

## Project name

**S41898 - Care Home****As designed****Date:** Wed Aug 19 14:39:07 2026

## Administrative information

## Building Details

**Address:** 501 Bursledon Road, Hampshire, Southampton, SO19 8NJ

## Certifier details

**Name:** Joshua Handley**Telephone number:** 0345 646 5454**Address:** Cokenach Estate, Unit 3 & 4, Barkway, Hertfordshire, Royston, SG8 8DL

## Certification tool

**Calculation engine:** SBEM**Calculation engine version:** v6.1.e.2**Interface to calculation engine:** Virtual Environment**Interface to calculation engine version:** v7.0.31**BRUKL compliance module version:** v6.1.e.1**Foundation area [m<sup>2</sup>]:** 195.19The 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   | 36.09                   |
| Building CO <sub>2</sub> emission rate (BER), kgCO <sub>2</sub> /m <sup>2</sup> annum | 28.83                   |
| Target primary energy rate (TPER), kWh <sub>PE</sub> /m <sup>2</sup> annum            | 191.39                  |
| Building primary energy rate (BPER), kWh <sub>PE</sub> /m <sup>2</sup> annum          | 133.31                  |
| 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-Limit</sub> | U <sub>a-Calc</sub> | U <sub>i-Calc</sub> | First surface with maximum value      |
|--------------------------------------|----------------------|---------------------|---------------------|---------------------------------------|
| Walls*                               | 0.26                 | 0.15                | 0.15                | 00000000_W-1                          |
| Floors                               | 0.18                 | 0.15                | 0.15                | 00000000_F                            |
| Pitched roofs                        | 0.16                 | 0.1                 | 0.1                 | 00000000_C                            |
| Flat roofs                           | 0.18                 | 0.1                 | 0.1                 | 00000000_C                            |
| Windows** and roof windows           | 1.6                  | 1.2                 | 1.2                 | 00000000_W1_O0                        |
| Rooflights***                        | 2.2                  | -                   | -                   | No external rooflights                |
| Personnel doors^                     | 1.6                  | 1.4                 | 1.4                 | 00000000_W2_O0                        |
| Vehicle access & similar large doors | 1.3                  | -                   | -                   | No external vehicle access doors      |
| High usage entrance doors            | 3                    | -                   | -                   | No external high usage entrance doors |

U<sub>a-Limit</sub> = Limiting area-weighted average U-values [W/(m<sup>2</sup>K)]U<sub>i-Calc</sub> = Calculated maximum individual element U-values [W/(m<sup>2</sup>K)]U<sub>a-Calc</sub> = Calculated area-weighted average 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 | YES  |
| Whole building electric power factor achieved by power factor correction                     | <0.9 |

### 1- Combi Boiler

|                                                                                                                                                                                                                       | Heating efficiency | Cooling efficiency | Radiant efficiency | SFP [W/(l/s)] | HR efficiency |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------|--------------------|---------------|---------------|
| This system                                                                                                                                                                                                           | 0.94               | -                  | -                  | -             | -             |
| Standard value                                                                                                                                                                                                        | 0.93*              | N/A                | N/A                | N/A           | N/A           |
| Automatic monitoring & targeting with alarms for out-of-range values for this HVAC system                                                                                                                             |                    |                    |                    |               | YES           |
| * Standard shown is for gas single boiler systems <=2 MW output and overall for multi-boiler systems. For single boiler systems >2 MW or any individual boiler in a multi-boiler system, limiting efficiency is 0.88. |                    |                    |                    |               |               |

### 1- SYST0001-DHW

|                | Water heating efficiency          | Storage loss factor [kWh/litre per day] |
|----------------|-----------------------------------|-----------------------------------------|
| This building  | Hot water provided by HVAC system | -                                       |
| Standard value | N/A                               | N/A                                     |

