



NUDURA DECK ROOF SYSTEMS

Build Stronger with Insulated Elevated Concrete
and Waterproofing System

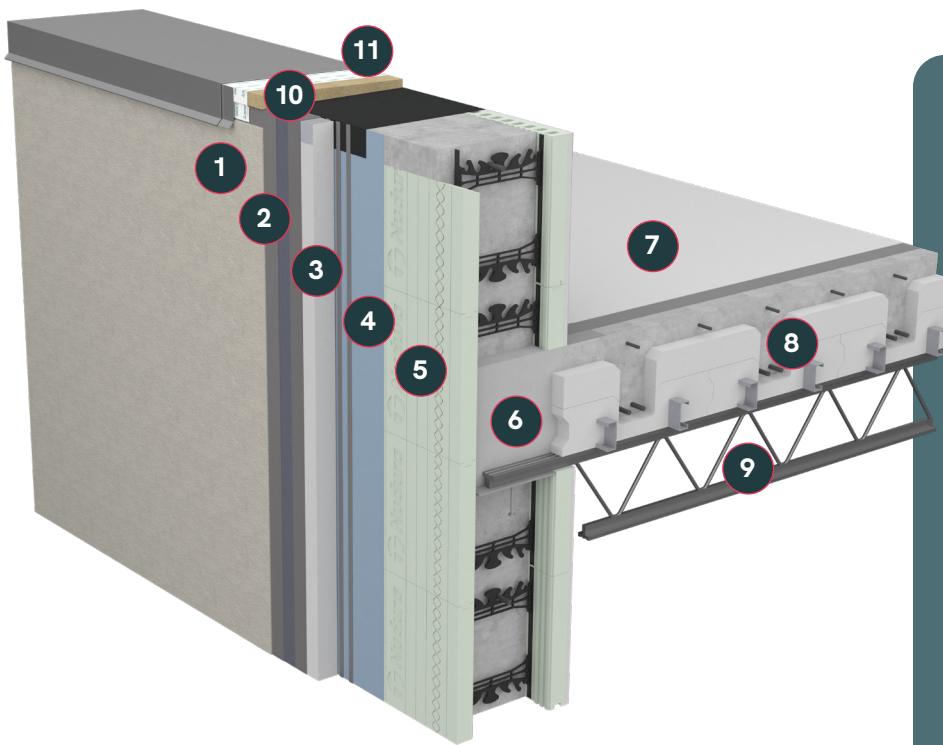


Engineered for Durability. Designed for Efficiency.



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System Components:

1. Dryvit Finish
2. Dryvit Base Coat/Mesh
3. EPS Insulation Board
4. Dryvit/Tremco Air & Water Resistant Barrier Coating
5. Nudura Insulated Concrete Form
6. Concrete
7. AlphaGuard Roofing Membrane
8. Nudura Deck Form
9. Web Steel Joist
10. Prebuck Parapet Cap
11. Tremco Approved Flashing

What is the Nudura Deck Roof System?

Building safe, resilient structures requires materials that can withstand extreme conditions while keeping construction costs in check. The integrated Nudura Deck and Tremco roofing system delivers exactly that. By combining Insulated Concrete Form (ICF) technology with AlphaGuard®, an advanced, direct-to-concrete fluid-applied roofing membrane, we provide unmatched structural integrity, superior insulation and complete waterproofing.

Whether you are designing a K-12 school safe room, a high-security data center or a complete commercial roof, the Nudura Deck system simplifies construction and maximizes long-term value. This complete system solves complex engineering challenges by eliminating excess structural steel and preventing common wind uplift failures.

Walls & Decking: Structural and Material Efficiency

The core advantage of the Nudura Deck system is its ability to streamline the construction process while drastically reducing the need for structural steel. It uses Nudura ICF walls, like those used in school safe rooms, to create a durable and protective structure.

