| •• | ent L1A, 2013 Editio rch 2020 at 13:23:14 | | FSAP 2012 program, Version: 1.0.4.2 | 25 |
|---------------------|--|---|--|----|
| Project Informati | | | | |
| Assessed By: | Mark Heptonstall | (STR0004925) | Building Type: Flat | |
| - | • | (011(0004323) | Building Type. That | |
| Dwelling Details: | | | T | |
| | DESIGN STAGE | | Total Floor Area: 100.38m ² | |
| Site Reference : | 10628 - 23 Raver | ishaw Street | Plot Reference: Flat A | |
| Address : | Flat A, 23 Ravens | shaw Street, London, NW6 1NP | | |
| Client Details: | | | | |
| Name: | | | | |
| Address : | | | | |
| It is not a comple | ete report of regula | vithin the SAP calculations. tions compliance. | | |
| 1a TER and DE | | | | |
| | ting system: Mains g | as (c) | | |
| Fuel factor: 1.00 (| • • • • • • | | $16.97 kg/m^{2}$ | |
| - | oxide Emission Rate Dioxide Emission Ra | . , | 16.87 kg/m² 13.27 kg/m² | ок |
| 1b TFEE and DI | | | 13.27 kg/III- | UK |
| | ergy Efficiency (TFE | =) | 53.2 kWh/m ² | |
| - | nergy Efficiency (DF | | 44.2 kWh/m ² | |
| | | / | | ОК |
| 2 Fabric U-valu | es | | | |
| Element | | Average | Highest | |
| External | wall | 0.18 (max. 0.30) | 0.18 (max. 0.70) | ОК |
| Floor | | 0.15 (max. 0.25) | 0.15 (max. 0.70) | ОК |
| Roof | | 0.15 (max. 0.20) | 0.15 (max. 0.35) | ОК |
| Opening | S | 1.22 (max. 2.00) | 1.30 (max. 3.30) | ОК |
| 2a Thermal brid | lging | | | |
| Thermal | bridging calculated f | rom linear thermal transmittance | es for each junction | |
| 3 Air permeabil | ity | | | |
| • | bility at 50 pascals | | 5.00 (design value) | |
| Maximum | | | 10.0 | OK |
| 4 Heating efficie | ency | | | |
| Main Heati | ng system: | Community heating schemes Community boilers | - mains gas | |
| Secondary | heating system: | None | | |
| 5 Cylinder insu | lation | | | |
| Hot water \$ | | Measured cylinder loss: 1.81 | kWh/day | |
| | - | Permitted by DBSCG: 1.89 k | - | ОК |
| Primary pip | pework insulated: | Yes | | ОК |
| 6 Controls | | | | |
| | | | | |
| Space hea | ting controls | Charging system linked to use | | |
| 11-4 - 4- | | programmer and at least two | room thermostats | OK |
| Hot water of | controis: | Cylinderstat | | OK |

| 7 Low energy lights | | |
|---|--------------------|----|
| Percentage of fixed lights with low-energy fittings | 100.0% | |
| Minimum | 75.0% | OK |
| 8 Mechanical ventilation | | |
| Continuous supply and extract system | | |
| Specific fan power: | 0.77 | |
| Maximum | 1.5 | OK |
| MVHR efficiency: | 87% | |
| Minimum | 70% | OK |
| 9 Summertime temperature | | |
| Overheating risk (South England): | Slight | ОК |
| Based on: | | |
| Overshading: | Average or unknown | |
| Windows facing: North East | 9.73m ² | |
| Windows facing: South West | 11.8m² | |
| Roof windows facing: Horizontal | 4.25m ² | |
| Ventilation rate: | 6.00 | |
| | | |
| 10 Key features | | |
| | | |

Thermal bridging Community heating, heat from boilers – mains gas Photovoltaic array 0.039 W/m²K

Flat A 23 Ravenshaw Street London NW6 1NP

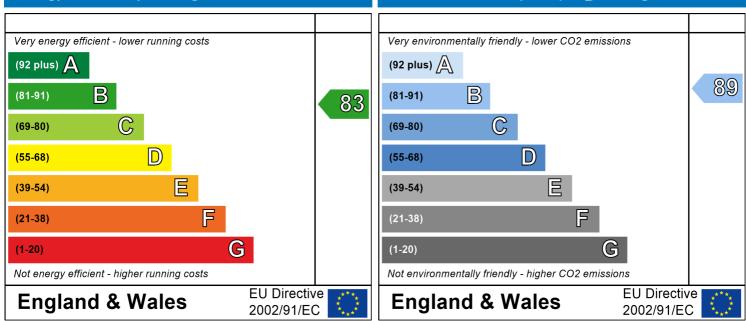
Dwelling type: Date of assessment: Produced by: Total floor area: Ground floor Flat 02 March 2020 Mark Heptonstall 100.38 m²

Environmental Impact (CO₂) Rating

This is a Predicted Energy Assessment for a property which is not yet complete. It includes a predicted energy rating which might not represent the final energy rating of the property on completion. Once the property is completed, an Energy Performance Certificate is required providing information about the energy performance of the completed property.

