

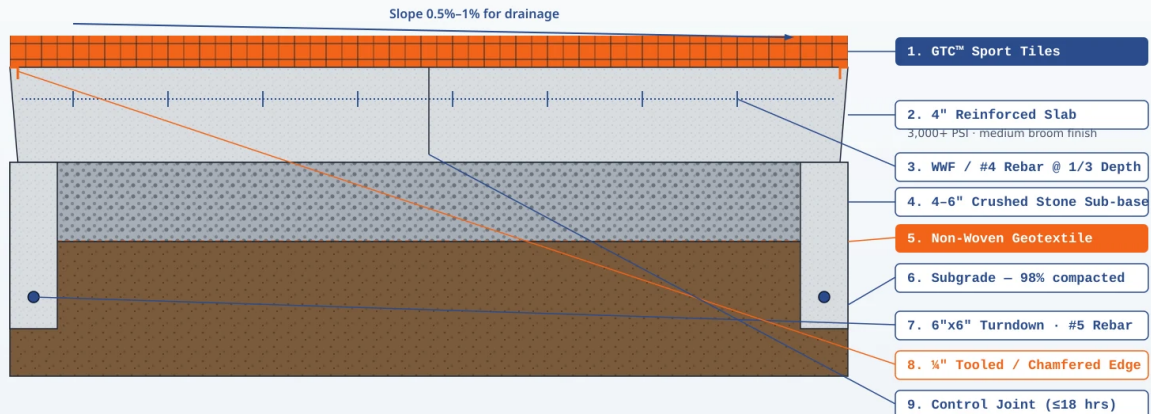
BASE GUIDE

Concrete Base Guide for Sport Tile Courts

The gold-standard foundation for modular sport tile courts. Use these specs to design a slab that lasts decades and plays like a pro court.

Game Tile Courts™ — Concrete Base Cross-Section

Court-grade reinforced slab over compacted sub-base. Components not to scale.



Key Specs

- Slab: 4" residential / 5-6" commercial · 3,000+ PSI
- Reinforcement: 6x6 W1.4xW1.4 WWF or #4 rebar @ 1/3 depth
- Perimeter: 6"x6" turndown w/ #5 continuous rebar (2" cover)
- Slope: 0.5% min / 1% max · Flatness: 1/4" / 10' straightedge
- Joints: tooled wet OR sawcut ≤18 hrs · ASTM D-1751 expansion filler
- Subgrade: min 6" compacted to 98% max density
- Cure: wet-cure 7 days · 28 days minimum before tile install

Max Control Joint Spacing

Slab Thickness	Max Spacing
3.5"	6 ft
4"	10 ft
4.5"	10 ft
5"	12 ft
6"	15 ft

Informational only. Confirm all concrete design and installation specs with a local Professional Engineer and/or Licensed Contractor.

GAME TILE
COURTS

Cross-section diagram. Components not to scale.

Why Concrete Is the #1 Choice

Concrete provides the **flattest, longest-lasting, and most stable** base for any modular sport tile court. It produces consistent ball bounce, predictable footing, and easily exceeds a 30-year service life when poured and cured correctly.

Recommended Specifications

- **Slab thickness:** 4" minimum residential / 5-6" commercial or freeze-thaw climates
- **Perimeter detail:** 6"x6" turndown with #5 continuous rebar where slab abuts walls or other pavements (min. 2" concrete cover)
- **Concrete strength:** 3,000 PSI minimum at 28 days (3,500-4,000 PSI recommended; 5-7% air-entrained in freeze-thaw regions)
- **Reinforcement:** Fiber-mesh reinforced concrete OR 6x6 W1.4xW1.4 Welded Wire Fabric (WWF) placed at 1/3 the depth of the slab
- **Sub-base:** 4-6" of compacted crushed stone over non-woven geotextile fabric

- **Subgrade:** Minimum 6" compacted subgrade to 98% of maximum density
- **Finish:** Medium broom finish
- **Edge:** ¼" tooled radius edge or chamfered edge
- **Slope:** 0.5% minimum / 1.0% maximum in one direction for drainage
- **Flatness tolerance:** ¼" deviation over a 10' straightedge
- **Control joints:** Tooled in wet concrete OR sawcut within 18 hours
- **Expansion joints:** Required at all rigid abutments; pre-moulded filler meeting ASTM D-1751
- **Joint sealant:** All joints sealed with an oil/fuel-resistant sealant
- **Vapor barrier:** 6-mil polyethylene under slab in damp soil regions
- **Cure time before tile install:** 28 days minimum (wet-cure first 7 days)



Maximum Control Joint Spacing

Slab Thickness	Max. Joint Spacing
3.5"	6 ft
4"	10 ft
4.5"	10 ft
5"	12 ft
6"	15 ft

Step-by-Step Build

1. **Excavate** 10–12" below finished grade to accommodate sub-base, slab, and perimeter turndown.
2. **Compact subgrade** to 98% of maximum density (minimum 6" of compacted material).
3. **Lay non-woven geotextile fabric** across the entire footprint to prevent soil migration.
4. **Place and compact** 4–6" of crushed stone sub-base in 2" lifts.
5. **Form the perimeter** with 2x6 (or deeper for turndown) and check for square via diagonals.
6. **Set perimeter rebar** — #5 continuous bar in the 6"x6" turndown with min. 2" concrete cover.
7. **Set primary reinforcement** — fiber-mesh in the mix, OR 6x6 W1.4xW1.4 WWF on chairs at 1/3 slab depth.
8. **Pour concrete** to spec thickness with 0.5–1.0% slope built into the screed.
9. **Float and medium-broom finish**; chamfer or tool a ¼" radius edge.
10. **Cut control joints** — tooled in wet concrete OR sawcut within 18 hours per spacing table.
11. **Install expansion joints** with ASTM D-1751 pre-moulded filler at all rigid abutments.
12. **Seal all joints** with an oil/fuel-resistant sealant.
13. **Wet-cure** for 7 days; allow 28 days total before tile install.

Common Mistakes to Avoid

- Skipping the sub-base or undercompacting the subgrade — leads to settling and cracking.
- Pouring on saturated soil — causes long-term moisture issues.
- Trowel-finishing too smooth — slick surface affects tile lock-in and drainage.
- No slope or excessive slope — creates puddles or visible ball-roll bias.
- Missing the 18-hour sawcut window — uncontrolled cracking.
- Skipping expansion joints at abutments — slab cracks at the abutment line.
- Installing tiles before 28-day cure — traps moisture and can stain tiles.

Cost Range

Expect **\$8–\$14 per square foot** for a professionally poured, court-grade concrete slab in most U.S. markets. Costs vary with site prep, accessibility, reinforcement choice, and regional labor rates.

