for the selected product's current label, technical data sheet (TDS), and safety data sheet (SDS). Those documents control mixing, temperature, personal protective equipment (PPE), ventilation, coverage, pot life, recoat, and cure times.

Do not coat until the concrete passes four checks

1 Sound

No loose, dusty, spalled, or delaminated areas. Tap and inspect. Repair stable defects with a compatible concrete repair material; movement joints remain joints.

2 Clean

No oil, wax, silicone, tire dressing, paint, curing compound, or cleaner residue. A water drop should wet the surface rather than bead.

3 Dry

Follow the coating maker's moisture test and limits. One common screening method is plastic taped on bare concrete for 24 hours; visible condensation or darkening means moisture needs attention.

4 Profiled

The surface needs the roughness specified by the product. Dense, power-troweled, sealed, or previously coated concrete may need mechanical grinding rather than a light wash.

Typical coating stack

Optional clear / wear topcoat

Epoxy color coat + optional flakes

Optional compatible primer

Prepared concrete substrate

Every layer must be compatible. Do not combine brands or chemistries unless both manufacturers approve it.

Quick absorption check

Place several drops of water in representative areas. If water beads, the slab may have a sealer or contaminant. This does not replace the product's required tests.

New concrete

Many coating systems require new concrete to cure at least 28–30 days. Confirm the exact minimum on your product's TDS.

Go / no-go decision

Condition	Decision	Next move
Dry, sound, bare concrete	Proceed	Clean and profile to the TDS.
Old coating is tightly bonded	Conditional	Verify compatibility; abrade and test a small area.
Moisture persists	Stop	Find the source; obtain a system designed for measured vapor levels.
Soft, spalled, moving slab	Stop	Repair the substrate or seek professional assessment.

Finish the plan before the clock starts

Measure twice

Floor area: length × width. Break irregular rooms into rectangles and add them. Subtract only large permanent obstructions.

Material quantity: divide total square feet by the label's stated coverage for your surface, then add the maker's recommended waste allowance. Rough or porous slabs consume more.

Keep one batch consistent

Buy enough material from the same lot when possible. Color and sheen can vary between batches. If several kits are needed, box compatible same-color components only when the manufacturer permits.

Core tool and supply checklist

SAFETY

- ☐ Product-specified gloves
- ☐ Splash eye protection
- ☐ Protective clothing
- ☐ Ventilation equipment
- ☐ Approved respiratory setup if SDS requires
- ☐ Hearing protection for grinding

PREPARATION

- ☐ Degreaser / cleaner
- ☐ Stiff scrub brush
- ☐ Wet/dry vacuum
- ☐ Concrete grinder + dust control
- ☐ Crack repair material
- ☐ Moisture test supplies

APPLICATION

- ☐ Calibrated mixing pails
- ☐ Low-speed drill + paddle
- ☐ Squeegee if specified
- ☐ Roller frame and label-specified covers
- ☐ Cut-in brush
- ☐ Spiked shoes only if system permits

Respirators are not a shortcut for ventilation

Use the SDS to identify hazards and required PPE. In a workplace, respirator use can trigger medical evaluation, fit testing, and a written program. For DIY work, do not guess at cartridges or rely on a dust mask for chemical vapor.

Build the work sequence

Day A	Day B	Day C	Coat day	Cure
Empty room, inspect, moisture screen.	Degrease, grind/profile, vacuum.	Repair and cure per repair product.	Verify climate, mix, apply, exit.	Protect from dust, water, traffic.

The actual sequence may span more days. Product cure and recoat times vary with temperature, humidity, film thickness, and chemistry; use the label.

Preparation is the job; rolling is the finish

1 Empty, isolate, and inspect

Remove everything. Protect walls and door tracks. Mark oil, cracks, spalls, joints, low spots, drains, and old patches. Plan dust control so it does not spread through the building.

2 Degrease before grinding

Scrub contaminated areas with a compatible cleaner. Rinse or remove residue as the product directs. Repeat until rinse water no longer beads or carries an oily film. Grinding through grease can drive contamination deeper.

3 Remove weak material and incompatible coatings

Scrape, grind, or shot-blast to sound concrete. Feather edges. Old paint that passes a scratch and adhesion check may still be incompatible with the new system, so verify in writing.

4 Create the required profile

Use the mechanical method and surface profile named in the TDS. Keep the grinder moving and overlap passes. Edge-grind where the main machine cannot reach. Avoid polishing the slab smooth.

5 Vacuum, repair, and final-clean

Use dust collection rated for the task. Repair static cracks and spalls with compatible material. Do not rigidly fill expansion or isolation joints unless the system specifically calls for it. Vacuum again immediately before coating.