### Zone-level mechanical ventilation, exhaust, and terminal units

| ID                                                                                                                                       | System type in the Approved Documents                                 |
|------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| A                                                                                                                                        | Local supply or extract ventilation units                             |
| B                                                                                                                                        | Zonal supply system where the fan is remote from the zone             |
| C                                                                                                                                        | Zonal extract system where the fan is remote from the zone            |
| D                                                                                                                                        | Zonal balanced supply and extract ventilation system                  |
| E                                                                                                                                        | Local balanced supply and extract ventilation units                   |
| F                                                                                                                                        | Other local ventilation units                                         |
| G                                                                                                                                        | Fan assisted terminal variable air volume units                       |
| H                                                                                                                                        | Fan coil units                                                        |
| I                                                                                                                                        | Kitchen extract with the fan remote from the zone and a grease filter |
| NB: Limiting SFP may be increased by the amounts specified in the Approved Documents if the installation includes particular components. |                                                                       |

| Zone name         | SFP [W/(l/s)] |     |     |     |   |     |     |     |   |   | HR efficiency |          |
|-------------------|---------------|-----|-----|-----|---|-----|-----|-----|---|---|---------------|----------|
| ID of system type | A             | B   | C   | D   | E | F   | G   | H   | I |   | Zone          | Standard |
| Standard value    | 0.3           | 1.1 | 0.5 | 2.3 | 2 | 0.5 | 0.5 | 0.4 | 1 |   |               |          |
| Shower            | 0.3           | -   | -   | -   | - | -   | -   | -   | - | - | -             | N/A      |
| Shower            | 0.3           | -   | -   | -   | - | -   | -   | -   | - | - | -             | N/A      |
| Laundry           | 0.3           | -   | -   | -   | - | -   | -   | -   | - | - | -             | N/A      |
| Kitchen           | 0.3           | -   | -   | -   | - | -   | -   | -   | - | - | -             | N/A      |
| Shower            | 0.3           | -   | -   | -   | - | -   | -   | -   | - | - | -             | N/A      |
| Shower            | 0.3           | -   | -   | -   | - | -   | -   | -   | - | - | -             | N/A      |
| Shower            | 0.3           | -   | -   | -   | - | -   | -   | -   | - | - | -             | N/A      |
| Shower            | 0.3           | -   | -   | -   | - | -   | -   | -   | - | - | -             | N/A      |
| Shower            | 0.3           | -   | -   | -   | - | -   | -   | -   | - | - | -             | N/A      |
| Shower            | 0.3           | -   | -   | -   | - | -   | -   | -   | - | - | -             | N/A      |
| Stairwell         | 0.3           | -   | -   | -   | - | -   | -   | -   | - | - | -             | N/A      |
| Shower            | 0.3           | -   | -   | -   | - | -   | -   | -   | - | - | -             | N/A      |

| 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                  |
| Lobby                                 |                | 125               | -                    | -                    |

| General lighting and display lighting |                | General luminaire | Display light source |                                   |
|---------------------------------------|----------------|-------------------|----------------------|-----------------------------------|
| Zone name                             |                | Efficacy [lm/W]   | Efficacy [lm/W]      | Power density [W/m <sup>2</sup> ] |
|                                       | Standard value | 95                | 80                   | 0.3                               |
| Hall                                  |                | 125               | -                    | -                                 |
| Shower                                |                | 125               | -                    | -                                 |
| Shower                                |                | 125               | -                    | -                                 |
| Day room                              |                | 125               | -                    | -                                 |
| Room 1                                |                | 125               | -                    | -                                 |
| Laundry                               |                | 125               | -                    | -                                 |
| Room 2                                |                | 125               | -                    | -                                 |
| Kitchen                               |                | 125               | -                    | -                                 |
| Shower                                |                | 125               | -                    | -                                 |
| Room 5                                |                | 125               | -                    | -                                 |
| Shower                                |                | 125               | -                    | -                                 |
| Shower                                |                | 125               | -                    | -                                 |
| Stairwell                             |                | 125               | -                    | -                                 |
| Shower                                |                | 125               | -                    | -                                 |
| Room 4                                |                | 125               | -                    | -                                 |
| Landing                               |                | 125               | -                    | -                                 |
| Landing                               |                | 125               | -                    | -                                 |
| Cloaks                                |                | 125               | -                    | -                                 |
| Room 7                                |                | 125               | -                    | -                                 |
| Lounge/Dining                         |                | 125               | -                    | -                                 |
| Store                                 |                | 125               | -                    | -                                 |
| Room 3                                |                | 125               | -                    | -                                 |
| Office                                |                | 125               | -                    | -                                 |
| Room 6                                |                | 125               | -                    | -                                 |
| Stairwell                             |                | 125               | -                    | -                                 |
| Stairwell                             |                | 125               | -                    | -                                 |
| Shower                                |                | 125               | -                    | -                                 |

