

## Project name

Regents Park Medical Centre - LEAN

As designed

Date: Thu Dec 05 16:40:21 2024

## Administrative information

## Building Details

Address: 335 Euston Road, London, NW1 3AD

## Certifier details

Name: Alisha Pinheiro

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## Certification tool

Calculation engine: Apache

Calculation engine version: 7.0.26

Interface to calculation engine: IES Virtual Environment

Interface to calculation engine version: 7.0.26

BRUKL compliance module version: v6.1.e.1

Foundation area [m<sup>2</sup>]: 41.27The CO<sub>2</sub> emission and primary energy rates of the building must not exceed the targets

Target CO <sub>2</sub> emission rate (TER), kgCO <sub>2</sub> /m <sup>2</sup> annum	6.21
Building CO <sub>2</sub> emission rate (BER), kgCO <sub>2</sub> /m <sup>2</sup> annum	4.57
Target primary energy rate (TPER), kWh <sub>PE</sub> /m <sup>2</sup> annum	67.48
Building primary energy rate (BPER), kWh <sub>PE</sub> /m <sup>2</sup> annum	49.45
Do the building's emission and primary energy rates exceed the targets?	BER ≤ TER   BPER ≤ TPER

## The performance of the building fabric and fixed building services should achieve reasonable overall standards of energy efficiency

Fabric element	U <sub>a</sub> -Limit	U <sub>a</sub> -Calc	U <sub>i</sub> -Calc	First surface with maximum value
Walls*	0.26	0.18	0.18	11000000:Surf[1]
Floors	0.18	0.14	0.14	00000000:Surf[0]
Pitched roofs	0.16	0.14	0.14	15000000:Surf[4]
Flat roofs	0.18	0.13	0.14	12000000:Surf[3]
Windows** and roof windows	1.6	1.2	1.2	11000000:Surf[0]
Rooflights***	2.2	1.26	1.3	15000000:Surf[3]
Personnel doors^	1.6	-	-	No personnel doors in building
Vehicle access & similar large doors	1.3	-	-	No vehicle access doors in building
High usage entrance doors	3	-	-	No high usage entrance doors in building
U <sub>a</sub> -Limit = Limiting area-weighted average U-values [W/(m <sup>2</sup> K)] U <sub>a</sub> -Calc = Calculated area-weighted average U-values [W/(m <sup>2</sup> K)] U <sub>i</sub> -Calc = Calculated maximum individual element U-values [W/(m <sup>2</sup> K)] * Automatic U-value check by the tool does not apply to curtain walls whose limiting standard is similar to that for windows. ** Display windows and similar glazing are excluded from the U-value check. *** Values for rooflights refer to the horizontal position. ^ For fire doors, limiting U-value is 1.8 W/m <sup>2</sup> K NB: Neither roof ventilators (inc. smoke vents) nor swimming pool basins are modelled or checked against the limiting standards by the tool.				

Air permeability	Limiting standard	This building
m <sup>3</sup> /(h.m <sup>2</sup> ) at 50 Pa	8	5

## Building services

For details on the standard values listed below, system-specific guidance, and additional regulatory requirements, refer to the Approved Documents.

Whole building lighting automatic monitoring & targeting with alarms for out-of-range values	NO
Whole building electric power factor achieved by power factor correction	<0.9

### 1- 2b. ASHP - MVHR - Notional

	Heating efficiency	Cooling efficiency	Radiant efficiency	SFP [W/(l/s)]	HR efficiency
This system	2.78	-	0.2	0.9	0.75
Standard value	2.5*	N/A	N/A	1.9^	N/A
Automatic monitoring & targeting with alarms for out-of-range values for this HVAC system					NO
* Standard shown is for all types >12 kW output, except absorption and gas engine heat pumps.					
^ Limiting SFP may be increased by the amounts specified in the Approved Documents if the installation includes particular components.					

### 1- 4. Instantaneous Hot Water System

	Water heating efficiency	Storage loss factor [kWh/litre per day]
This building	1	-
Standard value	1	N/A

"No zones in project where local mechanical ventilation, exhaust, or terminal unit is applicable"

General lighting and display lighting		General luminaire	Display light source	
Zone name		Efficacy [lm/W]	Efficacy [lm/W]	Power density [W/m²]
	Standard value	95	80	0.3
Stair		125	-	-
CT Scan		125	-	-
Stair		125	-	-
Consulting Room		125	-	-
Circulation		125	-	-
WC		125	-	-
Consulting Room		125	-	-
Stair		125	-	-
Circulation		125	-	-
Circulation		125	-	-
Plant room		125	-	-
WC		125	-	-
Consulting Room		125	-	-
Circulation		125	-	-
Stair		125	-	-
Reception		125	125	1.08

The spaces in the building should have appropriate passive control measures to limit solar gains in summer