Key Structural Advantages

- ✓ **Optimized Joist Spacing:** Nudura Deck spans between bar joists to reduce or eliminate temporary shoring or supports. This allows engineers to eliminate up to half the bar joists, moving from standard 2 ft (0.61m) centers to 4 to 6 ft (1.22m to 1.83m) centers. The bar joists themselves serve as the necessary shoring.
- ✓ **Reduced Steel and Concrete:** The system eliminates the need for steel decking. Furthermore, Nudura Deck's joisted pattern requires only a 4" (102mm) concrete slab instead of a traditional 6" (152mm) slab (subject to engineering approval).
- ✓ **Wind Uplift Mitigation:** Positioning the insulation beneath the structural slab permanently resolves the wind uplift issues that plague traditional roof designs where insulation sits on top.

Performance Specifications

METRIC	SPECIFICATION/VALUE	DESCRIPTION
Thermal Resistance	R-26.4 (Base)	Provided by standard 6" (152mm) Nudura Deck form. Meets standard code requirements.
Custom Thermal	Variable R-Values	Thicker Nudura Deck forms easily achieve higher target R-values if required.
Acoustics (STC)	57 STC Rating	Exceptionally high Sound Transmission Class, ideal for gymnasiums and learning environments.
Concrete Slab	4" (102mm) Thickness	Reduced from standard 6" (152mm) due to the highly efficient joisted pattern design.
ICF Wall Thickness	6" to 12" (152mm to 305mm)	Standard robust envelope sizing for high-wind and safe-room construction.

Roofing Material: Advanced Waterproofing Application

With the insulation located safely beneath the concrete, the structural deck is ready for a direct-applied roofing membrane. We utilize the high-performance Tremco AlphaGuard PUMA system, offering excellent flexibility and rapid curing, even in cold temperatures. This fluid-applied system bonds directly to the concrete face.



Nadura Deck Forms are lifted by crane and installed spanning the buildings steel joists

The Application Process



- 1. Preparation:** Concrete is prepared to meet the specific ICRI profile rating per project specifications.



- 2. Primer:** Application of AlphaGuard PUMA Primer 107 ensures optimal adhesion.



- 3. Base Coat:** Application of AlphaGuard PUMA base coat at a rate of 5 gallons per square, featuring embedded Permafab reinforcement for unmatched tear resistance.



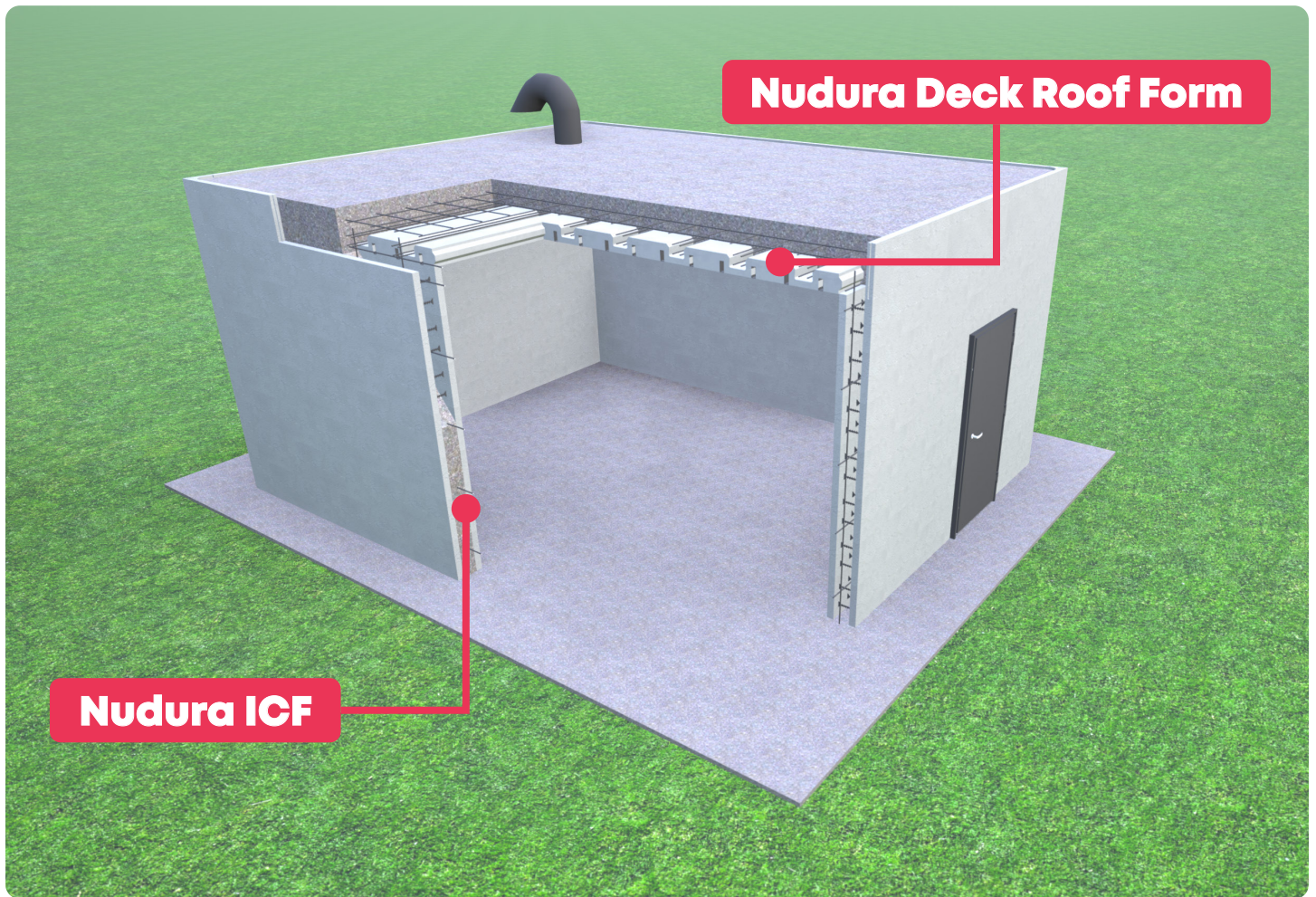
- 4. Top Coat:** Final application of AlphaGuard PUMA top coat at 2 gallons per sq ft. (81.49/m²)



