



CARLISLE

Preserving Cold Storage Through Innovative Building Solutions

Six-Sided Protection for
Temperature-Critical Environments

CARLISLE
SYNTEC SYSTEMS

Henry
A CARLISLE COMPANY

VERSICO
ROOFING SYSTEMS

CARLISLE
SPRAY FOAM INSULATION

INSULFOAM
A CARLISLE COMPANY



Demand Proven Expertise in Designing Complex Cold Storage Facilities

Carlisle understands the challenges facing cold storage providers. Food and pharmaceutical companies need more energy efficient, temperature-controlled facilities to support growing customer demands and product lines.

- New facilities need building envelope systems that meet complex design requirements to prevent external air, vapor, and moisture from disrupting inside air quality and temperature.
- Aging facilities must retrofit or replace roofing assemblies to stop warm air and humidity from raising indoor temperatures, causing frost, and spoiling products.

As global demand for cold storage accelerates, architects face growing pressure and complexities designing facilities that maintain strict thermal stability and prevent warm air and moisture intrusion. If not, food and life-saving pharmaceuticals spoil. Losses mount and energy inefficiency abounds.

From roof to below grade, the building envelope serves as the primary defense against the warm air infiltration that can ruin perishable products and disrupt operations.

Cold Storage Demand Soars as Risks and Losses Mount

- **Current Global Market:** \$185.75 billion in 2025, projected to reach \$474.21 billion by 2033¹
- **Projected U.S. Growth:** Approximately 17.4%²
- **Average Age of Facilities:** 42 years³
- **Global Loss from Cold Storage Failure:** 13%⁴ of food production, or about 1.6 billion tons annually

With decades of experience supporting demanding environments, Carlisle provides integrated solutions engineered to maintain thermal performance, control vapor, and prevent moisture-related failures.