Energy performance has been assessed using the SAP 2012 methodology and is rated in terms of the energy use per square metre of floor area, energy efficiency based on fuel costs and environmental impact based on carbon dioxide (CO2) emissions.

Energy Efficiency Rating



The energy efficiency rating is a measure of the overall efficiency of a home. The higher the rating the more energy efficient the home is and the lower the fuel bills are likely to be. The environmental impact rating is a measure of a home's impact on the environment in terms of carbon dioxide (CO2) emissions. The higher the rating the less impact it has on the environment.



| Flat A, 23 Ravenshaw Street, London, NW6 1NP |
|--|
| England South England |
| 5 |
| 02 March 2020 |
| 04 March 2020 |
| New dwelling design stage |
| New dwelling |
| Indicative Value Low |
| |
| |

| Dwelling type: Detachment: | Flat | |
|-------------------------------|------------|--|
| /ear Completed: | 2020 | |
| Front of dwelling faces: | South East | |

| Name: | Type: | Frame Factor: | g-value: | U-Value: | Area: |
|--------------|--------------|-----------------|----------|----------|-------|
| SE | Solid | 0.7 | 0 | 1.3 | 2 |
| NE | Windows | 0.7 | 0.72 | 1.2 | 9.73 |
| SW | Windows | 0.7 | 0.72 | 1.2 | 11.8 |
| RL | Roof Windows | 0.7 | 0.72 | 1.3 | 4.25 |
| Overshading: | Ave | rage or unknown | | | |

Opaque Elements:

| Type: External Elements | U-Value: | Kappa: |
|---|--|--------------------------|
| External Walls Communal Flat Roof GF | 0.18 Please provide the U-Value calculation to justify the U-Value entered into the assessment. 0.18 Please provide the U-Value calculation to justify the U-Value entered into the assessment. 0.15 Please provide the U-Value calculation to justify the U-Value entered into the assessment. 0.15 Please provide the U-Value calculation to justify the U-Value entered into the assessment. | N/A N/A N/A N/A |

Internal Elements (Area, Kappa) Party Elements (Area, Kappa)

| Thermal bridges: | | | | |
|------------------|--------|----------|-----|--|
| Thermal bridges: | Length | Psi-valu | е | ies) Y-Value = 0.0388 |
| | 12.1 | 0.05 | E1 | Steel lintel with perforated steel base plate |
| [Approved] | 1.4 | 0.04 | E3 | Sill |
| [Approved] | 19.88 | 0.05 | E4 | Jamb |
| | 26.54 | 0.07 | E22 | Basement floor |
| [Approved] | 12.4 | 0.09 | E16 | Corner (normal) |
| [Approved] | 3.1 | -0.09 | E17 | Corner (inverted internal area greater than external area) |
| [Approved] | 10 | 0.06 | E18 | Party wall between dwellings |
| [Approved] | 18 | 0.07 | E7 | Party floor between dwellings (in blocks of flats) |
| | 8.54 | 0.08 | E14 | Flat roof |

Comments:

If specific construction details have been adopted then please provide the associated checklists; signed and dated.

Ventilation:

Pressure test: Ventilation: Yes (As designed) Balanced with heat recovery Number of wet rooms: Kitchen + 3 Ductwork: Insulation, rigid Approved Installation Scheme: True 5

Pressure test:

Comments:

Please provide the pressure test certificate, or certificates if the result is based on an average; signed and dated.

| Main heating system: | | |
|----------------------|--|--|
| Main heating system: | Community heating schemes Heat source: Community boilers heat from boilers – mains gas, heat fraction 1, efficiency 90 Piping>=1991, pre-insulated, low temp, variable flow | |
| Comments: | | |
| | | |

Main heating Control:

Main heating Control:

Charging system linked to use of community heating, programmer and at least two

room thermostats

Secondary heating system:

Secondary heating system: Comments:

None

Water heating:

Water heating:

Comments:

Hot water cylinder Cylinder volume: 150 litres Cylinder insulation: Measured loss, 1.81kWh/day Primary pipework insulation: True Cylinderstat: True Cylinder in heated space: True

Comments:

| Others: | Solar panel: False |
|--|---|
| Electricity tariff: Low energy lights: Terrain type: Wind turbine: Photovoltaics: Comments: | Standard Tariff 100% Low rise urban / suburban No <u>Photovoltaic 1</u> Installed Peak power: 0.73 Tilt of collector: 45° Overshading: None or very little Collector Orientation: South |

Please provide the MCS certificate or data sheet equivalent confirming the size of the array on the roof. This should include any calculations to support a proportioned amount included in the assessment.

