MULTIPURPOSE SPORTS HALL FLOORING

Technical Performance & Material System Specifications

DWG NO: SHF-SPEC-2026
Standard: EN 14904 & DIN 18032-2

1. SYSTEM SCOPE & PERFORMANCE OVERVIEW

This document defines the structural layer buildup, performance metrics, subfloor preparation, multi-sport game line painting, and compliance standards for high-performance area-elastic and point-elastic synthetic sports hall flooring systems.

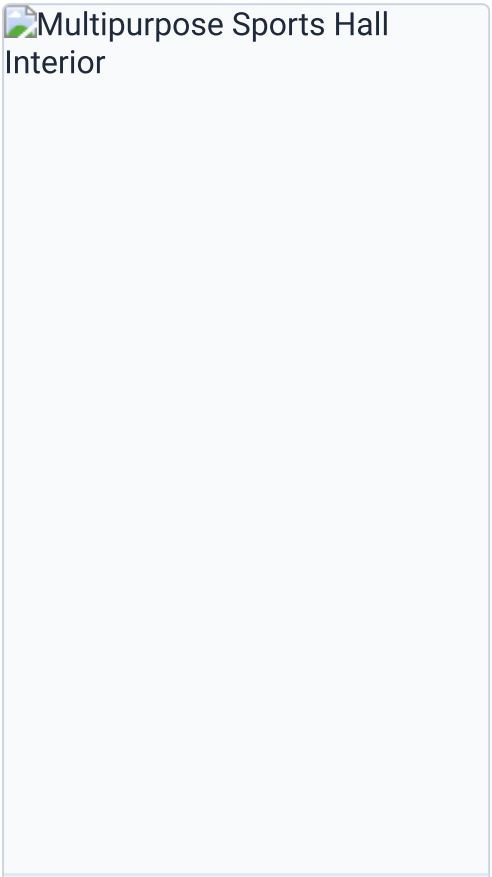


Figure 1: Finished Multipurpose Sports Hall Flooring with Multi-Sport Line Markings.

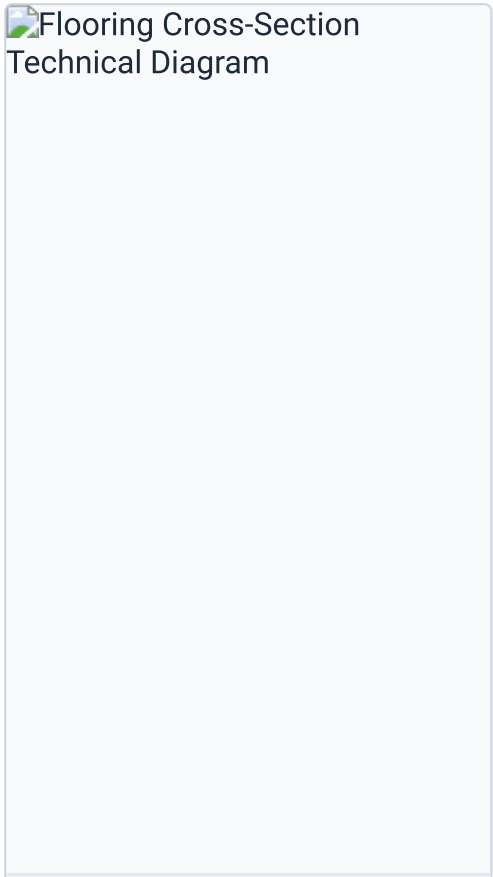


Figure 2: Technical Drawing (DWG SHF-SPEC-2026) – Multi-Layer Elastic Subfloor Detail.

2. SYSTEM BUILDUP & TECHNICAL PARAMETERS

System Layer	Material & Dimensional Specifications	Performance & Test Ratings
Vapor Barrier	0.2mm Heavy-duty PE damp-proof membrane (DPM) with 200mm overlapped taped joints.	Prevents moisture migration; max allowable concrete subfloor moisture: 75% RH / 2.5% CM.
Elastic Subbase	15mm–25mm resilient recycled rubber granular pad or double counter-batten timber system.	Shock Absorption (EN 14904): ≥ 55% (Type A4 Area-Elastic) | Vertical Deformation: 2.3mm – 5.0mm.
Load Distribution Deck	Dual-layer 9mm exterior grade birch plywood (staggered joints, glued and stapled).	Heavy rolling load resistance: Min. 1,500 N per wheel (compatible with bleachers/forklifts).
Surface Finish	2mm–4mm Polyurethane (PU) seamless resin top coat or 7mm–9mm heterogenous vinyl wear layer.	Friction Coefficient: 80–110 (EN 13036-4) | Specular Gloss: ≤ 30% | Vertical Ball Behavior: ≥ 90%.
Game Line Marking	Two-component polyurethane wear-resistant elastomeric line marking paint.	Standard colors: Basketball (Red), Volleyball (Yellow), Badminton (Green), Futsal (White).

3. COMPLIANCE, FIRE SAFETY & MAINTENANCE

STANDARDS & FIRE RATING

- **EN 14904 Compliance:** Surfaces for sports areas – Indoor surfaces for multi-sports use.
- **Reaction to Fire:** Certified Bfl-s1 (European Fire Classification EN 13501-1).
- **Environmental / VOC:** AgBB certified low-emission, solvent-free polyurethane coating.

SUBFLOOR & MAINTENANCE PROTOCOL

- **Subfloor Tolerance:** Screed/concrete flat within ±2mm under a 2m straight edge.
- **Daily Cleaning:** Dry dust mopping and automatic scrubber-dryer with neutral cleaner.
- **Periodic Renewal:** Sanding & polyurethane re-topping required every 10–12 years.