

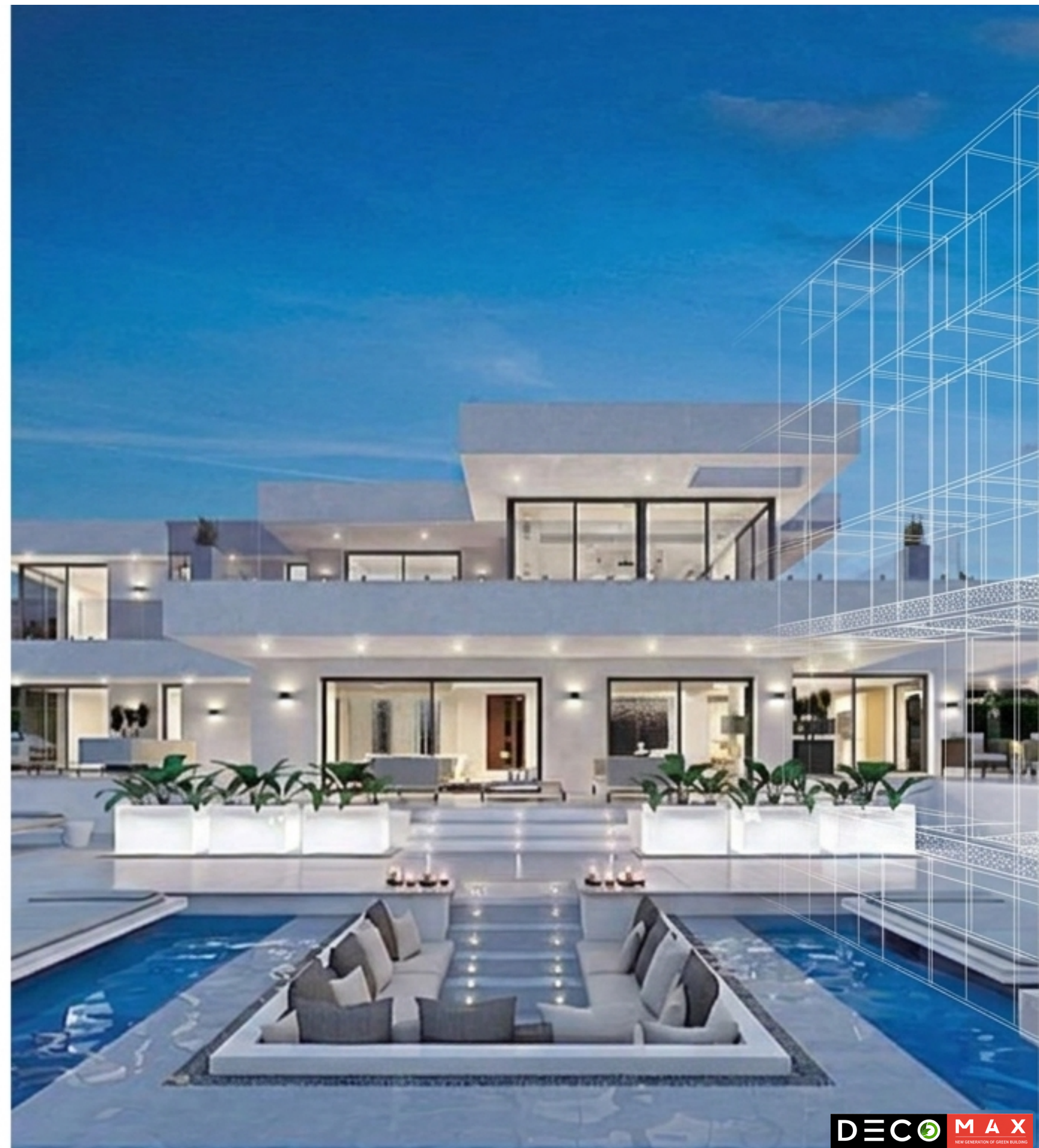
New Generation of Green Building



Designing the Monolithic Structure

A definitive guide to implementing the **Decomax EPS 3D Sandwich Panel System**—from foundation groundwork to final finish.