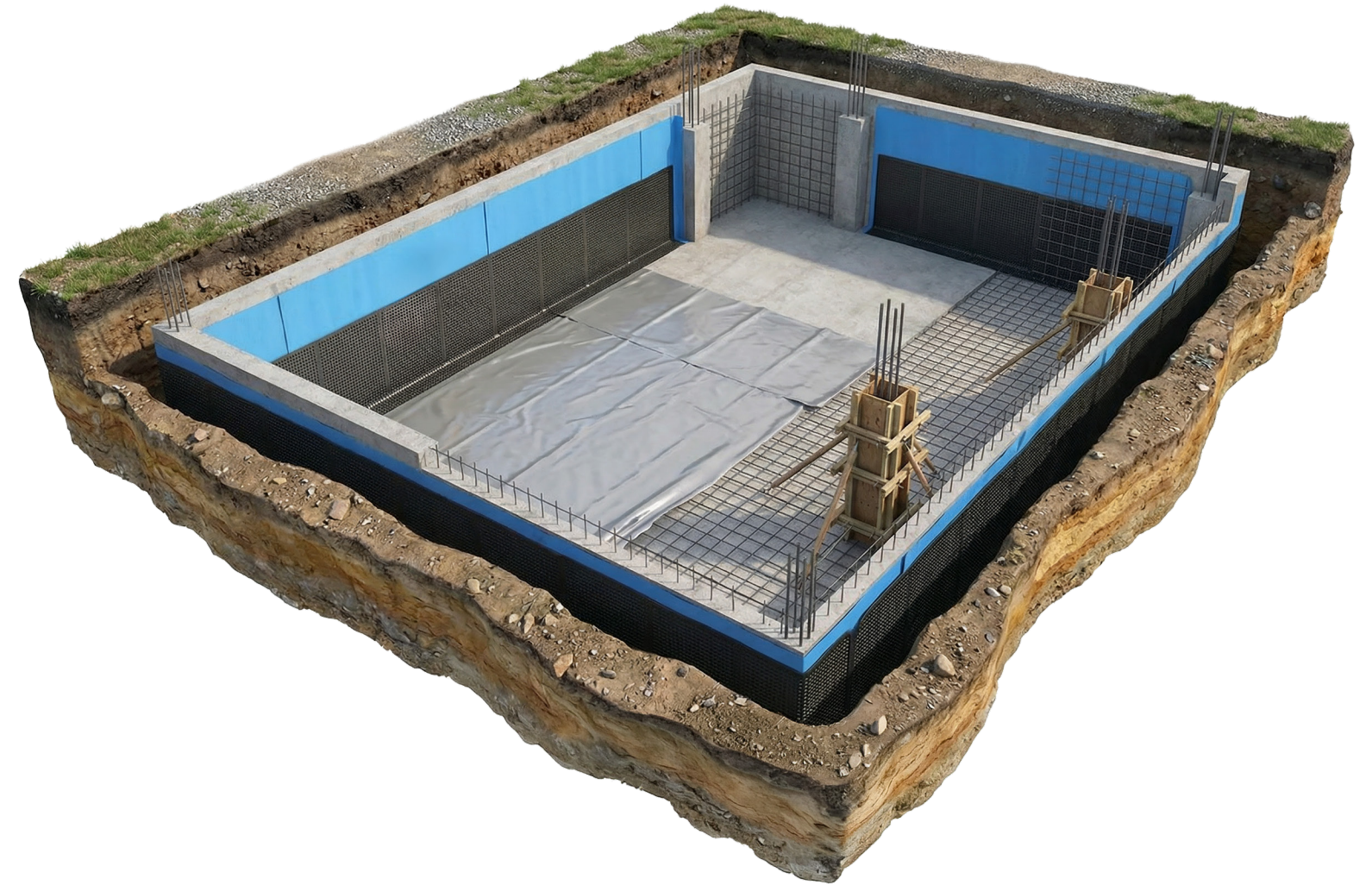
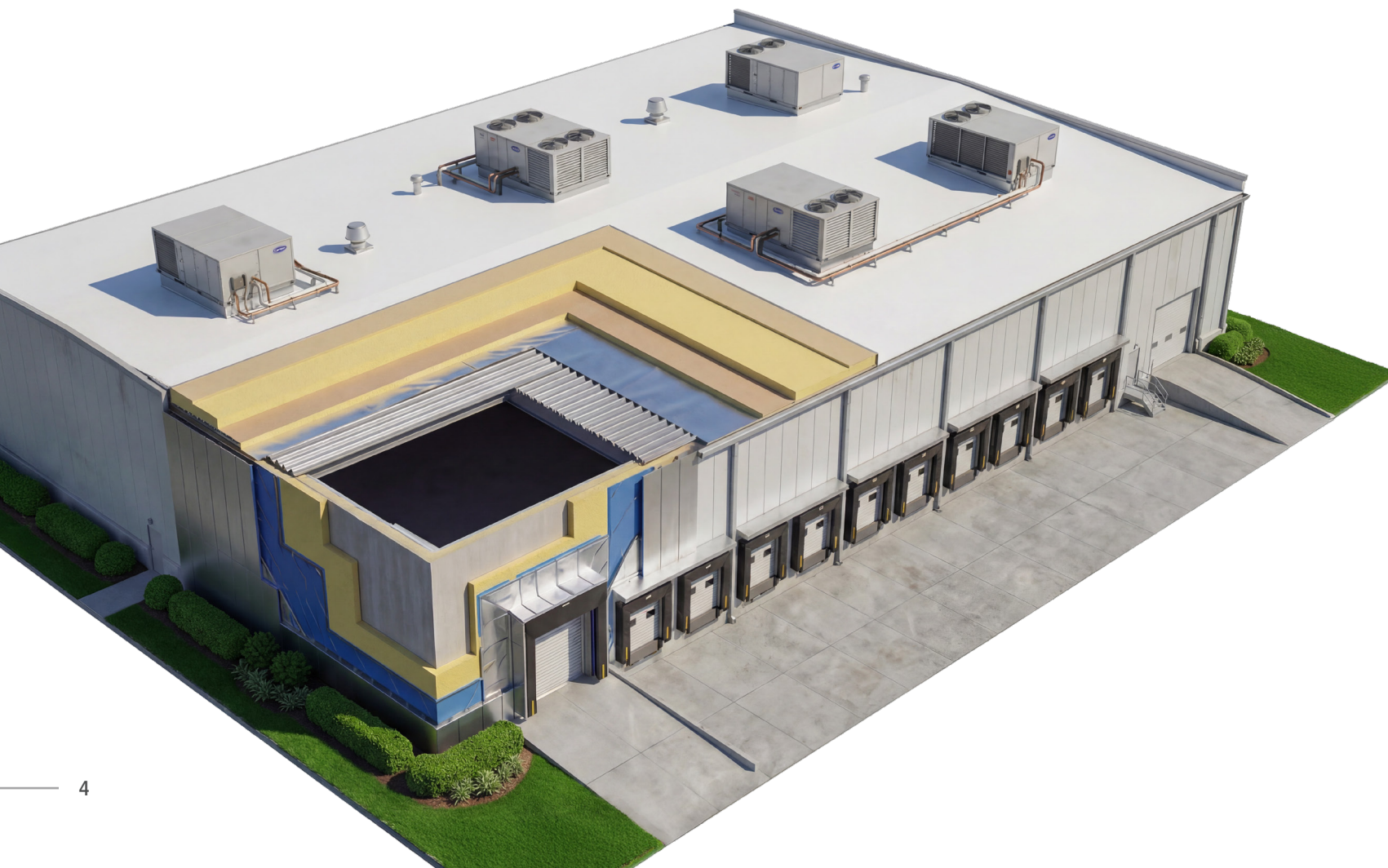
- **Proven expertise** in moisture and vapor drive management
- Coordinated **portfolio of products that mitigate risks** from below-grade waterproofing to roofing
- **Innovative insulation solutions** ideally suited for refrigerated environments
- Dedicated partnership and comprehensive technical resources with experts **support every phase of development and maintenance**

