How to Correctly Prepare Concrete for Athletic Court Surfacing

1. Choosing the Substrate

Athletic surfaces — like tennis, pickleball, and basketball courts — are commonly constructed using either asphalt or concrete. The choice generally depends on regional availability, cost considerations, and personal preference. Each type of base requires specific preparation steps before acrylic surfacing can be applied. This document covers recommended concrete preparation practices.

2. Concrete Construction Best Practices

If you're planning a new concrete court, it's wise to refer to the construction and maintenance manual from the American Sports Builders Association (ASBA). Though intended for tennis and pickleball, these guidelines also apply to basketball and multi-sport installations.

3. Vapor Barrier Installation

Before pouring the slab, lay down a vapor barrier — typically two layers of 6 mil polyethylene sheeting placed in opposite orientations, with taped and overlapped seams. This barrier sits between the stone base and the concrete to prevent moisture from migrating upward.

4. Proper Drainage and Slope

Effective perimeter drainage and an intentional court slope (about 1 % slope — a 1-inch drop per 10 feet) are essential for preventing water from pooling underneath or on the surface. Without this, blistering or bubbling of the coating may occur, eventually leading to peeling.

5. Surface Texture: Medium-Broom Finish or Shot Blasting

Concrete should ideally be completed with a medium-broom finish to ensure good physical adhesion of surfacing materials. Steel-troweled surfaces are too smooth and can lead to coating failures. If the slab is already too smooth, use shot-blasting equipment to roughen the texture adequately.

6. Curing the Concrete

Concrete cures chemically over approximately 28 days. During this time, water evaporation can deposit high-alkaline salts (efflorescence) that affect bonding. It's critical to avoid using oil-based curing compounds, which can leave film residues that prevent coatings

from adhering properly. Instead, keep the slab moist post-pour—covering with damp burlap, polyethylene, or curing paper—and allow it to dry naturally after 7–10 days.

If there's doubt about curing compound use, perform a simple water test: if water beads on the concrete, there's likely a surface contaminant that requires shot blasting to remove.

7. Pre-Coating Treatment: Acid Etching & Primer

Once cured and clean, the slab should be acid-etched to neutralize surface pH and remove surface salts, preparing it for better bonding. See the article Acid Etching Concrete Sport Surfaces for more information. Next, apply a coat of Surface 1 concrete primer. This ensures strong adhesion of subsequent layers and helps lock down any fine surface residue or powder.

8. Resurfacer Application

After the primer dries (even if just to the touch), apply one coat of Court Resurfacer - Multiple coats may be required to help fill the broom finish and surface texture of the concrete. Allow each coat to dry thoroughly before proceeding.

9. Applying Color Coatings and Lines

Once resurfacing is complete: - Apply two coats of Sport Coating Base in multiple coats as required - Allow proper drying between coats - Finish with line primer and playing lines All coatings should be applied under appropriate temperature and weather conditions.

Summary Table

Step	Best Practice
Construction	Follow ASBA guidelines
Moisture Control	Install vapor barrier
Drainage	Ensure 1% slope and good grading
Surface Prep	Medium-broom finish or shot blasting
Curing	Moist-cure without compounds for 7–10 days
Cleaning	Acid etching after full cure (28 days)
Priming	Apply Concrete Primer
Resurfacer	Apply 1 coat of Resurfacer
Sport Coating	Apply two coats of color coatings & playing lines