Declaration

I confirm that the property has been built to the above specification.

| Signed: | |
|---------|--|
| Date: | |
| | |

| Property Details: F | lat A | | | | | | | |
|---|------------------------------|-----------|--|--------------------------|------------------------------------|-------------------|-------------------|-------------|
| Address: Located in: Region: UPRN: | Located in: Region: | | | eet, London, NW6 | o 1NP | | | |
| Date of assessment: Date of certificate: | | | arch 2020 arch 2020 | | | | | |
| Assessment typ Transaction typ | | | dwelling design stag dwelling | e | | | | |
| Tenure type: | | Unkn | own | | | | | |
| Related party di Thermal Mass P Water use <= 1 PCDF Version: | arameter: | Indic | lated party ative Value Low True | | | | | |
| Property descriptio | n: | | | | | | | |
| Dwelling type: Detachment: | | Flat | | | | | | |
| Year Completed: | | 2020 | | | | | | |
| Floor Location: | | Floo | r area: | ç | storey height | | | |
| Floor 0 | | 100.3 | 88 m² | | 3.1 m | | | |
| Living area: Front of dwelling faces: | | | 8 m² (fraction 0.39) n East | | | | | |
| Opening types: | | | | | | | | |
| Name: | Source: | | Type: | Glazing: | | Argon: | Fram | e: |
| SE NE | Manufacturer Manufacturer | | Solid Windows | low-E, En = | 0.15, hard coat | Yes | Wood PVC-U | |
| SW RL | Manufacturer Manufacturer | | Windows Roof Windows | | 0.15, hard coat 0.15, hard coat | Yes Yes | PVC-U PVC-U | |
| | | | | | | | | |
| Name: SE | Gap: mm | | Frame Facto | r: g-value: | U-value: 1.3 | Area: 2 | No. o 1 | f Openings: |
| NE | 16mm c | or more | 0.7 | 0.72 | 1.2 | 9.73 | 1 | |
| SW | 16mm c | or more | 0.7 | 0.72 | 1.2 | 11.8 | 1 | |
| RL | 16mm c | or more | 0.7 | 0.72 | 1.3 | 4.25 | 1 | |
| Name: | Type-Nam | | Location: | Orient: | | Width: | Heigh | nt: |
| SE NE | | | Communal External Walls | South East North East | | 0 0 | 0 0 | |
| SW | | | External Walls | South West | | 0 | 0 | |
| RL | | | Flat Roof | Horizontal | | 0.001 | 0 | |
| Overshading: | | Aver | ige or unknown | | | | | |
| Opaque Elements: | | | | | | | | |
| Type: <u>External Elements</u> | Gross area: | Openings: | Net area: | U-value: | Ru value: | Curtain | wall: | Карра: |
| External Walls | 35.46 | 21.53 | 13.93 | 0.18 | 0 | False | | N/A |
| Communal | 27.81 | 2 | 25.81 | 0.18 | 0 | False | | N/A |
| Flat Roof | 13.93 | 4.25 | 9.68 | 0.15 | 0 | | | N/A |
| GF | 100.38 | | | 0.15 | | | | N/A |
| Internal Elements | | | | | | | | |
| Party Elements | | | | | | | | |
| | | | | | | | | |

Thermal bridges:

| Thermal bridges: | | • | , | Y-Value = 0.0388 | | |
|--|---|-----------------------------------|------------|--|--|--|
| | Length | Psi-value | | | | |
| [Approved] | 12.1 1.4 | 0.05 0.04 | E1 E3 | Steel lintel with perforated steel base plate Sill | | |
| [Approved] [Approved] | 1.4 19.88 | 0.04 | E3 E4 | Jamb | | |
| | 26.54 | 0.03 | E22 | Basement floor | | |
| [Approved] | 12.4 | 0.09 | E16 | Corner (normal) | | |
| [Approved] | 3.1 | -0.09 | E17 | Corner (inverted internal area greater than external area) | | |
| [Approved] | 10 | 0.06 | E18 | Party wall between dwellings | | |
| [Approved] | 18 | 0.07 | E7 | Party floor between dwellings (in blocks of flats) | | |
| | 8.54 | 0.08 | E14 | Flat roof | | |
| Ventilation: | | | | | | |
| Pressure test: | Yes (As des | signed) | | | | |
| Ventilation: | | ith heat recove | • | | | |
| | | wet rooms: Kito | | | | |
| | | Insulation, rigid | | | | |
| Number of chimpous | Approved I 0 | nstallation Sche | eme: True | | | |
| Number of chimneys: Number of open flues: | 0 | | | | | |
| Number of fans: | 0 | | | | | |
| Number of passive stacks: | 0 | | | | | |
| Number of sides sheltered: | 2 | | | | | |
| Pressure test: | 5 | | | | | |
| Main heating system: | | | | | | |
| Main heating system: | Community heating schemes | | | | | |
| | Heat source: Community boilers | | | | | |
| | heat from boilers – mains gas, heat fraction 1, efficiency 90 Piping>=1991, pre-insulated, low temp, variable flow | | | | | |
| | Piping>=19 | 991, pre-insulat | ed, low te | emp, variable flow | | |
| Main heating Control: | <u>.</u> | | | | | |
| Main heating Control: | | | use of co | mmunity heating, programmer and at least two room | | |
| | thermostats Control cod | | | | | |
| Secondary heating system: | Control Cod | e. 2312 | | | | |
| | None | | | | | |
| Secondary heating system: Water heating: | None | | | | | |
| Water heating: | From main | heating system | 1 | | | |
| - | Water code | | | | | |
| | | rom boilers – n | nains gas | | | |
| | Hot water o | - | | | | |
| | - | lume: 150 litres | | | | |
| | | ulation: Measu ework insulatio | | I.8 IKWh/day | | |
| | Cylindersta | | n. nue | | | |
| | | heated space: 7 | True | | | |
| | Solar panel | | | | | |
| Others: | | | | | | |
| Electricity tariff: | Standard Ta | ariff | | | | |
| In Smoke Control Area: | Unknown | | | | | |
| Conservatory: | No conserv | atory | | | | |
| Low energy lights: | 100% | , | | | | |
| Terrain type: | | ban / suburban | | | | |
| EPC language: | English | | | | | |
| Wind turbine: | No | | | | | |
| Photovoltaics: | <u>Photovolta</u> | <u>IIC I</u> | | | | |
| | | | | | | |