Presentation Edition | Field Training Material



THE BUILD SMARTER DIAGNOSTIC MATRIX

EPS TECHNOLOGY



SAVE
25%
ON COST &
CONSTRUCTION
TIME



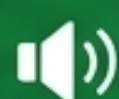
FASTER CONSTRUCTION



LIGHTWEIGHT & DURABLE



**BETTER THERMAL
INSULATION**



**BETTER SOUND
INSULATION**



**STRONGER &
EARTHQUAKE RESISTANT**

TRADITIONAL BRICKS



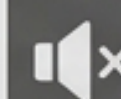
LONGER CONSTRUCTION TIME



HIGHER MATERIAL & LABOR COST



**POOR THERMAL
INSULATION**



**POOR SOUND
INSULATION**

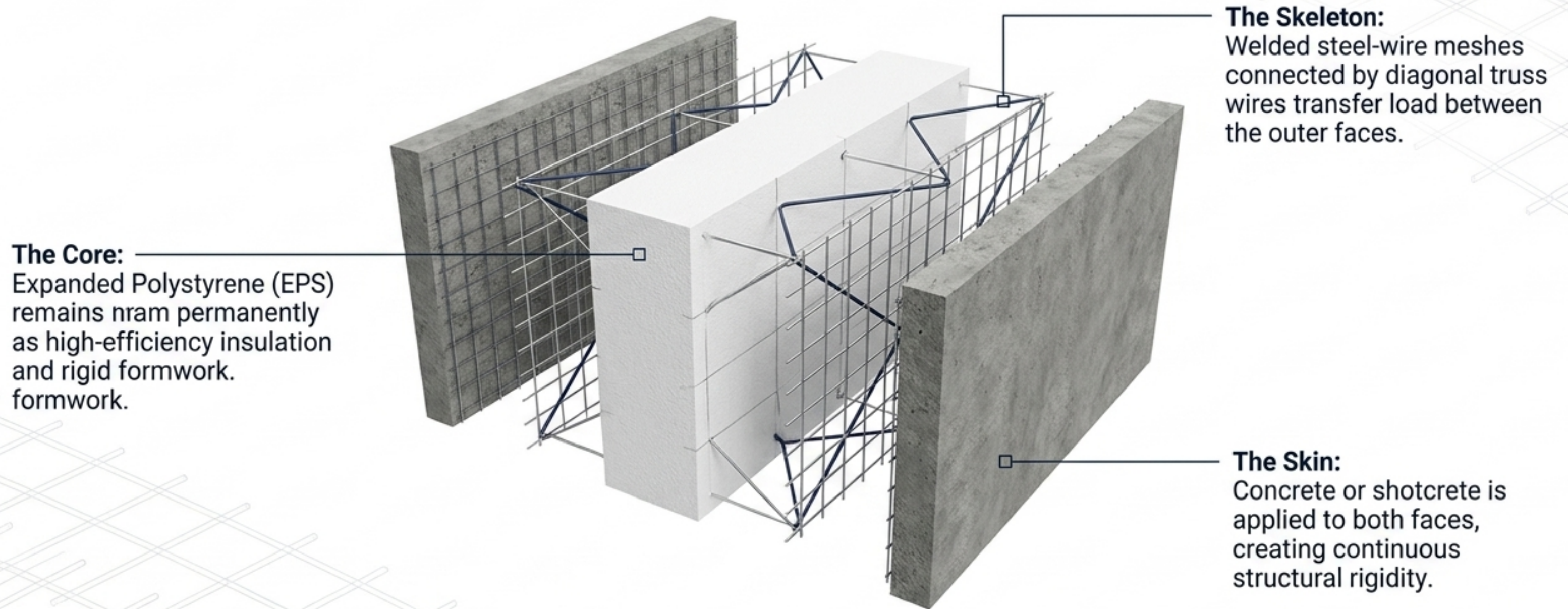


LESS DURABLE



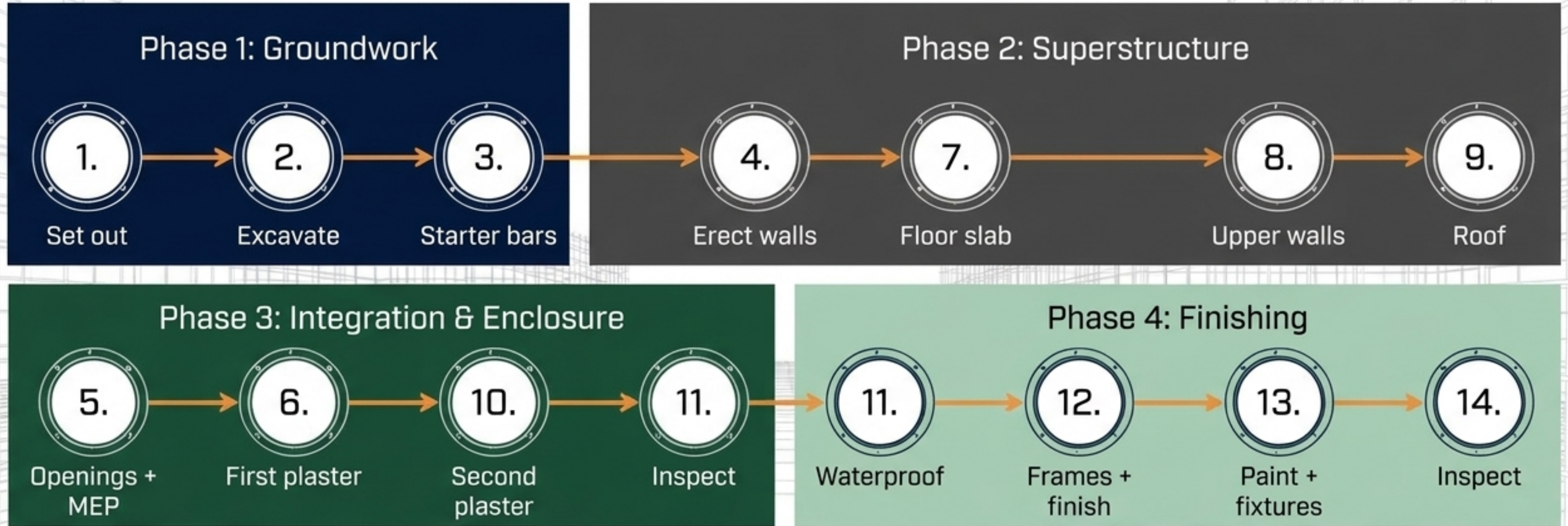
ENGINEERED FOR EFFICIENCY

The Anatomy of a Composite Wall



A lightweight prefabricated core becomes a reinforced composite building element only after both faces are cemented.

The 14-Step Phased Execution Framework



Methodology Note: Every critical step includes a mandatory 'Hold Point' inspection. Execution tracking follows this architectural roadmap.

Baseline Site Safety and Hazard Controls



Hard hat

Head protection

Required



Eye protection

Cutting / spraying

Required



Gloves

Wire mesh and rebar

Required



High-visibility vest

Plant and vehicle zones

Required



Safety boots

Impact and puncture

Required



Respirator

Dust and cement spray

Required

High-Risk Callouts



Work at height
(upper-wall/roof)