Ready-to-coat signs

- Uniform clean appearance
- No dust on a white cloth
- No water beading
- Repairs are fully cured and flush
- Moisture result is within system limits

Dust hazard

Grinding concrete can create respirable crystalline silica. Use wet methods or effective local dust collection, the correct shroud and vacuum, and PPE required for the task. Keep others out of the area.

Acid etching is not a universal substitute

Some consumer kits specify a supplied etch for suitable bare concrete; other systems require mechanical profiling. Etching will not remove oil, sealers, paint, laitance, or weak concrete. Follow the chosen system rather than mixing preparation methods from different products.

Once Parts A and B meet, the clock is running

First read the label, TDS, and SDS together

Record the mix ratio, induction time, pot life, application temperature, humidity or dew-point rule, spread rate, roller type, recoat window, and cure-to-traffic times. If any instruction conflicts with this guide, the product documents win.

1 Stage the room

Precut masking, open roller covers, place flake buckets, light the edges, and confirm the exit path. Have a helper for cutting-in and flakes.

2 Verify conditions

Measure air, slab, and material temperature; check humidity and dew point if required. Stop if the slab is damp or condensation is possible.

3 Mix exactly

Premix components when directed. Combine full kits or accurately measured partial kits only if allowed. Scrape sides and bottom; mix at the specified speed and time without whipping in air.

4 Move material out of the pail

Some products heat and cure faster in a deep mass. Pour or distribute only as the label directs. Never thin unless explicitly permitted.

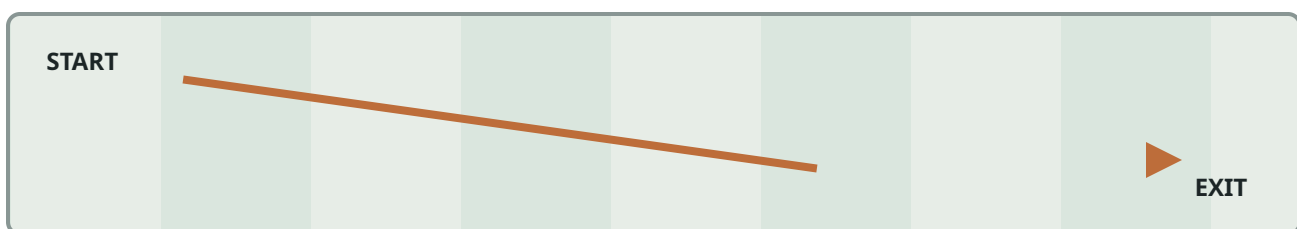
5 Cut, spread, and back-roll

Work in manageable sections. Maintain a wet edge and the stated coverage. Back-roll in a consistent direction. Broadcast flakes upward so they fall flat.

6 Protect the cure

Block people, pets, water, dust, and insects. Remove masking at the appropriate stage. Respect separate times for recoating, foot traffic, furniture, and vehicles.

One-way room plan



Garage floor: design for tires, oil, and wet shoes

Garage-specific inspection

- ☐ Mark all parking positions and tire paths.
- ☐ Check under stored items for old oil and silicone residue.
- ☐ Inspect the garage-door apron and wall-to-floor joints.
- ☐ Find salt damage, spalls, and freeze-thaw deterioration.
- ☐ Confirm drainage direction and areas that get rain or snow.

Do not coat the exterior apron by assumption

Many epoxy systems are intended for interior concrete and may discolor in ultraviolet light or become slippery outdoors. Use only where the product explicitly allows.

Best-practice upgrades

- Add a compatible slip-resistant aggregate in wet walking zones.
- Use a system rated for vehicle traffic and the chemicals present.
- Consider a compatible topcoat if the system recommends one for abrasion or color stability.

Garage prep priority

Degrease first. Profile second. Vacuum last. Oil left in the slab can produce fisheyes and peeling even when the surface looks clean.

Suggested workflow

1. Remove vehicles and all movable storage.
2. Clean oil and tire-treatment residue repeatedly.
3. Mechanically profile edges, corners, and the full field as required.
4. Repair stable cracks and spalls; preserve moving joints.
5. Moisture-test representative areas.
6. Coat from the back wall toward the open door without painting yourself in.
7. Keep the door arrangement consistent with ventilation and dust control requirements.

Vehicle cure is not foot-traffic cure

A floor may feel hard before it is ready for hot tires or a parked vehicle. Use the exact vehicle-return time on the label and extend it when conditions slow curing.

