



Section 033000 – cast in place concrete

These samples are for pathway 1. Note: These specification samples do not constitute professional advice and should be incorporated at the discretion of professionals on the design team. See the DEQ Housing Guide for Drawings and Specifications Factsheet for more info.

Part 1 General

1.1 Submittals

- A. Product Data: _____.
- B. Sustainable Materials Documentation: Provide documentation per Section 018113 - Sustainable Design Requirements to demonstrate compliance with Oregon DEQ Housing Program requirements.
 - 1. Submit the Pathway 1 section of the DEQ Embodied Carbon Reporting Form, with evidence of compliance attached.
 - a. For all submittals, attach evidence of compliance from either the manufacturer or an independent agency.
 - 1) Acceptable evidence includes Acceptable Environmental Product Declarations.
 - b. Include Material Quantity and Cost data.
 - 1) Acceptable evidence of compliance may include receipts showing quantities and costs of specific products installed.
 - c. DEQ Embodied Carbon Reporting Form: Provide embodied carbon updates throughout construction for each optimized product type that includes the following:
 - 1) Declared quantity and unit of each applicable material.
 - 2) Required Global Warming Potential Baseline
 - 3) Actual embodied carbon emissions (declared unit quantity x kgCO₂e/declared unit).
 - 4) Environmental Product Declaration (EPDs) that document actual GWP
 - 5) Carbon emissions reductions achieved across the pathway

Translation or other formats

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Part 2 Products

2.1 Performance requirements

A. Embodied Carbon - Thermal Insulation:

- For products where a reduction claim is made, provide an Acceptable Environmental Product Declaration (EPD) that documents the following:
 - Actual Embodied Carbon: Product's GWP value as listed on EPD in kg CO₂e per Declared Unit.
 - System Boundary: Product Stage A1-A3.
 - Declared Unit: metric ton.
 - Product Category Rule (PCR): PCR used to create EPD, as listed on EPD.
- Embodied Carbon Optimization Targets: EPDs for these product types are targeted to have a Global Warming Potential (Embodied Carbon, Actual) of 20% less than the Global Warming Potential Baseline.
- Global Warming Potential Baseline: As expressed in kgCO₂e per Declared Unit.

Insulation Type	Baseline Global Warming Potential (kg CO ₂ e per m ² @RSI-1)
Expanded polystyrene (EPS) Type I	2.53
Fiberglass board	5.02
Heavy density mineral wool board	6.82
Polyisocyanurate (Polyiso), aluminum foil facer	4.1
Polyisocyanurate (Polyiso), Glass-Fiber-Reinforced Cellulosic (GRF) facer	2.11
Polyisocyanurate (Polyiso), Coated Glass Facer (CGF)	2.95
Polyisocyanurate (Polyiso), wall	3.5
Polyisocyanurate (Polyiso), roof	2.5
Extruded polystyrene (XPS) board, ≤25 psi	8.9
Extruded polystyrene (XPS) board, 40 psi	10.9
Extruded polystyrene (XPS) board, 60 psi	14.1
Extruded polystyrene (XPS) board, 100 psi	20.1
Blanket insulation (all types)	1.9
Closed-cell spray polyurethane foam, medium density	2.63
Closed-cell spray polyurethane foam, roofing	3.87
Open-cell spray polyurethane foam	1.17
Loose fill insulation (all types)	1.1

4. Global Warming Potential Targets: As expressed in kgCO₂e per Declared Unit.

Insulation Type	Global Warming Potential Targets (kg CO ₂ e per m ² @RSI-1)
Expanded polystyrene (EPS) Type I	2.02
Fiberglass board	4.02
Heavy density mineral wool board	5.46
Polyisocyanurate (Polyiso), aluminum foil facer	3.28
Polyisocyanurate (Polyiso), Glass-Fiber-Reinforced Cellulosic (GRF) facer	1.69
Polyisocyanurate (Polyiso), Coated Glass Facer (CGF)	2.36
Polyisocyanurate (Polyiso), wall	2.8
Polyisocyanurate (Polyiso), roof	2.0
Extruded polystyrene (XPS) board, ≤25 psi	7.1
Extruded polystyrene (XPS) board, 40 psi	8.72
Extruded polystyrene (XPS) board, 60 psi	11.3
Extruded polystyrene (XPS) board, 100 psi	16.1
Blanket insulation (all types)	1.5
Closed-cell spray polyurethane foam, medium density	2.1
Closed-cell spray polyurethane foam, roofing	3.1
Open-cell spray polyurethane foam	0.94
Loose fill insulation (all types)	0.88

Pursuing Pathway 1, the project has a goal to achieve a 20% embodied carbon reduction across the products covered by Pathway 1. For this reason, no individual product must meet the Global Warming Potential Targets in the above table. Instead, these Global Warming Potential Targets are provided as indicative of product-level targets aligned with the project-level goal.

End of section.

Contact

Please email built.environment@deq.oregon.gov if you would like to connect with the program or inquire about our work.

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