Wet concrete & pressurized
shotcrete equipment

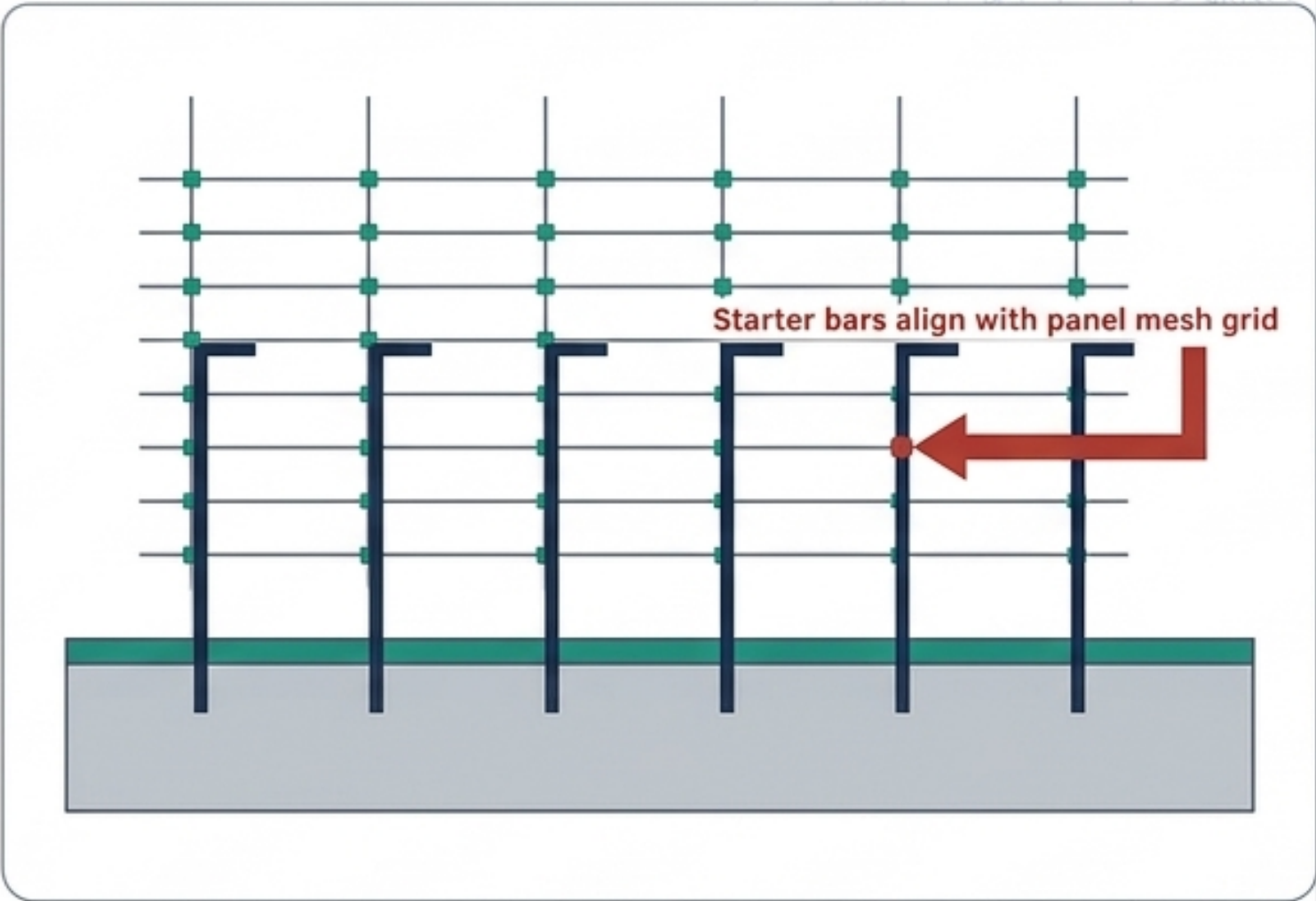


Premature removal
of slab props

Stop-Work Authority

Every worker may stop the task when an unsafe condition is observed. Work resumes only after the supervisor confirms hazard control.

Phase 1: Groundwork & The Starter Node





Decomax Green Technical Callout

Starter bars must precisely match the actual EPS panel mesh grid before the slab is poured. Misaligned bars damage foam and force unapproved field changes.



Structural Red Hold Point

HOLD POINT: Starter-bar spacing and wall-line location must perfectly match the approved panel layout. Do not pour concrete until verified.

Phase 2: Ground-Floor Panel Erection



1

Position

Lift panel onto starter bars; erect corners first.

2

Connect

Tie base mesh, complete overlaps, use U-shaped connectors.

3

Plumb

Measure both faces (not just leading edges) with laser/spirit level.

4

Brace

Fix adjustable props at sufficient spacing until structural skin cures.



Structural Red Hold Point

HOLD POINT: Supervisor must record plumb, alignment, and connection checks before any MEP rough-in or plastering begins.

Phase 2: The Composite Floor System

EPS Floor Panel:

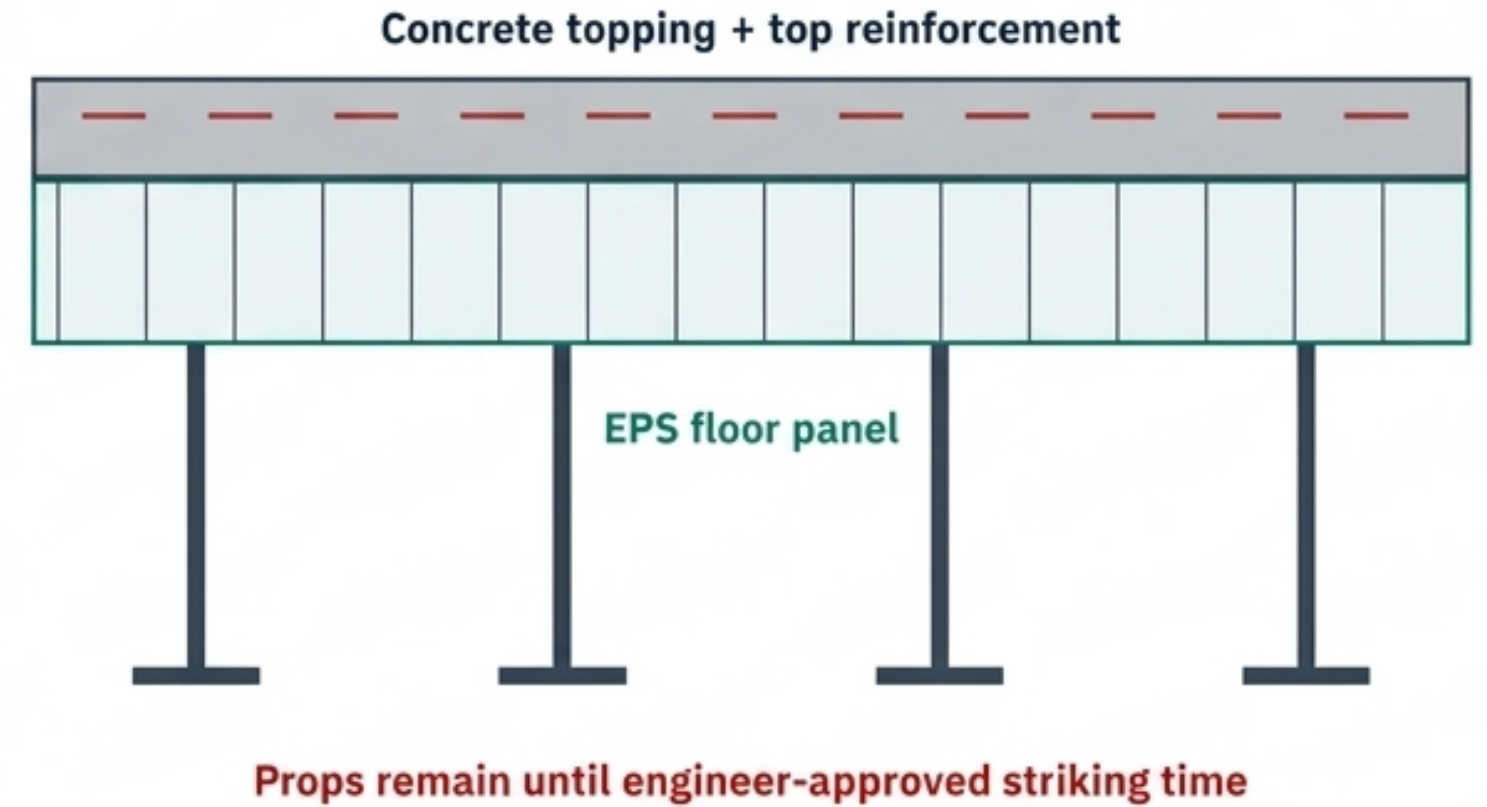
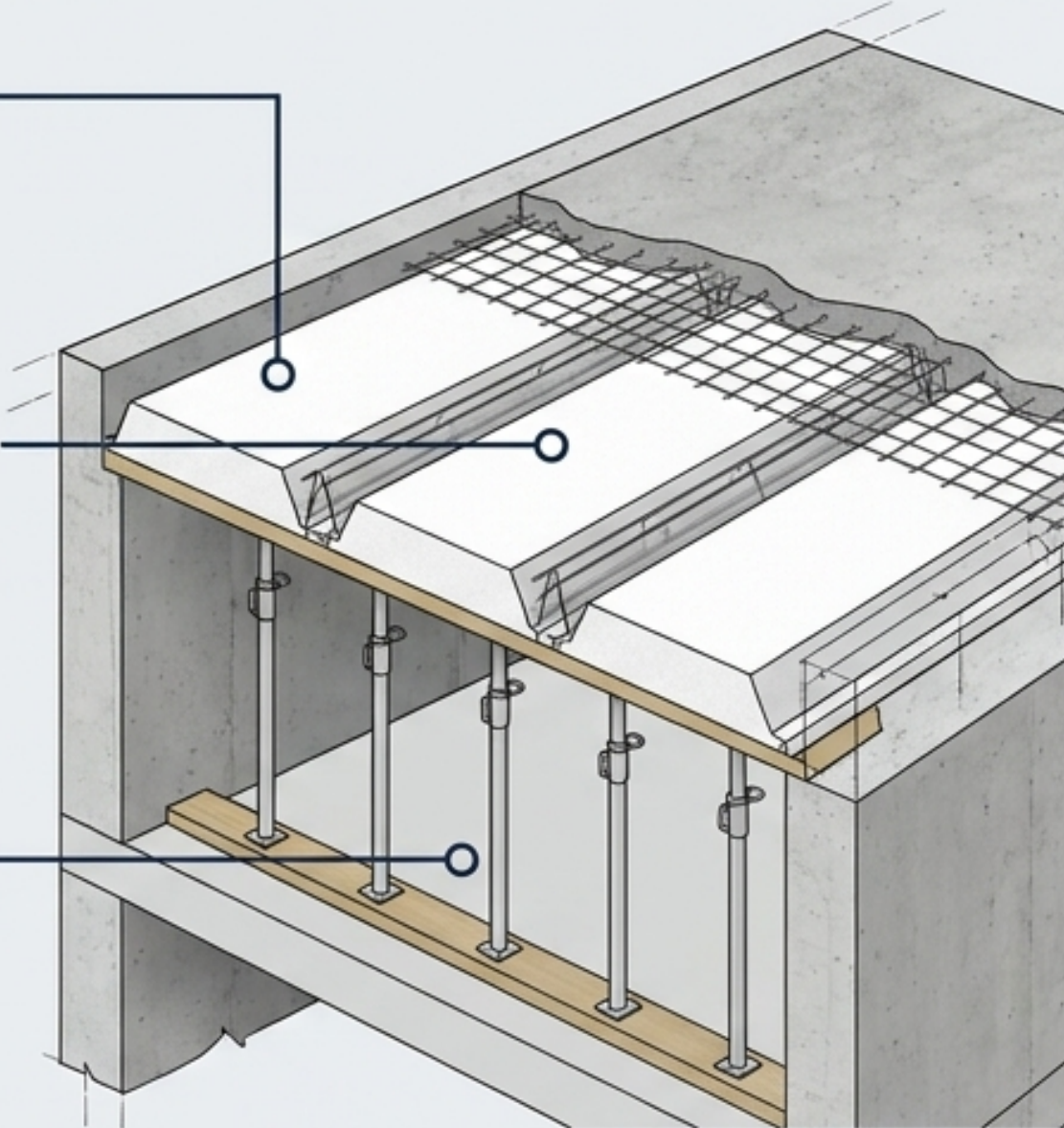
Laid horizontally across supporting walls.

Concrete Topping & Reinforcement:

Poured directly over the EPS to specified thickness.

Acrow Props:

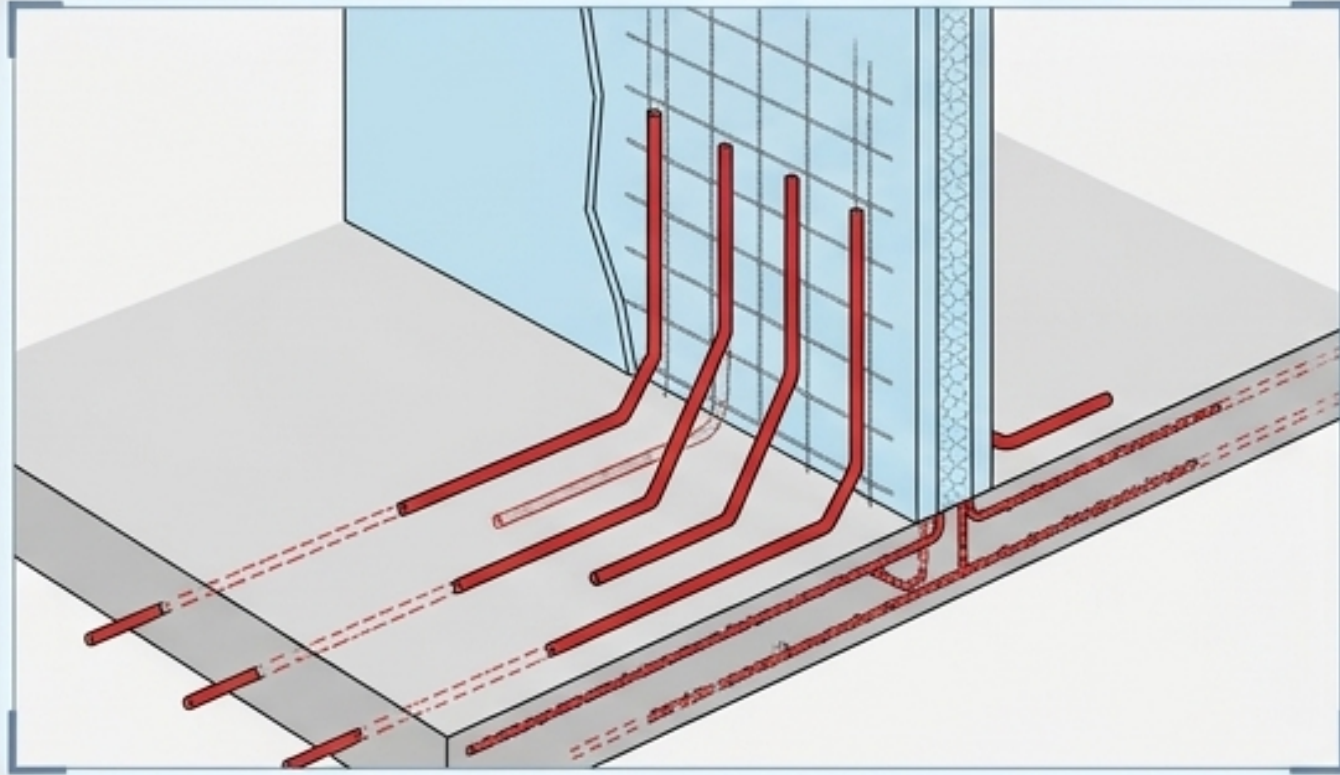
Placed underneath on timber bearers to support the wet load.



CRITICAL SAFETY POINT: Props MUST remain in place until concrete reaches specified strength and the engineer authorizes striking. Early removal causes permanent deflection or collapse.

Phase 2: Vertical Continuity & Roof Integration

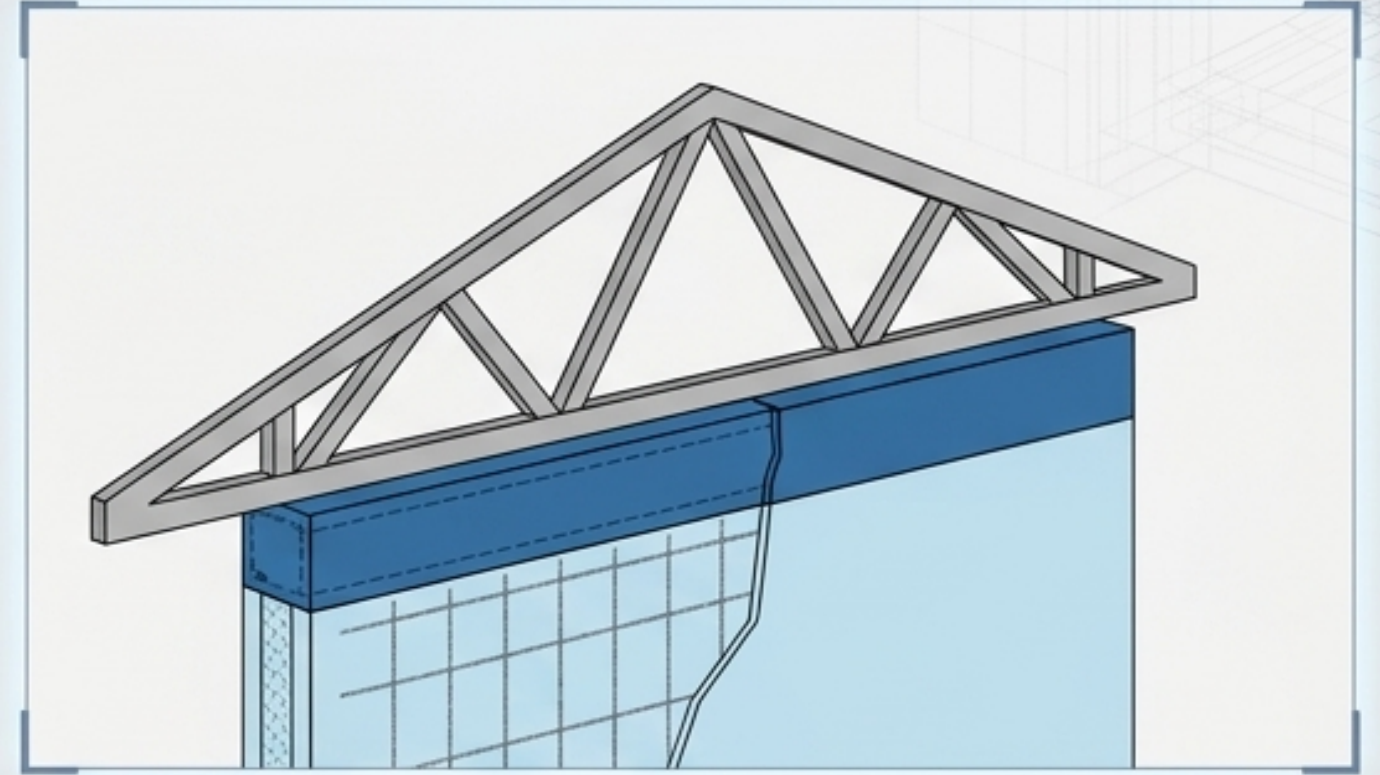
Wall-to-Slab Continuity



Starter reinforcement ties the upper wall mesh directly into the cured ground-floor slab.

Trainer Check: Upper walls are only as stable as this specific connection.