Concrete is poured and prepared to meet the ICRI profile rating specified for the project



AlphaGuard PUMA Top Coat is applied to provide the building a long lasting durable roof finish



| Rendering of a safe-room using Nudura Deck Roof System

Additional Benefits: Long-Term Value and Security

The Nudura Deck and AlphaGuard system is built to withstand for the entire life of the building. The goal is simple: you should never have to tear off and replace this roof.

Unmatched Protection for Critical Assets

- + **Insurance Cost Reduction:** Applying the AlphaGuard system directly to the concrete face vastly lowers the risk of hail and wind damage. For K-12 schools and commercial facilities, this high-resilience design can lead to significant reductions in insurance premiums.
- + **Versatile Applications:** While perfect for gymnasium safe rooms, this integrated system scales perfectly for entire school roofs and mission-critical data centers. It protects valuable equipment and human lives from severe weather events.

A Comprehensive Single Source Warranty for All Building Envelopes

The One Tremco warranty simplifies the building process by consolidating all scopes into a single, comprehensive warranty document. Covering everything from below-grade waterproofing and air barriers to exterior finishes and roofing systems, it ensures full compatibility and seamless integration across all Tremco products. This unified approach eliminates the complexity of managing multiple warranties, reduces risk and provides unmatched protection for the entire building envelope—all backed by the “Power of One” promise.

SYSTEM INTEGRATIONS	
Product	Description
Nudura Insulated Concrete Forms (ICFs)	+ Works as a base structure for walls. Integrates with air barrier, finishes and sealants.
Nudura Deck	+ Concrete roof solution integrates with roof membrane to result in a quiet, secure and energy efficient structure.
Tremco Roofing (AlphaGuard)	+ Pairs with parapet system, sealants and flashing for a seamless roof solution.
Dryvit Finishes	+ Applies over ICF or other substrates. Integrates with air barriers and flashing.
Tremco/Dryvit Air Barrier	+ Works with ICF, finishes and roofing systems to create a continuous building envelope.
Tremco Sealant	+ Seals connections between systems like ICF, finishes and flashing.
Prebuck Parapet Cap	+ Integrates with roofing system and flashing for edge protection.
Tremco/Dryvit Flashing	+ Complements air barriers, finishes and roofing systems for complete moisture control.

Build with Confidence

Reduce structural steel, eliminate complex multi-layer roof systems and secure your building against the worst nature has to offer. The Nudura Deck Roof System delivers peak efficiency from design to decades of operation.