COMMERCIAL MULTIPLAY STATION

Playground Structure Technical & Material Specifications

DWG NO: MPS-ENG-2026
Standards: EN 1176-1/3 & ASTM F1487

1. SYSTEM OVERVIEW & DESIGN INTENT

This specification document details the structural engineering standards, material components, surface finishes, load capacities, and safety compliance guidelines for commercial multiplay play tower systems.

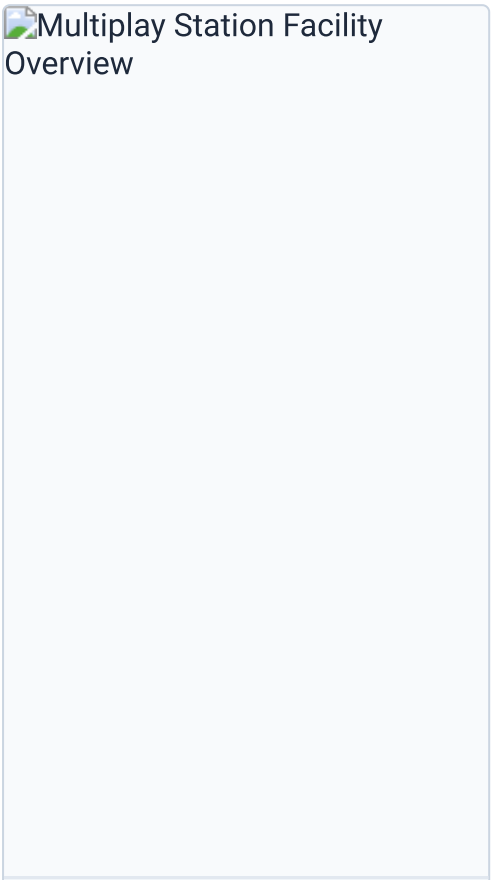

Figure 1: Commercial Multiplay Station featuring Play Towers, Bridges & Slides.

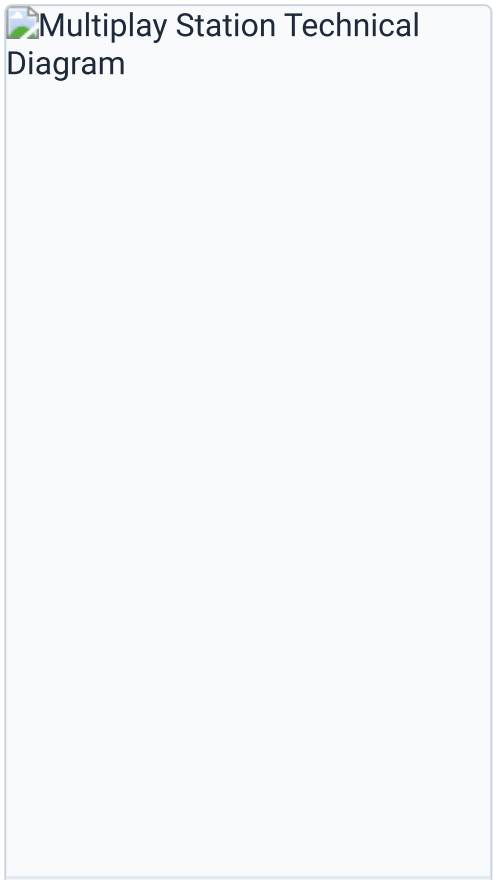

Figure 2: Technical Drawing (DWG MPS-ENG-2026) – Structural Clamp & Deck Detail.

2. TECHNICAL COMPONENT SPECIFICATIONS

Component / Module	Material & Dimensional Specifications	Structural & Safety Ratings
Main Support Posts	Ø 114mm (4.5") hot-dipped galvanized steel posts (wall thickness: 2.75mm–3.0mm).	Electrostatic thermosetting anti-UV polyester powder coat (min. thickness 100 µm).
Play Platforms & Decks	2.2mm cold-rolled punched steel sheet with 25mm structural flange fold underneath.	Dipped anti-slip Plastisol (PVC) coating (3mm thickness); perforations prevent water pooling.
Slides & Roof Canopies	Rotomolded food-grade LLDPE (Linear Low-Density Polyethylene), UV-8 colorfast rating.	Wall thickness min. 6mm; high impact strength (> 15 kJ/m²); anti-static treated.
Connectors & Clamps	High-strength cast aluminum alloy clamp collars with stainless steel anti-theft Torx screws.	Concealed fastening design eliminating clothing catch hazards per EN 1176 Clause 4.2.8.
Climbing Access Net	16mm steel-reinforced 6-strand polypropylene ropes with aluminum cross-knot connectors.	Breaking strength > 20 kN; vandal-resistant sheath prevents fiber fraying.

3. SAFETY STANDARDS & INSTALLATION REQUIREMENTS

SAFETY CLEARANCES & FALL ZONES

- **Fall Perimeter:** Minimum 1.8m continuous clearance zone around all perimeter modules.
- **Critical Fall Height (CFH):** Max platform elevation 2.2m; requires certified rubber safety surfacing.
- **Head Entrapment:** All enclosed spaces pass probe tests per EN 1176 Clause 4.2.7.

FOUNDATIONS & DURABILITY

- **Footings:** In-ground concrete foundation blocks (400mm × 400mm × 500mm depth, C25/30 concrete).
- **Corrosion Resistance:** 1000-hour salt spray tested steel members for coastal environments.
- **Audit Protocol:** Routine visual inspection weekly; quarterly hardware torque verification.