Garage risk	Control
Hot-tire pickup	Correct profile, compatible vehicle-rated system, full cure before parking.
Wet-entry slip	Compatible texture; test a sample because texture changes cleanability.
Oil fisheyes	Repeat degreasing; verify water no longer beads.
Color mismatch	Use one lot when possible; maintain wet edges and consistent spread rate.

Basement floor: moisture and indoor air come first

Basement rule: persistent moisture is a building problem, not a paint problem

If the slab darkens, sweats, or repeatedly shows moisture under the product's approved test, do not seal it under a standard epoxy system. Identify drainage, plumbing, groundwater, or vapor conditions first.

Moisture-first checklist

- ☐ Check after recent rain, not only during a dry spell.
- ☐ Inspect wall-floor joints, sump areas, cracks, and efflorescence.
- ☐ Ask whether the slab has a vapor retarder beneath it.
- ☐ Perform the coating maker's required test at multiple locations.
- ☐ Record the result and system limit.

Occupancy plan

- Remove children, pets, and uninvolved occupants from exposure areas.
- Isolate air returns if appropriate for the building and follow HVAC guidance.
- Vent exhaust outdoors without sending vapors into neighboring spaces.
- Keep ignition sources away when the SDS identifies flammability risk.
- Do not rely on odor as a measure of safety.

EPA ventilation principle

Wet building materials and products that carry ventilation warnings can require temporary ventilation to remove emitted gases. Even low- or no-VOC labeling does not prove that a product is harmless indoors.

Basement workflow

1. Fix active leaks and drainage issues.
2. Complete moisture testing.
3. Select a system specifically approved for the measured conditions and intended occupancy.
4. Plan exhaust, make-up air, and room isolation.
5. Profile with dust controls suitable for an occupied building.
6. Coat only when climate and ventilation can remain stable through cure.

Drain details

Keep coating out of drains and moving joints unless the system details them. Maintain the intended slope; do not use coating to correct ponding.

Basement go / no-go

Proceed only after required tests show a dry slab. Stop for efflorescence, a damp perimeter, or recurring water. Preserve drains and sump access.

Other interior concrete: match the system to the room

Laundry rooms, workshops, storage areas, and light-commercial spaces share the same preparation sequence, but not the same performance needs.

Room	Design question	Practical choice
Laundry / utility	Water, detergents, appliance movement?	Add compatible traction; preserve drains and service access.
Workshop	Dropped tools, oils, welding, solvents?	Choose abrasion and chemical resistance from the TDS; protect from hot work.
Storage	Light foot traffic or rolling loads?	Verify caster and rack loads; allow full cure before placement.
Hobby room	Comfort, cleanability, indoor occupancy?	Prioritize low odor only with an adequate ventilation plan and SDS review.
Light commercial	Public traffic, accessibility, cleaning chemicals?	Use a professional-grade specified system and documented slip strategy.

System selection questions

- ☐ Is the coating approved for this interior use?
- ☐ What traffic and point loads must it carry?
- ☐ Which chemicals or cleaners will contact it?
- ☐ Will sunlight reach the floor?
- ☐ How much wet-slip resistance is needed?
- ☐ Can the room stay empty through full cure?
- ☐ Are food, fire, or code requirements involved?

Not every glossy floor is epoxy

Polyaspartic, polyurethane, acrylic, and hybrid systems have different application windows and performance. Do not call every two-part coating “epoxy,” and do not substitute one product’s instructions for another’s.

Sunlight note

Many epoxies can amber or chalk with ultraviolet exposure. For rooms with strong daylight, use a system whose manufacturer states the expected color and topcoat compatibility.

One sample can prevent a full-room mistake

Prepare a small representative area or sample board using the full system. Evaluate color, sheen, texture, cleanability, and cure under the expected conditions. A sample does not replace bond or moisture testing, but it helps set expectations before the main pour.

Find the cause before adding another coat

Symptom	Likely causes to investigate	Response
Peeling / delamination	Moisture, contamination, weak concrete, poor profile, missed recoat window.	Remove loose material, identify cause, retest slab, and rebuild with compatible layers.
Fisheyes / craters	Oil, silicone, cleaner residue, airborne contamination.	Stop spreading contamination. Let cure as directed, remove defect, clean, profile, and patch-test.
Bubbles / pinholes	Air entrainment, porous slab outgassing, excessive rolling, rising slab temperature.	Follow the system's primer and application guidance; do not roll beyond the working time.
Soft or sticky areas	Wrong ratio, incomplete mixing, cold conditions, unapproved thinner.	Isolate the area. Contact the manufacturer; uncured material usually must be removed.
Uneven gloss / lap marks	Variable film thickness, losing wet edge, uneven porosity, mixed batches.	Confirm cure, abrade if required, and apply a compatible uniform coat within the recoat rules.
Ambering / fading	Ultraviolet exposure or chemistry limitations.	Use an approved UV-stable finish or accept expected color shift.