Complete Systems for Six-Sided Protection

Carlisle's building envelope systems protect all six sides of the structure, addressing common failure points at transitions, penetrations, and below-grade connections, wrapping the facility in an airtight and waterproof system.

- Fully adhered systems provide enhanced control of air movement.
- Advances in adhesives and membrane formats have made these systems more efficient and consistent, particularly in temperature-sensitive environments.

Carlisle combines personalized guidance with integrated roofing systems, insulation, air and vapor control, and waterproofing assemblies tailored to the unique demands of each cold storage facility.



Below-Grade Protection: Pre and post applied waterproofing membranes, drainage systems, insulation, and foundation protection create a seamless barrier against groundwater intrusion and moisture migration.

Above-Grade Protection: Fluid and sheet applied waterproofing membranes, air barrier systems, continuous insulation, metal wall panels, and traffic coatings deliver seamless, flexible air and watertight protection while reinforcing vulnerable joints, penetrations, and transitions.

**INNOVATIVE SYSTEMS.
COMPREHENSIVE SUPPORT.
COMPLETE PROTECTION.**

Redundant Roofing Assemblies Block Out Air and Moisture

Warm air and moisture enter primarily through the roof, especially through gaps at edge metal and roof-to-wall and deck-to-wall transitions. Carlisle roofing systems deliver durable, redundant protection against UV exposure, wind, and water for new roofs and retrofits.

Roof assemblies feature an interdependent system of membranes, layers of high R-value insulation, air and vapor barriers, and sealants, proven to deliver long-term durability, code compliance, and energy efficiency.

Single-Ply Roofing Options provide flexibility to meet unique requirements:

- TPO membranes provide durability, waterproofing, and energy efficiency.
- PVC membranes deliver chemical resistance and long term performance.
- EPDM systems provide proven durability and UV resistance.

Perimeter edge metal, including fascia, coping, and water control, provides the first line of defense against wind and rain to secure the edge.

Reflective options reduce heat absorption, lower cooling loads, and extend roof life.



CARLISLE ROOFING SYSTEMS DELIVER DURABLE, REDUNDANT

PROTECTION AGAINST UV EXPOSURE, WIND, AND WATER FOR NEW ROOFS & RETROFITS.

Optimizing Temperature Control in New and Aging Facilities

As cold storage demand soars so do construction and maintenance costs. Facilities cost significantly more to build than standard warehouses due to specialized insulation, vapor retarder systems, refrigeration infrastructure, and detailing required to control temperatures. However, many struggle to operate efficiently as 40% are over 30 years old.

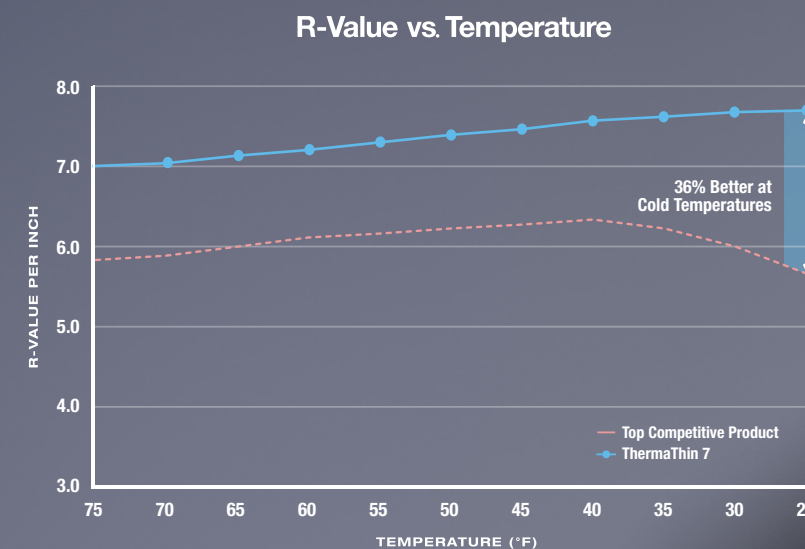
ThermaThin™ 7 Unveils the Next-Level in Cold Facility Insulation

