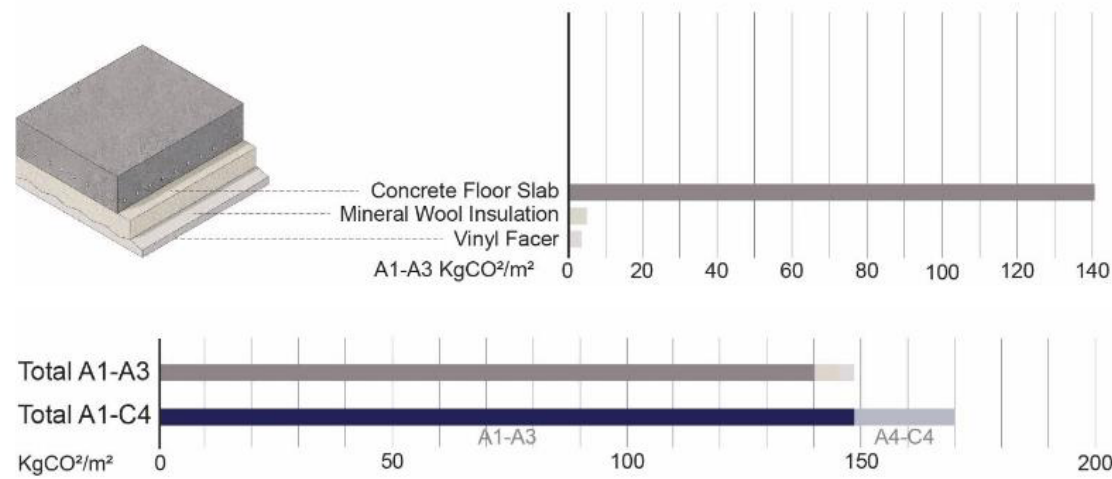


APPENDIX A FLOOR ASSEMBLY 02

F02: Results Summary

Metrics	Results
Description	Parking Garage Concrete Ceiling with Fire Resistant Spray Insulation
Effective R-value	RSI-4.5 m ² K/W R-25.7 ft ² ·°F·h/BTU
Embodied Carbon per m ² of Enclosure (A1-A3)	148.4 kgCO ₂ /m ²
Biogenic Carbon per m ² of Enclosure	0 kgCO ₂ /m ²



F02: 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 ² K	m ² K/W	ft ² ·°F·h/BTU	ft ² ·°F·h/BTU
Interior air film					0.11	0.61	
Concrete floor slab	254.00	10.00	1.60	6.30	0.16	0.90	
Fire-resistant spray insulation	152.40	6.00	-	-	4.23	24.00	24.00
Exterior air film					0.03	0.17	
TOTALS	406.4	16.0			4.50	25.70	24.00

F02: Embodied Carbon Emissions (A1 to A3 Life Stages) for 9m² Assembly Area

Category	Material	Description (from EPD)	Thickness	Material Volume	Carbon Emissions (A1-A3)	% of total
Units			mm	m ³	kgCO ₂ e	%
Structure	Concrete Floor Slab Interior gypsum board	Ready-mix concrete, 35MPa GU cem. with air entr. 0-14% FA/SC (CRMCA)	254 (10")	2.29	1030.02	77.15%
		Reinforcement steel (rebar), generic, 60% recycled content, A615	-	0.023	241.77	18.11%
Insulation	Spray foam insulation (PU)	Spray polyurethane foam insulation for closed cell, with HFO blowing agent, 0.022 W/mK, 32 kg/m3 average density, (Spray Polyurethane Foam Association (SPFA))	152.4 (6")	1.37	37.45	2.80%
Fire Proofing	Fire resistant Spray	Spray-applied fire-resistive material, medium density, 352 kg/m3 (22 pcf) (GCP Applied Technologies (2022))	50.8 (2")	0.46	25.92	1.94%
TOTAL					1335.16	100.0%

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

F02: Environmental Emissions (A1 to C4 Life Stages) for 9m² Assembly Area

Lifecycle Stage	Units	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 CO ₂ e	1,536.90	1,335.16	135.76	0.00	65.98	86.87%
Acidification	kg SO	6.37	5.79	0.21	0.00	0.37	90.89%
Eutrophication	kg Ne	1.93	1.77	0.09	0.00	0.07	91.76%
Ozone Depletion	kg CFC11e	0.00008	0.000033	0.000031	0.00	0.00002	41.25%
Formation of Tropospheric Ozone	kg O ₃ e	110.48	101.50	2.58	0.00	6.40	91.87%
Fossil Fuel Primary Energy	MJ	11,741.34	8,678.88	2,018.84	0.00	1,043.62	73.92%
Biogenic Carbon Storage	kg CO ₂ e	0	0	0	0	0	