Routine care

- Dry sweep or dust-mop grit before it scratches.
- Use the manufacturer's approved cleaner and dilution.
- Clean oil, salt, and chemicals promptly.
- Use soft wheels and protective pads under movable loads.
- Do not drag appliances, racks, or metal edges.
- Inspect joints, drains, and high-traffic lanes regularly.

Keep a floor record

- ☐ Product names and lot numbers
- ☐ Color and flake blend
- ☐ Application date and conditions
- ☐ Moisture-test method and result
- ☐ Preparation method
- ☐ Mix and batch notes
- ☐ Recoat / full-cure date
- ☐ Leftover material disposal record

Repair small damage early

Photograph the area, clean it, and determine whether the defect is surface wear or loss of bond. Use the original system's approved repair sequence so the patch does not create a compatibility problem.

Write down the decisions before you buy

Project basics

ROOM / ADDRESS

PROJECT PATH

☐ Garage ☐ Basement ☐ Other interior

LENGTH × WIDTH / TOTAL AREA

EXISTING SURFACE

☐ Bare ☐ Painted ☐ Sealed ☐ Unknown

Selected system

MANUFACTURER / PRODUCT

PRIMER / COLOR COAT / TOPCOAT

COVERAGE AND KITS NEEDED

LOT NUMBER(S)

Slab qualification

☐ Concrete sound

☐ Contamination removed

☐ Moisture method: _____

Result: _____

System limit: _____

☐ Profile meets TDS

☐ Repairs fully cured

Application controls

Mix ratio: _____

Mix time: _____

Induction: _____

Pot life: _____

Temperature range: _____

Recoat window: _____

Vehicle/full cure: _____

Coat-day checklist

☐ Weather checked

☐ Slab temperature checked

☐ Dew point rule met

☐ Floor dust-free

☐ PPE ready

☐ Ventilation operating

☐ Materials conditioned

☐ Helper briefed

☐ Exit path clear

☐ Timer ready

☐ Pets / people excluded

☐ Cure barrier posted

Notes

Primary sources and safety notes

Epoxy Outpost publishes this guide as a practical planning aid. Product chemistry and jobsite conditions vary. Always obtain the current label, technical data sheet (TDS), and safety data sheet (SDS) for every material in the chosen system.

Primary references

1. **Rust-Oleum, EpoxyShield Water-Based Epoxy Garage Floor Coating instructions.** Covers surface preparation, temperature and humidity limits, roller selection, 4 × 4-foot work sections, flake broadcast, and maintaining a wet edge. [Manufacturer PDF](#)
2. **Rust-Oleum, EpoxyShield Garage Floor Universal Tint Base TDS.** Provides a 24-hour taped-plastic moisture screening method, repair warning for loose concrete, and a minimum 28-day cure for new concrete. [Manufacturer TDS](#)
3. **Rust-Oleum, Concrete Saver 6500 System High Traffic Epoxy Floor Coating TDS.** Describes new-concrete cure, moisture screening, cleaning, profiling, and suitability for heavy foot and rubber-tired vehicle traffic. [Manufacturer TDS](#)
4. **U.S. Environmental Protection Agency, Construction and Indoor Air Quality.** Recommends temporary ventilation when wet materials or products with ventilation warnings can release volatile compounds indoors. [EPA guidance](#)
5. **U.S. Environmental Protection Agency, VOCs in household products.** Explains why low- or no-VOC labeling does not by itself guarantee lower indoor toxicity. [EPA guidance](#)
6. **Occupational Safety and Health Administration, Respirable Crystalline Silica in Construction.** Covers occupational exposure and engineering-control expectations for silica-generating construction work. [OSHA guidance](#)
7. **Occupational Safety and Health Administration, Respiratory Protection Standard.** Covers employer duties including medical evaluation, fit testing, selection, and program requirements when respirators are required at work. [OSHA standard](#)

Professional-use note

If Epoxy Outpost or any contractor uses this guide for paid work, workplace safety, hazard communication, respiratory protection, silica control, waste disposal, fire code, and licensing requirements may apply. Build a written program appropriate to the location and work; this guide is not that program.

Golden rule

If the slab, product documents, and site conditions do not agree, stop. The cheapest time to solve a coating problem is before the first batch is mixed.



EPOXY OUTPOST

DIY education for better-prepared concrete floors.