

PLA-ZM35/50/60EA2

CIBSE TM65 Embodied Carbon Mid-level Calculation

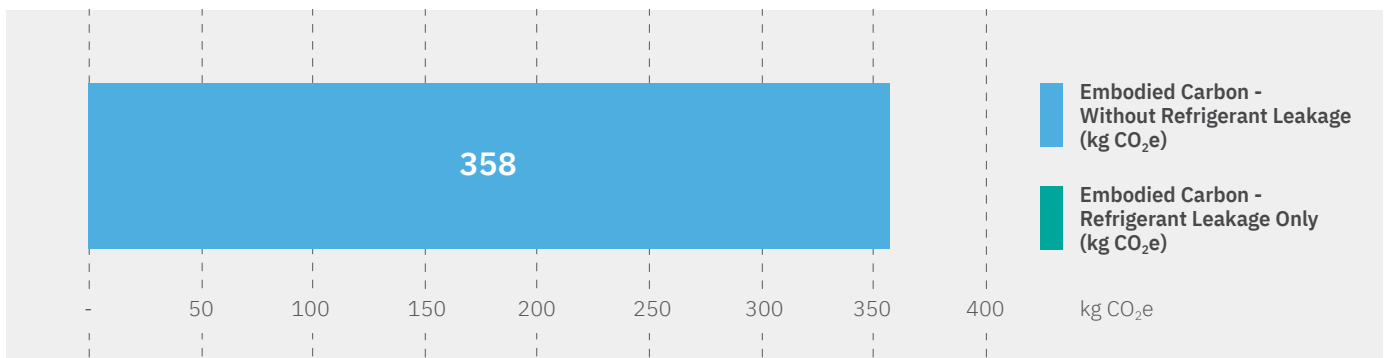
Assesment Date: 22nd January 2024
Assessor / Organisation: RI / Mitsubishi Electric LES UK
Contact: embodied.carbon@meuk.mee.com

Embodied Carbon with 'Mid-level TM65 Calculation' Method (kg CO₂e) Total:

358

Capacities (kW)*	3.6	5.0	6.1
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Embodied Carbon Result per kW (kg CO ₂ e/kW):	99	72	59
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PLA-ZM35/50/60EA2 - Product Information

Type of product	Split Type Indoor Unit
Capacity of equipment (kW)*	3.6 / 5.0 / 6.1
Product weight (kg)	21
Material breakdown for at least 95% of the product weight? (Y/N)	Y
Service life of the product (years)	15
Type of refrigerant	R32
Refrigerant GWP	675
Energy consumption of the factory per unit of product (kWh)	30.01428571
Location of manufacture	UK
Product Complexity	Category 3: High



*Nominal cooling capacity conditions as per data book

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Embodied Carbon Results Breakdown (kg CO₂e)

A1: Material extraction	146
A2: Transport	17
A3: Manufacturing	73
A4: Transport to Site	6
B1: Use	-
B3: Repair	25
C1: Deconstruction	-
C2: Transport	0
C3: Waste Processing	9
C4: Disposal	0

Embodied Carbon Results - without Refrigerant Leakage (kg CO₂e)

A1-C4 (excluding B1,C1)	275
A1-C4 with Buffer Factor (excluding B1, C1)	358

Embodied Carbon Result - Refrigerant Leakage Only (kg CO₂e)

B1 (Refrigerant leakage during use) + C1 (Refrigerant leakage end of life)	-
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Assumptions

A1: Material carbon coefficient source	TM65 Table 2.1 & The ICE Database
B1: Refrigerant annual leakage rate (%)	6
C1: Refrigerant end of life recovery rate (%)	97
B3: Materials replaced as part of repair (%)	10 (TM65 Assumption)
C4: Percentage of product going to landfill (%)	30



Telephone: 01707 282880
 email: embodied.carbon@meuk.mee.com
les.mitsubishielectric.co.uk



UNITED KINGDOM Mitsubishi Electric Europe Living Environment Systems Division, Travellers Lane, Hatfield, Hertfordshire, AL10 8XB, England. Telephone: 01707 282880
 IRELAND Mitsubishi Electric Europe, Westgate Business Park, Ballymount, Dublin 24, Ireland. Telephone: (01) 419 8800 International code: (003531)

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Note: The fuse rating is for guidance only and please refer to the relevant databook for detailed specification. It is the responsibility of a qualified electrician/electrical engineer to select the correct cable size and fuse rating based on current regulation and site specific conditions. Mitsubishi Electric's air conditioning equipment and heat pump systems contain a fluorinated greenhouse gas, R410A (GWP:2088), R290 (GWP:3), R32 (GWP:675), R407C (GWP:1774), R134a (GWP:1430), R513A (GWP:631), R454B (GWP:466), R454C (GWP:148), R1234ze (GWP:7) or R1234yf (GWP:4). *These GWP values are based on Regulation (EU) No 517/2014 from IPCC 4th edition. In case of Regulation (EU) No.626/2011 from IPCC 3rd edition, these are as follows. R410A (GWP:1975), R32 (GWP:550), R407C (GWP:1650) or R134a (GWP:1300).

Effective as of June 2024

