

A SIMPLE SPECIFICATION CHANGE WITH OUTSIZED CLIMATE IMPACT

A Multifamily Case Study:
Switching from Mineral
Wool to TimberBatt®
Insulation.

Save Carbon. Save Cost.

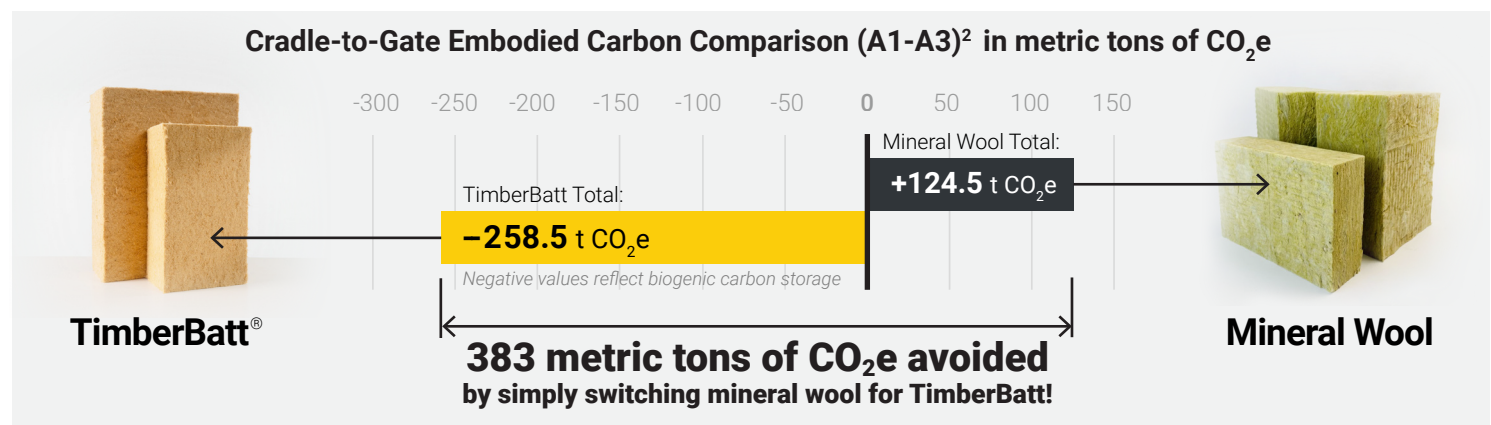


Reducing embodied carbon in buildings does not always require new technologies, complicated design changes, or higher costs. Sometimes it comes down to a single specification decision.

This case study demonstrates how replacing conventional mineral wool batt insulation with TimberHP's wood fiber TimberBatt in a mid-rise, multifamily building delivers a **large and immediate reduction in global warming potential—while meeting performance requirements and lowering material costs.**

The project modeled is a six-story, 106-unit multifamily building totaling 129,230 square feet in the greater Boston area.

This analysis evaluates the lifecycle carbon implications of specifying TimberHP's TimberBatt in all interior cavity and roof applications, holding building geometry and performance constant. Applying project-specific quantities¹, the total impact of switching from mineral wool to TimberBatt is approximately **383 metric tons of CO₂e avoided**.²



To put this in practical terms, avoiding 383 metric tons of CO₂e is equivalent to removing roughly 80–90 typical passenger vehicles from the road for an entire year, or **avoiding nearly one million miles of driving.**

This scale of impact is extraordinary for a single material substitution and illustrates how insulation choices can meaningfully influence whole-building embodied carbon outcomes.

EPA equivalency calculator:

383
metric tons CO₂e

= 
~1 million miles driven
(370 trips from Boston to San Francisco)

=                        
removing 80–90 cars
from the road for a year

Crucially, this carbon reduction does not come at the expense of performance or constructability.

TimberBatt meets fire code requirements, delivers competitive thermal performance, and exceeds mineral wool in acoustic absorption for cavity applications. It is manufactured domestically, available in commercial volumes, and integrates seamlessly into standard multifamily wall, floor, and roof assemblies. From a contractor’s perspective, installation methods mirror conventional batt insulation. From a developer’s perspective, TimberBatt is typically less expensive to purchase than mineral wool, and installed cost may be reduced further depending on regional pricing, freight, labor practices, and PPE requirements. This creates immediate material cost savings alongside long-term climate benefits.

This is not a future innovation. For architects, developers, contractors and policymakers, **this represents a rare alignment of outcomes: lower embodied carbon, lower material cost, equal or better performance, and compatible with standard multifamily assemblies.** In an era where climate targets increasingly demand measurable reductions in building emissions, **switching from mineral wool to TimberHP’s TimberBatt is one of the simplest, fastest, and most effective actions available today** and is the responsible, economically rational path forward for multifamily construction.

¹Method and Assumptions for Project Comparison:
TimberBatt is compared to ROCKWOOL Comfortbatt.

Material Takeoffs:

Building Areas	Insulation Thickness	Total Cubic Feet
Acoustic walls & floors	3.5"	45,464 CF
Roof	14"	27,856 CF
Exterior wall	5.5"	29,451 CF
Exterior wall	6"	6,233 CF
Exterior wall	7.25"	4,689 CF
Total:		27,856 CF

²TimberBatt is supported by a third-party verified Environmental Product Declaration developed using OneClick LCA and verified by EPD Hub Limited in accordance with ISO 21930:2017 and ISO 14025 under EPD Hub Core PCR version 1.2 (24 March 2025). The declared unit is one square meter of insulation at RSI 1, with a declared unit mass of 1.84 kilograms. TimberBatt’s cradle-to-gate (A1–A3, TRACI) global warming potential is –2.47 kg CO₂e per declared unit, reflecting the biogenic carbon stored in the wood fiber relative to manufacturing emissions; end-of-life emissions are not included in A1–A3. By comparison, ROCKWOOL Comfortbatt WS R13, reported on the same declared unit basis, carries a positive cradle-to-gate GWP of approximately +1.29 kg CO₂e per declared unit.

³Meets ASTM E-84 Class A Flame / Smoke
⁴ For detailed STC testing data, visit www.timberhp.com/timberbatt



Photo Credit: University of Maine

High-performance finally meets sustainability and affordability.

- ▶ **Class A fire-rated Performance:** tested for 1- and 2-hour fire-rated assemblies—ideal for multifamily separation walls and corridor partitions.
- ▶ **Superior Acoustic Control⁴ (STC 50+):** dense wood fiber composition delivers industry-leading sound attenuation between units for improved tenant comfort.
- ▶ **Lower Cost vs. Mineral Wool:** 10%-20% savings on material cost, plus itch-free install for builders.
- ▶ **Carbon-Storing, Low-Emissions Insulation** Made from renewable U.S. softwood residuals; stores carbon for the life of the building and supports embodied-carbon compliance.
- ▶ **U.S.-Made Supply Chain Reliability** Domestic manufacturing ensures consistent quality, predictable lead times, and immediate availability for large-scale multifamily schedules.

Upgrade from Mineral Wool to TimberBatt:
Better Carbon. Better Comfort. Better Cost.



SHIPPING NOW

The Future of Insulation is Carbon-Storing.



◀ Explore the full EPD, tested assemblies and technical documents.