Installed Peak power: 0.73 Tilt of collector: 45° Overshading: None or very little Collector Orientation: South No

Assess Zero Carbon Home:

SAP 2012 Overheating Assessment

Calculated by Stroma FSAP 2012 program, produced and printed on 04 March 2020

Property Details: Flat A

| Located in: Region: Cross ventilation pos Number of storeys: Front of dwelling face Overshading: Overhangs: Thermal mass param Night ventilation: Blinds, curtains, shut Ventilation rate durin Overheating Details: | es: eter: tters: | ather (a | ch): | Flat England South Engl Yes 1 South East Average or None Indicative V False 6 (Window | unknown | | | |
|---|-------------------------------|---------------------|---|--|------------------|-------------------------------------|-----------------------------|----------------------|
| Summer ventilation h Transmission heat lo Summer heat loss co | ss coeffi | cient: | ent: | 616.13 63.1 679.19 | | | | (P1) (P2) |
| Overhangs: | | | | | | | | |
| Orientation: North East (NE) South West (SW) Horizontal (RL) | Ratio: 0 0 0 | | Z_overhangs: 1 1 1 | | | | | |
| Solar shading: | | | | | | | | |
| Orientation: North East (NE) South West (SW) Horizontal (RL) Solar gains: | Z blinc 1 1 1 | ls: | Solar access: 0.9 0.9 1 | Over 1 1 1 | hangs: | Z summer: 0.9 0.9 1 | | (P8) (P8) (P8) |
| Orientation | 0.9 x | Area 9.73 | Flux 106.05 | g_ 0.72 | FF 0.7 | Shading 0.9 | Gains 421.25 | |
| North East (NE) South West (SW) Internal gains: | 0.9 x 1 x | 11.8 4.25 | 127.31 217 | 0.72 0.72 | 0.7 0.7 | 0.9 1 Total | 613.29 418.33 1452.87 | (P3/P4) |

| •• | ent L1A, 2013 Editio rch 2020 at 13:23:04 | • | a FSAP 2012 program, Version: 1.0 | .4.25 |
|---------------------|--|--|---------------------------------------|----------|
| Project Information | | | | |
| Assessed By: | Mark Heptonstall | (STRO004925) | Building Type: Flat | |
| Dwelling Details: | | | | |
| NEW DWELLING | DESIGN STAGE | | Total Floor Area: 83.93m ² | |
| Site Reference : | 10628 - 23 Rave | nshaw Street | Plot Reference: Flat B | |
| Address : | Flat B, 23 Raven | shaw Street, London, NW6 1NF | b | |
| Client Details: | · | , . | | |
| Name: | | | | |
| Address : | | | | |
| It is not a comple | ete report of regula | within the SAP calculations. itions compliance. | | |
| 1a TER and DE | | | | |
| | ting system: Mains | gas (c) | | |
| Fuel factor: 1.00 (| • • • • • | | $40.07 km^{2}$ | |
| • | oxide Emission Rate | · · · · · | 19.07 kg/m ² | ОК |
| 1b TFEE and DF | Dioxide Emission Ra | ale (DER) | 15.44 kg/m² | UK |
| | ergy Efficiency (TFE | E) | 59.2 kWh/m² | |
| - | nergy Efficiency (DF | | 48.4 kWh/m ² | |
| | |) | | ОК |
| 2 Fabric U-value | es | | | |
| Element | | Average | Highest | |
| External | wall | 0.18 (max. 0.30) | 0.18 (max. 0.70) | ОК |
| Floor | | 0.15 (max. 0.25) | 0.15 (max. 0.70) | ОК |
| Roof | | 0.15 (max. 0.20) | 0.15 (max. 0.35) | OK |
| Opening | S | 1.22 (max. 2.00) | 1.30 (max. 3.30) | OK |
| 2a Thermal brid | ging | | | |
| | | from linear thermal transmittand | ces for each junction | |
| 3 Air permeabili | ity | | | |
| • | bility at 50 pascals | | 5.00 (design value) | OK |
| Maximum | | | 10.0 | ОК |
| 4 Heating efficie | | | | |
| Main Heati | ng system: | Community heating scheme Community boilers | s - mains gas | |
| Secondary | heating system: | None | | |
| 5 Cylinder insul | ation | | | |
| Hot water S | | Measured cylinder loss: 1.8 | 1 kWh/day | |
| | - | Permitted by DBSCG: 1.89 | - | ОК |
| | ework insulated: | Yes | | OK |
| 6 Controls | | | | |
| - . | | | · · · · · | |
| Space heat | ting controls | Charging system linked to u programmer and at least two | | 01/ |
| Hot water of | controls: | Cylinderstat | | OK OK |
| TIOL WALEI (| | σγιπαειδιαί | | UN |
| | | | | |

