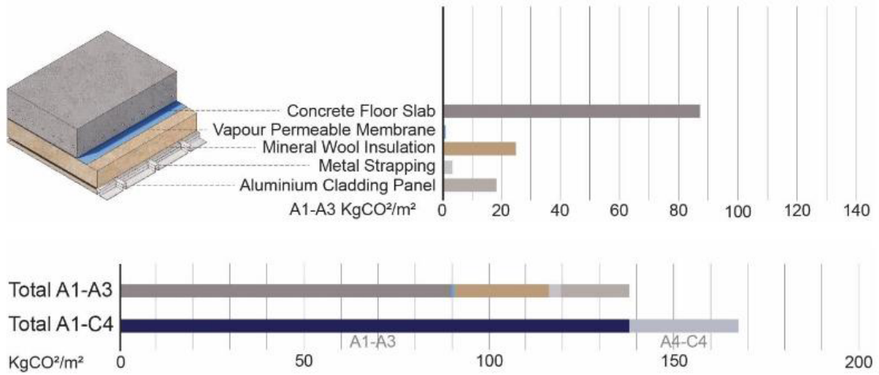
APPENDIX A **FLOOR ASSEMBLY 04**

F04: Results Summary

Metrics	Results
Description	**Insulated Soffit with Mineral Wool**
Effective R-value	RSI-3.7 m^2K/W | R-21.1 $ft^2{\cdot}°F{\cdot}h/BTU$
Embodied Carbon per m^2 of Enclosure (A1-A3)	138.2 $kgCO_2/m^2$
Biogenic Carbon per m^2 of Enclosure	0 $kgCO_2/m^2$



F04: Assembly Effective R-value Calculation

Description	t_{SI}	t_{IP}	k	C (USI)	$RSI_{effective}$	$R_{effective}$	$R_{nominal}$
Units	mm	in	W/mK	W/m^2K	m^2K/W	$ft^2{\cdot}°F{\cdot}h/BTU$	$ft^2{\cdot}°F{\cdot}h/BTU$
Interior air film					0.11	0.61	
Concrete floor slab	254.00	10.00	1.60	6.30	0.16	0.90	
Self-adhered sheet-applied air barrier and WRB membrane (vapour permeable)	0.60	0.02	-	-	-	-	
Semi-rigid mineral fiber exterior insulation with intermittent proprietary fibreglass clips	152.40	6.00	0.03	0.22	3.41	19.35	25.80
Vertical or horizontal metal girts, air cavity	25.00	0.98	0.03	-	-	-	
Aluminum panel cladding	4.00	0.16	-	-	-	-	
Exterior air film					0.03	0.17	
TOTALS	**436.0**	**17.20**			**3.70**	**21.10**	**25.80**

F04: Embodied Carbon Emissions (A1 to A3 Life Stages) for 9m^2 Assembly Area

Category	Material	Description (from EPD)	Thickness	Material Volume	Carbon Emissions (A1-A3)	% of total
Units			mm	m^3	kgCO2e	%
Structure	Concrete Floor Slab	Ready-mix concrete, 35MPa GU cem. with air entr. 0-14% FA/SC (CRMCA)	254 (10")	2.29	1030.02	44.1%
		Reinforcement steel (rebar), generic, 60% recycled content, A615	-	0.023	241.77	19.5%
Exterior Membrane	Vapour permeable membrane	Latex-based membrane, vapor permeable, fluid-applied, fire resistant, 40 mils (1.016 mm), 1.17 lbs/gal (1.399 kg/L), Perm-A-Barrier® VPL (GCP Applied Technologies Inc., Corporate)	0.6 (0.024")	*	11	0.9%
Exterior Insulation	Exterior Insulation Mineral Wool	Heavy density mineral wool board, 1 m2K/W, 1.34 in (34 mm), 0.86 lb/ft2 (4.2 kg/m2), 7.71 lb/ft3 (123.52 kg/m3), Industry average US (NAIMA)	152.4 (6")	1.3716	240	19.4%
Metal strapping	1" metal z-girt strapping	Steel, structural, girts and purlins (NREL)	1.2 (0.047")	0.0018249	33	3%
Cladding	Aluminum Cladding Panel	Roll formed aluminum cladding, 4.91 kg/m2 (Metal Construction Association) (Generic)	4 (0.16")	0.036*	170	13.5%
				TOTAL	**1244.00**	

**Software auto-calculates the impact based on the area provided.*

F04: Environmental Emissions (A1 to C4 Life Stages) for 9m^2 Assembly Area

Lifecycle Stage		**A1 to C4**	A1-A3	A4-A5	B1-B5	C1-C4	A1-A3 Contribution to total
Category	Units	**Total**	Construction Materials	Transport to Site & Construction	Material Replacement & Refurbishment	Deconstruction	%
Global Warming	kg CO2e	**1504.957**	1239.78	134.34	56.06	74.777	82.38%
Acidification	kg SO	**8.28E-05**	4.27E-05	3.06E-05	2.70E-06	6.82E-06	51.56%
Eutrophication	kg Ne	**7.7165**	5.54	0.2159	0.1	1.8606	71.79%
Ozone Depletion	kg CFC11e	**2.140618**	1.9114	0.09299	0.094	0.042228	89.29%
Formation of Tropospheric Ozone	kg O3e	**92.373543**	87.57	2.58	1.56	0.663543	94.80%
Fossil Fuel Primary Energy	MJ	**7115.57**	4958.01	2000.28	81.63	75.65	69.68%
Biogenic Carbon Storage	kg CO2e	**0**					