The Ring Beam

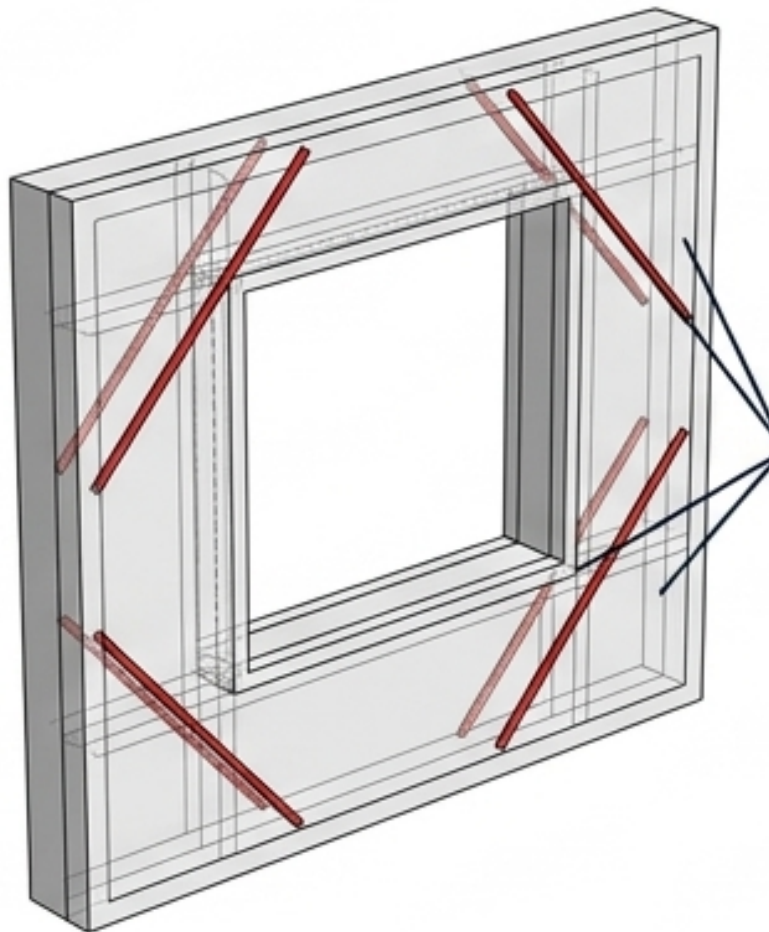


A continuous reinforced concrete ring beam sits at the top of the EPS walls.

Trainer Check: Roof loads must NEVER be applied directly to unrestrained wall tops.

HOLD POINT: Inspect wall-to-slab connections and roof anchors before load is applied.

Phase 3: Integration of Openings & MEP



Diagonal Rebar Reinforcement



Integrated Conduit Channels

Frame:

Cut openings using edge profiles/bucks.

Reinforce:

Install diagonal mesh at all four corners of every opening to prevent stress fractures.

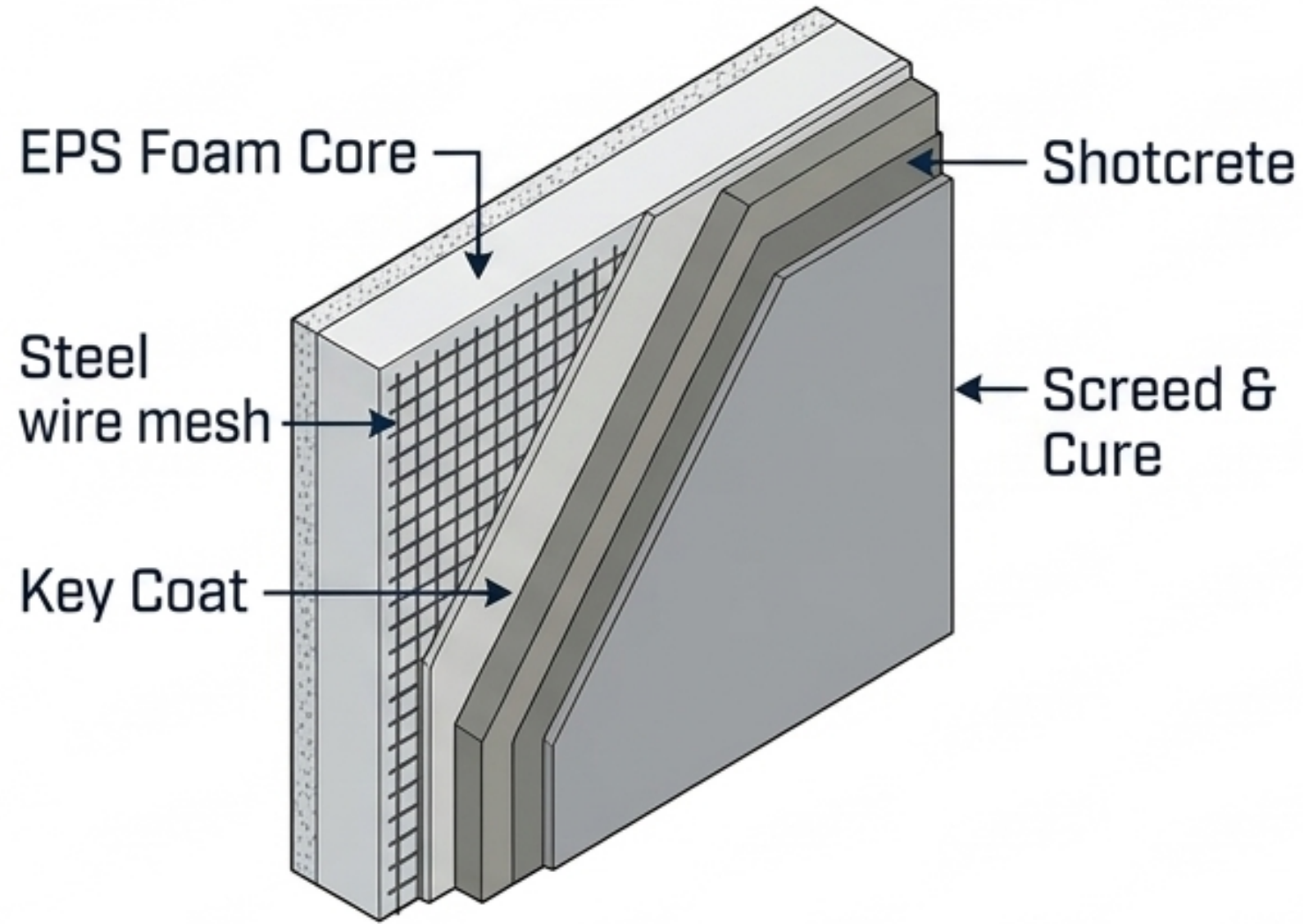
Route:

Melt conduit channels into the EPS core using a hot knife (never an open flame). Do not cut structural wires.