Zone	Solar gain limit exceeded? (%)	Internal blinds used?
CT Scan	N/A	N/A
Consulting Room	NO (-93.3%)	NO
Consulting Room	NO (-39%)	NO
Consulting Room	N/A	N/A

Zone	Solar gain limit exceeded? (%)	Internal blinds used?
Reception	YES (+56.5%)	NO

## Regulation 25A: Consideration of high efficiency alternative energy systems

Were alternative energy systems considered and analysed as part of the design process?	NO
Is evidence of such assessment available as a separate submission?	NO
Are any such measures included in the proposed design?	NO

# Technical Data Sheet (Actual vs. Notional Building)

## Building Global Parameters

	Actual	Notional
Floor area [m <sup>2</sup> ]	171.3	171.3
External area [m <sup>2</sup> ]	293.7	293.7
Weather	LON	LON
Infiltration [m <sup>3</sup> /hm <sup>2</sup> @ 50Pa]	5	3
Average conductance [W/K]	73.47	81.33
Average U-value [W/m <sup>2</sup> K]	0.25	0.28
Alpha value* [%]	25.23	10

\* Percentage of the building's average heat transfer coefficient which is due to thermal bridging

## Building Use

### % Area Building Type

Retail/Financial and Professional Services  
 Restaurants and Cafes/Drinking Establishments/Takeaways  
 Offices and Workshop Businesses  
 General Industrial and Special Industrial Groups  
 Storage or Distribution  
 Hotels

### 100 Residential Institutions: Hospitals and Care Homes

Residential Institutions: Residential Schools  
 Residential Institutions: Universities and Colleges  
 Secure Residential Institutions  
 Residential Spaces  
 Non-residential Institutions: Community/Day Centre  
 Non-residential Institutions: Libraries, Museums, and Galleries  
 Non-residential Institutions: Education  
 Non-residential Institutions: Primary Health Care Building  
 Non-residential Institutions: Crown and County Courts  
 General Assembly and Leisure, Night Clubs, and Theatres  
 Others: Passenger Terminals  
 Others: Emergency Services  
 Others: Miscellaneous 24hr Activities  
 Others: Car Parks 24 hrs  
 Others: Stand Alone Utility Block

## Energy Consumption by End Use [kWh/m<sup>2</sup>]

	Actual	Notional
Heating	1.44	0.79
Cooling	0	0
Auxiliary	14.82	23.24
Lighting	12.91	18.42
Hot water	3.4	3.23
Equipment*	197.66	197.66
<b>TOTAL **</b>	<b>32.57</b>	<b>45.67</b>

\* Energy used by equipment does not count towards the total for consumption or calculating emissions.

\*\* Total is net of any electrical energy displaced by CHP generators, if applicable.

## Energy Production by Technology [kWh/m<sup>2</sup>]

	Actual	Notional
Photovoltaic systems	0	0
Wind turbines	0	0
CHP generators	0	0
Solar thermal systems	0	0
<i>Displaced electricity</i>	<i>0</i>	<i>0</i>

## Energy & CO<sub>2</sub> Emissions Summary

	Actual	Notional
Heating + cooling demand [MJ/m <sup>2</sup> ]	11.93	7.86
Primary energy [kWh <sub>PE</sub> /m <sup>2</sup> ]	49.45	67.48
Total emissions [kg/m <sup>2</sup> ]	4.57	6.21

HVAC Systems Performance										
System Type	Heat dem MJ/m2	Cool dem MJ/m2	Heat con kWh/m2	Cool con kWh/m2	Aux con kWh/m2	Heat SSEFF	Cool SSEER	Heat gen SEFF	Cool gen SEER	
[ST] Central heating using air distribution, [HS] ASHP, [HFT] Electricity, [CFT] Electricity										
	Actual	12.4	0	1.5	0	15.4	2.3	0	2.78	0
	Notional	8.2	0	0.8	0	24.1	2.78	0	----	----
[ST] No Heating or Cooling										
	Actual	0	0	0	0	0	0	0	0	0
	Notional	0	0	0	0	0	0	0	----	----

### Key to terms

Heat dem [MJ/m2]	= Heating energy demand
Cool dem [MJ/m2]	= Cooling energy demand
Heat con [kWh/m2]	= Heating energy consumption
Cool con [kWh/m2]	= Cooling energy consumption
Aux con [kWh/m2]	= Auxiliary energy consumption
Heat SSEFF	= Heating system seasonal efficiency (for notional building, value depends on activity glazing class)
Cool SSEER	= Cooling system seasonal energy efficiency ratio
Heat gen SSEFF	= Heating generator seasonal efficiency
Cool gen SSEER	= Cooling generator seasonal energy efficiency ratio
ST	= System type
HS	= Heat source
HFT	= Heating fuel type
CFT	= Cooling fuel type