Carlisle's advanced polyiso insulation, ThermaThin 7, delivers industry-leading thermal performance with a thinner profile. The thinner profile supports new and existing facilities, including retrofits with limitations on insulation thickness.

ThermaThin 7 delivers **36% higher thermal performance at 25°F (-4°C)** compared to conventional polyiso insulation based on ASTM C518 testing. By reducing heat gain and refrigeration demand, **ThermaThin 7 can contribute to six-figure cumulative energy savings over the life of the roof.**

THERMATHTIN™ 7

- Reduce refrigeration demand and operating costs
- Improve temperature stability in refrigerated environments
- Maximize insulation efficiency with industry-leading R-value per inch
- Achieve higher thermal performance without increasing roof assembly thickness



INNOVATIVE INSULATION. LEADING R-VALUE PER INCH.

¹ Tested in accordance with ASTM C518 and using publicly available competitor data. (2) Energy savings estimates are based on modeling of the DOE EnergyPlus Benchmark Large Refrigerated Warehouse template with an R-60 roof assembly across U.S. ASHRAE climate zones. Actual results will vary depending on climate, energy costs, building design, operating conditions, and other factors.

Ongoing Innovations Drive Enhanced Cold Storage Performance

Carlisle's innovative suite of building envelope products enhances energy efficiency while preventing warm air and moisture intrusion.

Air and Vapor Barriers create a protective seal that stops moisture and air infiltration, minimizes drafts, stabilizes indoor temperatures, and reduces energy waste. Vapor seals block out air at vulnerable edge details, penetrations, wall interfaces, and joints.

Diverse Insulation Portfolio features polyiso, expanded polystyrene, and spray foam insulations that deliver superior thermal performance, energy efficiency, and code compliance.

Waterproofing and Transitions

- **Below-grade waterproofing systems** create a fully bonded watertight barrier at the slab and foundation wall. Drainage systems, insulation, and integrated transition details protect foundations, slabs, and structural connections.
- **Fluid-applied above-grade solutions** deliver seamless, flexible, continuous protection in complex conditions, including tight access areas where most failures originate.

Spray Foam and Sealants serve as gap-filling solutions that seal out air and moisture by filling penetrations and top and bottom flutes.

**COORDINATED SYSTEMS.
STABLE TEMPERATURES.
LONG-TERM PROTECTION.**

Lifetime Partnership Promotes Long-Term Success

Carlisle partners directly with project teams to ensure performance continuity throughout every phase from concept through completion.

Design Phase

- **Speciation Guidance**
- **Architectural Details**
- **Energy Modeling Review**
- **Critical Tie-in Condition Evaluation**
- **Warranty Verification**
- **Roofing System & Tapered Insulation Design Assist**

Installation Phase

- **Shop Drawing and Detailing Support**
- **Installer Training**
- **Jobsite Observations**
- **Submittals & Assembly Letters**
- **Roof Measurement**
- **Take Offs**
- **Comprehensive Bid Package**

Final Inspections & Maintenance Phase

- **Comprehensive System Review**
- **Leak Detection (optional)**
- **Moisture Scans (optional)**

By combining proven products with hands-on expertise, Carlisle helps teams avoid common pitfalls and deliver reliable, high performance cold storage facilities.



Cold storage failure isn't an option.

One partner. Every surface. Complete protection.

Visit us at CarlisleColdStorage.com



¹ Grandview Research, Cold Storage Market Size To Reach \$474.21 Billion By 2033, December 2025.

² IMARC Transforming Ideas into Impact, US Cold Storage Market Size, Share, Trends and Forecast by Warehouse Type, Construction Type, Temperature Type, Application, and Region, 2026-2034, 2025.

³ Food Logistics, Key Cold Storage Trends for 2025 and Beyond, February 2025.

⁴ Chilton REIT Strategy, Essential Business Spotlight: Cold Storage, September 2024.