| 7 Low energy lights | | |
|---|--------------------|----|
| Percentage of fixed lights with low-energy fittings | 100.0% | |
| Minimum | 75.0% | OK |
| 8 Mechanical ventilation | | |
| Continuous supply and extract system | | |
| Specific fan power: | 0.77 | |
| Maximum | 1.5 | ОК |
| MVHR efficiency: | 87% | |
| Minimum | 70% | OK |
| 9 Summertime temperature | | |
| Overheating risk (South England): | Slight | ОК |
| Based on: | | |
| Overshading: | Average or unknown | |
| Windows facing: South West | 7.06m ² | |
| Windows facing: North East | 10.3m ² | |
| Roof windows facing: Horizontal | 2.34m ² | |
| Ventilation rate: | 6.00 | |
| | | |
| 10 Key features | | |
| | | |

Thermal bridging Community heating, heat from boilers – mains gas Photovoltaic array 0.039 W/m²K

S A C Crewn copyright 2009

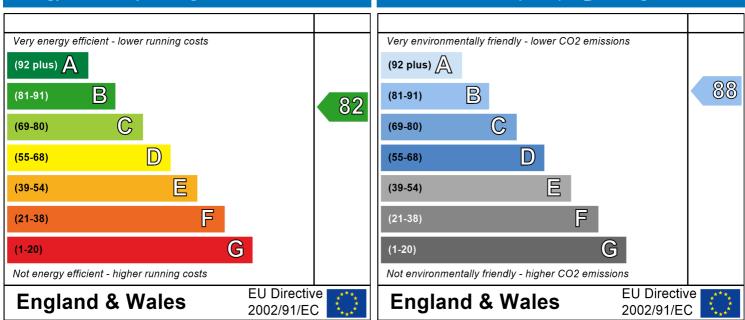
Flat B 23 Ravenshaw Street London NW6 1NP Dwelling type: Date of assessment: Produced by: Total floor area: Ground floor Flat 02 March 2020 Mark Heptonstall 83.93 m²

Environmental Impact (CO₂) Rating

This is a Predicted Energy Assessment for a property which is not yet complete. It includes a predicted energy rating which might not represent the final energy rating of the property on completion. Once the property is completed, an Energy Performance Certificate is required providing information about the energy performance of the completed property.

Energy performance has been assessed using the SAP 2012 methodology and is rated in terms of the energy use per square metre of floor area, energy efficiency based on fuel costs and environmental impact based on carbon dioxide (CO2) emissions.

Energy Efficiency Rating



The energy efficiency rating is a measure of the overall efficiency of a home. The higher the rating the more energy efficient the home is and the lower the fuel bills are likely to be. The environmental impact rating is a measure of a home's impact on the environment in terms of carbon dioxide (CO2) emissions. The higher the rating the less impact it has on the environment.

| Flat B, 23 Ravenshaw Street, London, NW6 1NP |
|--|
| |
| England |
| South England |
| |
| 02 March 2020 |
| 04 March 2020 |
| New dwelling design stage |
| New dwelling |
| Indicative Value Low |
| |
| |

| Property description: | | |
|-------------------------------|------------|--|
| Dwelling type: Detachment: | Flat | |
| Year Completed: | 2020 | |
| Front of dwelling faces: | North West | |
| Comments: | | |

| Name: | Type: | Frame Factor: | g-value: | U-Value: | Area: | |
|--------------|--------------------|---------------|----------|----------|-------|--|
| NW | Solid | 0.7 | 0 | 1.3 | 2 | |
| NE | Windows | 0.7 | 0.72 | 1.2 | 7.06 | |
| SW | Windows | 0.7 | 0.72 | 1.2 | 10.3 | |
| Flat Roof | Roof Windows | 0.7 | 0.72 | 1.3 | 2.34 | |
| Overshading: | Average or unknown | | | | | |

Opaque Elements:

| Type: External Elements | U-Value: | Карра: |
|---|--|--------------------------|
| External Walls Communal Flat Roof GF | 0.18 Please provide the U-Value calculation to justify the U-Value entered into the assessment. 0.18 Please provide the U-Value calculation to justify the U-Value entered into the assessment. 0.15 Please provide the U-Value calculation to justify the U-Value entered into the assessment. 0.15 Please provide the U-Value calculation to justify the U-Value entered into the assessment. | N/A N/A N/A N/A |