SYSTEM ADVANTAGE:

Services are integrated into the foam core before finishing, completely avoiding later wall chasing and structural damage.

Phase 3: The Shotcrete Layering Sequence (First Side)



1. The Key Coat: Applied to the first face to grip the EPS and wire mesh.

2. Full Embedment: Material is built in passes until the wire mesh is entirely covered to the specified depth.

3. Screed & Cure: Surface is leveled while temporary bracing remains undisturbed.

Trainer Check: Plaster ONE face first and allow it to gain stiffness. Simultaneous unbalanced loading will bow inadequately braced panels.

Safety Callout: Mandatory eye/respiratory protection against cement rebound and pressurized hoses.

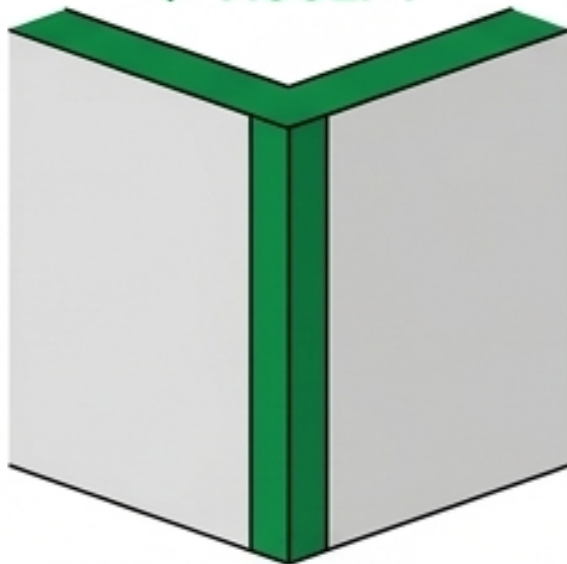
Phase 3: Monolithic Synthesis & Corner Quality

The Final Structural Skin: The second face is plastered only after the first side has gained adequate stiffness. This locks the EPS core inside a rigid concrete matrix.

Plaster Corner Quality

Decomax Green

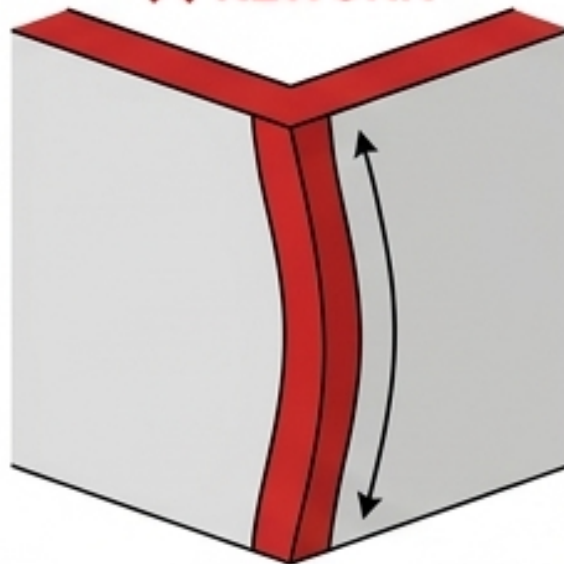
✓ ACCEPT



Straight edge, consistent finish thickness. Crisp, true, and plumb.

Structural Red

✗ REWORK



Wavy, rounded, or out-of-plumb corner.



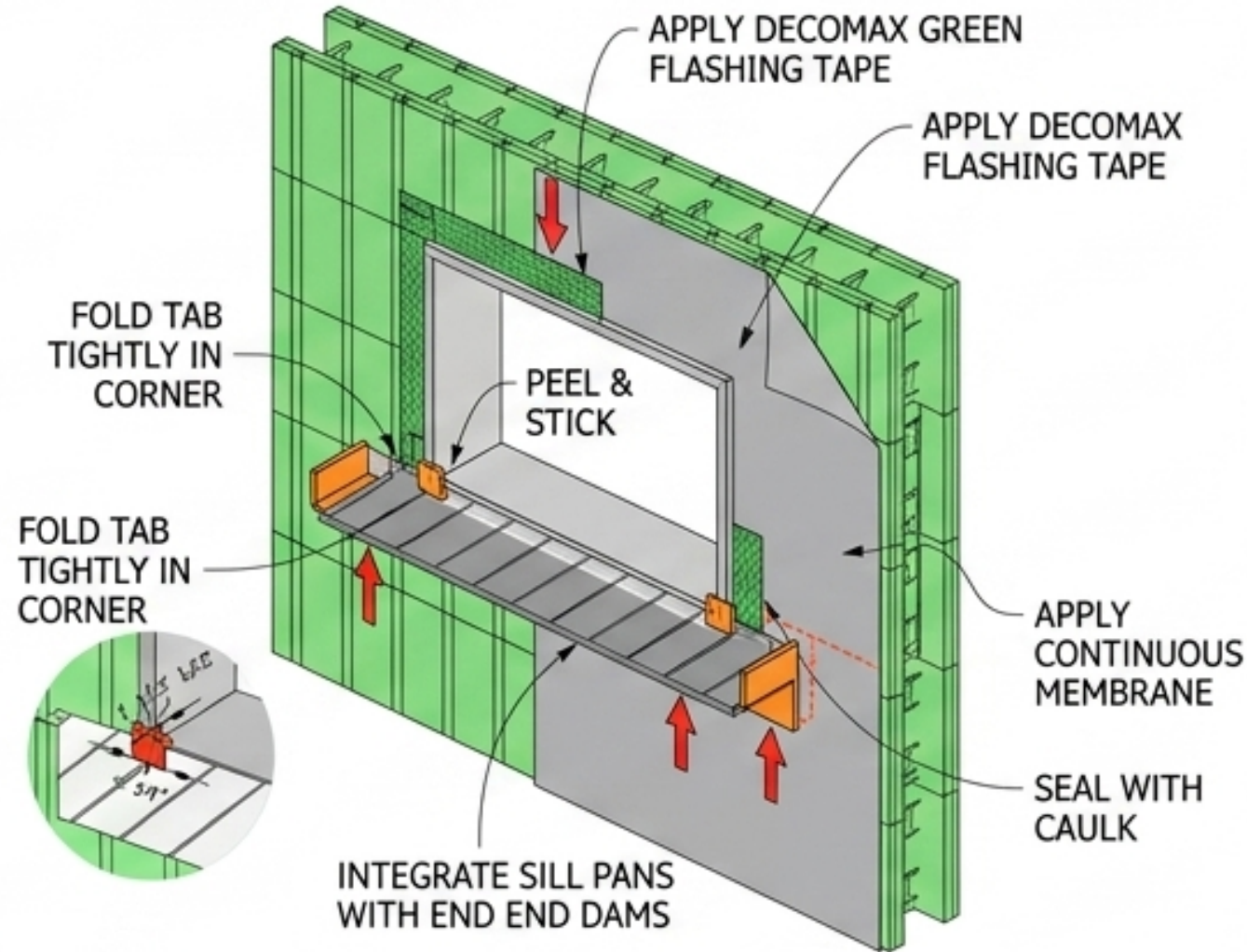
Quality Signature Note: Corners are highly visible and reveal overall workmanship. Corrections must happen now before finishes hide the cause.