**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? |
|---------------|--------------------------------|-----------------------|
| Day room      | N/A                            | N/A                   |
| Room 1        | NO (-78.8%)                    | NO                    |
| Room 2        | NO (-86.1%)                    | NO                    |
| Room 5        | NO (-87.8%)                    | NO                    |
| Room 4        | NO (-79.9%)                    | NO                    |
| Room 7        | NO (-73.4%)                    | NO                    |
| Lounge/Dining | NO (-49.7%)                    | NO                    |
| Room 3        | NO (-78.3%)                    | NO                    |
| Office        | NO (-85.1%)                    | NO                    |
| Room 6        | NO (-87.6%)                    | NO                    |

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

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

# Technical Data Sheet (Actual vs. Notional Building)

## Building Global Parameters

|                                                       | Actual | Notional |
|-------------------------------------------------------|--------|----------|
| Floor area [m <sup>2</sup> ]                          | 390.4  | 390.4    |
| External area [m <sup>2</sup> ]                       | 774.9  | 774.9    |
| Weather                                               | SOU    | SOU      |
| Infiltration [m <sup>3</sup> /hm <sup>2</sup> @ 50Pa] | 5      | 3        |
| Average conductance [W/K]                             | 159.81 | 288.99   |
| Average U-value [W/m <sup>2</sup> K]                  | 0.21   | 0.37     |
| Alpha value* [%]                                      | 49.61  | 30.52    |

\* 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         | 60.11         | 70.75         |
| Cooling         | 0             | 0             |
| Auxiliary       | 2.61          | 5.35          |
| Lighting        | 11.2          | 10.49         |
| Hot water       | 93.04         | 102.16        |
| Equipment*      | 72.52         | 72.52         |
| <b>TOTAL **</b> | <b>166.96</b> | <b>188.76</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         | 40.75        | 18.13        |
| Wind turbines                | 0            | 0            |
| CHP generators               | 0            | 0            |
| Solar thermal systems        | 0            | 0            |
| <i>Displaced electricity</i> | <i>40.75</i> | <i>18.13</i> |

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

|                                                     | Actual | Notional |
|-----------------------------------------------------|--------|----------|
| Heating + cooling demand [MJ/m <sup>2</sup> ]       | 392.03 | 450.72   |
| Primary energy [kWh <sub>PE</sub> /m <sup>2</sup> ] | 133.31 | 191.39   |
| Total emissions [kg/m <sup>2</sup> ]                | 28.83  | 36.09    |

## HVAC Systems Performance

| System Type                                                                                         | Heat dem<br>MJ/m2 | Cool dem<br>MJ/m2 | Heat con<br>kWh/m2 | Cool con<br>kWh/m2 | Aux con<br>kWh/m2 | Heat<br>SSEFF | Cool<br>SSEER | Heat gen<br>SEFF | Cool gen<br>SEER |
|-----------------------------------------------------------------------------------------------------|-------------------|-------------------|--------------------|--------------------|-------------------|---------------|---------------|------------------|------------------|
| [ST] Central heating using water: radiators, [HS] LTHW boiler, [HFT] Natural Gas, [CFT] Electricity |                   |                   |                    |                    |                   |               |               |                  |                  |
| Actual                                                                                              | 191.1             | 201               | 60.1               | 0                  | 2.6               | 0.88          | 0             | 0.94             | 0                |
| Notional                                                                                            | 219.1             | 231.7             | 70.8               | 0                  | 2.8               | 0.86          | 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                                                                                   |