Internal Elements (Area, Kappa) Party Elements (Area, Kappa)

| Thermal bridges: | | | | |
|--------------------------|----------------------|----------------------|----------------|---|
| Thermal bridges: | Length | Psi-valu | е | Ies) Y-Value = 0.039 Steel lintel with perforated steel base plate |
| [Approved] [Approved] | 12.1 1.4 19.88 | 0.05 0.04 0.05 | E1 E3 E4 | Sill Jamb |
| [Approved] | 26.54 | 0.07 | E22 | Basement floor |
| | 12.4 | 0.09 | E16 | Corner (normal) |
| [Approved] | 3.1 | -0.09 | E17 | Corner (inverted internal area greater than external area) |
| [Approved] | 10 | 0.06 | E18 | Party wall between dwellings |
| [Approved] | 19.73 | 0.07 | E7 | Party floor between dwellings (in blocks of flats) |
| | 6.81 | 0.08 | E14 | Flat roof |

Comments:

If specific construction details have been adopted then please provide the associated checklists; signed and dated.

Ventilation: Pressure test: Ventilation:

Yes (As designed) Balanced with heat recovery Number of wet rooms: Kitchen + 3 Ductwork: Insulation, rigid Approved Installation Scheme: True 5

Pressure test:

Comments:

Please provide the pressure test certificate, or certificates if the result is based on an average; signed and dated.

| Main heating system: Community heating schemes Heat source: Community boilers heat from boilers – mains gas, heat fraction 1, efficiency 90 Piping>=1991, pre-insulated, low temp, variable flow Comments: | ommunity boilers |
|--|------------------|
| Comments: | |
| | |
| | |

Main heating Control:

Main heating Control:

Charging system linked to use of community heating, programmer and at least two

room thermostats

Secondary heating system:

Secondary heating system: Comments:

None

Water heating:

Water heating:

Comments:

Hot water cylinder Cylinder volume: 150 litres Cylinder insulation: Measured loss, 1.81kWh/day Primary pipework insulation: True Cylinderstat: True Cylinder in heated space: True

Comments:

| | Solar panel: False | |
|---------------------|----------------------------------|--|
| Others: | | |
| Electricity tariff: | Standard Tariff | |
| Low energy lights: | 100% | |
| Terrain type: | Low rise urban / suburban | |
| Wind turbine: | No | |
| Photovoltaics: | Photovoltaic 1 | |
| | Installed Peak power: 0.61 | |
| | Tilt of collector: 45° | |
| | Overshading: None or very little | |
| | Collector Orientation: South | |
| Comments: | | |

Please provide the MCS certificate or data sheet equivalent confirming the size of the array on the roof. This should include any calculations to support a proportioned amount included in the assessment.

Declaration

I confirm that the property has been built to the above specification.

| Signed: | |
|---------|--|
| Date: | |
| | |

| Property Details: Fl | at B | | | | | | | |
|--|------------------------------|-----------------|--|--------------------|---------------------------------|------------|----------------|--------------|
| Address: Located in: Region: UPRN: | | Englan | | treet, London, NW6 | 5 1NP | | | |
| Date of assessm Date of certifica Assessment type | te: | 04 Mar | ch 2020 ch 2020 welling design sta | 000 | | | | |
| Transaction type | | New d | | iye | | | | |
| Tenure type: | colocuro | Unkno No rok | wn ited party | | | | | |
| Related party di Thermal Mass Pa Water use <= 1 PCDF Version: | arameter: | Indicat | ive Value Low True | | | | | |
| Property description | n: | | | | | | | |
| Dwelling type: | | Flat | | | | | | |
| Detachment: | | | | | | | | |
| Year Completed: | | 2020 | | | | | | |
| Floor Location: | | Floor | area: | c | torov bojabt | | | |
| Floor 0 | | 83.93 | <u>ກ</u> 2 | 2 | Storey height 3.1 m | | | |
| Living area: Front of dwelling f | aces: | | m ² (fraction 0.55 | 54) | | | | |
| Opening types: | | | | | | | | |
| Name: | Source: | Т | ype: | Glazing: | | Argon: | Fram | ne: |
| NW | Manufacturer | | plid | g | | | Wood | |
| NE | Manufacturer | | lindows | | 0.15, hard coat | | PVC-U | |
| SW Flat Roof | Manufacturer Manufacturer | | 'indows oof Windows | | 0.15, hard coat 0.15, hard coat | Yes Yes | PVC-U PVC-U | |
| | manaration | | | | | | | |
| Name: | Gap: | | Frame Facto | - | U-value: | Area: | | of Openings: |
| NW NE | mm 16mm o | r more | 0.7 0.7 | 0 0.72 | 1.3 1.2 | 2 7.06 | 1 1 | |
| SW | 16mm c | | 0.7 | 0.72 | 1.2 | 10.3 | 1 | |
| Flat Roof | 16mm o | r more | 0.7 | 0.72 | 1.3 | 2.34 | 1 | |
| Name: | Type-Nam | o: L | ocation: | Orient: | | Width: | Heig | ht. |
| NW | туре-мат | | ommunal | North West | | 0 | 0 | |
| NE | | E | kternal Walls | South West | | 0 | 0 | |
| SW | | | cternal Walls | North East | | 0 | 0 | |
| Flat Roof | | FI | at Roof | Horizontal | | 0.001 | 0 | |
| Overshading: | | Averac | e or unknown | | | | | |
| Opaque Elements: | | | | | | | | |
| 51 | Gross area: | Openings: | Net area: | U-value: | Ru value: | Curtain | wall: | Карра: |
| External Elements External Walls | 50.13 | 17.36 | 32.77 | 0.18 | 0 | False | | N/A |
| Communal | 36.18 | 2 | 34.18 | 0.18 | 0 | False | | N/A |
| Flat Roof | 6.1 | 2.34 | 3.76 | 0.15 | 0 | | | N/A |
| GF | 83.93 | | | 0.15 | | | | N/A |
| Internal Elements | | | | | | | | |
| Party Elements | | | | | | | | |