Phase 4: Sealing the Envelope

Critical Interfaces:

Critical Interfaces: Frames

Fully fill the perimeter joint between the EPS structural wall and the window/door frame with expanding foam/mortar.



Critical Interfaces:

Critical Interfaces: Waterproofing

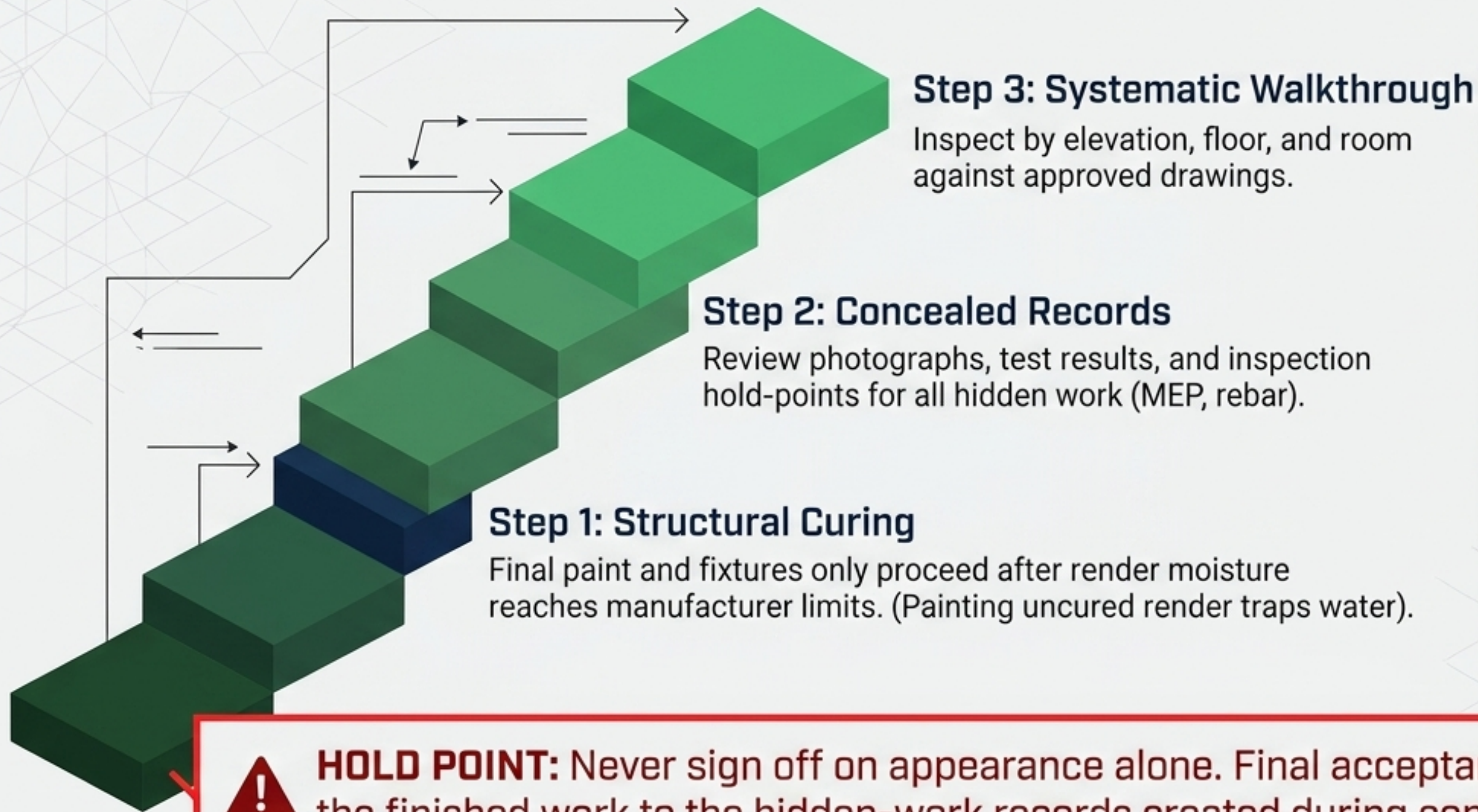
Apply continuous primer and membrane to roof fields, parapet upstands, and foundation-to-wall interfaces.

WHY IT MATTERS



Most long-term moisture failures begin at discontinuities (parapets, penetrations, window perimeters). Treat the system as one unbroken, continuous barrier before applying final exterior rendering.

Phase 4: The Path to Handover



HOLD POINT: Never sign off on appearance alone. Final acceptance requires matching the finished work to the hidden-work records created during construction.

The Final Asset: Engineered for Superiority



The true advantage of the Decomax EPS 3D Sandwich Panel System lies in its synthesis: the rapid assembly speed of prefabricated foam combined with the monolithic rigidity of reinforced concrete.

- ✓ Predictable execution via 14 controlled steps.
- ✓ Uncompromising structural and seismic integrity.
- ✓ A premium, high-yield asset delivered 25% faster.

Decomax: Build Smarter. Build Better.



LET'S BUILD.

Every design certified by registered engineers. Every site supervised to handover. Full quality control from bead to building.

DECOMAX Ltd

Head Office: Kigali, Rwanda

Manufacturing Plant: Musanze, Burera Sector, Northern Province

Email: info@decomax-rwanda.com

Web: www.decomax-rwanda.com

Tel: +250 788 95 48 96

Kwubaka neza ni ukubaka igihugu – To build well is to build a nation.