Thermal bridges:

| Thermal bridges: | | • | SI-values) | Y-Value = 0.039 |
|--|----------------------------|-----------------------------------|------------|--|
| | Length | Psi-value | | |
| [Approved] | 12.1 1.4 | 0.05 0.04 | E1 E3 | Steel lintel with perforated steel base plate Sill |
| [Approved] [Approved] | 1.4 19.88 | 0.04 | E3 E4 | Jamb |
| | 26.54 | 0.03 | E22 | Basement floor |
| [Approved] | 12.4 | 0.09 | E16 | Corner (normal) |
| [Approved] | 3.1 | -0.09 | E17 | Corner (inverted internal area greater than external area) |
| [Approved] | 10 | 0.06 | E18 | Party wall between dwellings |
| [Approved] | 19.73 | 0.07 | E7 | Party floor between dwellings (in blocks of flats) |
| | 6.81 | 0.08 | E14 | Flat roof |
| Ventilation: | | | | |
| Pressure test: | Yes (As des | igned) | | |
| Ventilation: | | ith heat recove | • | |
| | | wet rooms: Kito | | |
| | | Insulation, rigid | | |
| Number of chimpous | Approved I 0 | nstallation Sche | eme: True | |
| Number of chimneys: Number of open flues: | 0 | | | |
| Number of fans: | 0 | | | |
| Number of passive stacks: | 0 | | | |
| Number of sides sheltered: | 2 | | | |
| Pressure test: | 5 | | | |
| Main heating system: | | | | |
| Main heating system: | Community | heating schem | es | |
| | | e: Community b | | |
| | | | - | at fraction 1, efficiency 90 |
| | Piping>=19 | 991, pre-insulate | ed, low te | emp, variable flow |
| Main heating Control: | <u>.</u> | | | |
| Main heating Control: | | | use of co | mmunity heating, programmer and at least two room |
| | thermostats Control cod | | | |
| Secondary heating system: | Control Cod | C. 2312 | | |
| | None | | | |
| Secondary heating system: Water heating: | None | | | |
| Water heating: | From main | heating system | | |
| | Water code | | | |
| | | rom boilers – n | nains gas | |
| | Hot water o | - | | |
| | - | ume: 150 litres | | |
| | | ulation: Measu ework insulatio | | I.8 IKWh/day |
| | Cylindersta | | n. nue | |
| | | heated space: 1 | True | |
| | Solar panel | | | |
| Others: | | | | |
| Electricity tariff: | Standard Ta | ariff | | |
| In Smoke Control Area: | Unknown | | | |
| Conservatory: | No conserv | atory | | |
| Low energy lights: | 100% | , | | |
| Terrain type: | | ban / suburban | | |
| EPC language: | English | | | |
| Wind turbine: | No | :- 1 | | |
| Photovoltaics: | <u>Photovolta</u> | <u>IIC I</u> | | |
| | | | | |

Installed Peak power: 0.61 Tilt of collector: 45° Overshading: None or very little Collector Orientation: South No

Assess Zero Carbon Home:

SAP 2012 Overheating Assessment

Calculated by Stroma FSAP 2012 program, produced and printed on 04 March 2020

Property Details: Flat B

| Dwelling type: Located in: Region: Cross ventilation pos Number of storeys: Front of dwelling face Overshading: Overhangs: Thermal mass parame Night ventilation: Blinds, curtains, shut Ventilation rate during Overheating Details: | es: eter: ters: | ather (a | ch): | Flat England South Engla Yes 1 North West Average or None Indicative W False 6 (Window | unknown | | |
|---|--|--|---|---|---|---|---|
| Summer ventilation h Transmission heat los Summer heat loss co | ss coeffi | cient: | ent: | 515.16 57.4 572.61 | | | (P1) (P2) |
| Overhangs: | | | | | | | |
| Orientation: South West (NE) North East (SW) Horizontal (Flat Roof) | Ratio: 0 0 0 | | Z_overhangs: 1 1 1 | | | | |
| Solar shading: | | | | | | | |
| | | | | | | | |
| Orientation: South West (NE) North East (SW) Horizontal (Flat Roof) Solar gains: | Z blind 1 1 1 | ls: | Solar access: 0.9 0.9 1 | Overi 1 1 1 | hangs: | Z summer: 0.9 0.9 1 | (P8) (P8) (P8) |
| South West (NE) North East (SW) Horizontal (Flat Roof) | 1 1 | Area 7.06 10.3 2.34 | 0.9 0.9 | 1 1 | FF 0.7 0.7 0.7 0.7 | 0.9 0.9 | (P8) |
| South West (NE) North East (SW) Horizontal (Flat Roof) Solar gains: Orientation South West (NE) | 1 1 1 0.9 x 0.9 x | Area 7.06 10.3 | 0.9 0.9 1 Flux 127.31 106.05 | 1 1 9 _ 0.72 0.72 | FF 0.7 0.7 | 0.9 0.9 1 Shading 0.9 0.9 0.9 1 | (P8) (P8) Gains 366.93 445.93 230.33 |
| South West (NE) North East (SW) Horizontal (Flat Roof) Solar gains: Orientation South West (NE) North East (SW) | 1 1 0.9 x 0.9 x 1 x tempera | Area 7.06 10.3 2.34 ture (So | 0.9 0.9 1 Flux 127.31 106.05 217 | 1 1 1 0.72 0.72 0.72 0.72 0.72 Jur 497 162 2.8 15 1.3 19 | FF 0.7 0.7 0.7 0.7 8 4.95 4 4 | 0.9 0.9 1 Shading 0.9 0.9 0.9 1 | (P8) (P8) Gains 366.93 445.93 230.33 |

| •• | ent L1A, 2013 Editio rch 2020 at 13:22:53 | • | na FSAP 2012 program, Version: 1.0.4.2 | 5 |
|--|--|---|--|----------|
| Project Informati | | | | |
| Assessed By: | Mark Heptonstall | (STR0004925) | Building Type: Flat | |
| Dwelling Details: | | (011(0001020) | | l. |
| | DESIGN STAGE | | Total Floor Area: 74.61m ² | |
| Site Reference : | 10628 - 23 Raver | schour Street | Plot Reference: Flat C | |
| | | | | |
| Address : | Flat C, 23 Ravens | shaw Street, London, NW6 1N | P | |
| Client Details: | | | | |
| Name: Address : | | | | |
| This report cove It is not a comple | ete report of regula | vithin the SAP calculations. tions compliance. | | |
| 1a TER and DEI | | | | |
| | ting system: Mains g | as (c) | | |
| Fuel factor: 1.00 (| • • • • • • | | 16.85 kg/m² | |
| - | oxide Emission Rate Dioxide Emission Ra | | 13.19 kg/m² | ок |
| 1b TFEE and DI | | | 10.10 kg/m | |
| | ergy Efficiency (TFE | Ξ) | 43.7 kWh/m² | |
| - | nergy Efficiency (DF | | 36.3 kWh/m ² | |
| - | | | | ОК |
| 2 Fabric U-value | es | | | |
| Element | t | Average | Highest | |
| External | wall | 0.18 (max. 0.30) | 0.18 (max. 0.70) | ОК |
| Floor | | (no floor) | | |
| Roof | • | 0.15 (max. 0.20) | 0.15 (max. 0.35) | OK |
| Opening | | 1.22 (max. 2.00) | 1.30 (max. 3.30) | OK |
| 2a Thermal brid | | | and for each innetion | |
| 3 Air permeabil | | rom linear thermal transmittan | ices for each junction | |
| - | bility at 50 pascals | | 5.00 (design value) | |
| Maximum | idility at 50 pascals | | 10.0 | ок |
| 4 Heating offici | | | | |
| 4 Heating efficie | | Community booting ochors | | |
| Main Heati | ng system: | Community heating scheme Community boilers | es - mains gas | |
| Secondary | heating system: | None | | |
| 5 Cylinder insu | lation | | | |
| Hot water \$ | | Measured cylinder loss: 1.8 | 31 kWh/day | |
| | - | Permitted by DBSCG: 1.89 | kWh/day | ОК |
| | pework insulated: | Yes | | ОК |
| 6 Controls | | | | |
| - | • | | | |
| Space hea | ting controls | Charging system linked to u | | |
| Hot water of | controls: | programmer and at least tw Cylinderstat | | OK OK |
| not water (| | Oyintaataa | | UN UN |

| 7 Low energy lights | | |
|---|--------------------|----|
| Percentage of fixed lights with low-energy fittings | 100.0% | |
| Minimum | 75.0% | OK |
| 8 Mechanical ventilation | | |
| Continuous supply and extract system | | |
| Specific fan power: | 0.77 | |
| Maximum | 1.5 | OK |
| MVHR efficiency: | 87% | |
| Minimum | 70% | OK |
| 9 Summertime temperature | | |
| Overheating risk (South England): | Slight | ОК |
| Based on: | | |
| Overshading: | Average or unknown | |
| Windows facing: North East | 2.63m ² | |
| Windows facing: South West | 8.88m ² | |
| Roof windows facing: Horizontal | 0.6m ² | |
| Ventilation rate: | 6.00 | |

10 Key features

Community heating, heat from boilers – mains gas Photovoltaic array

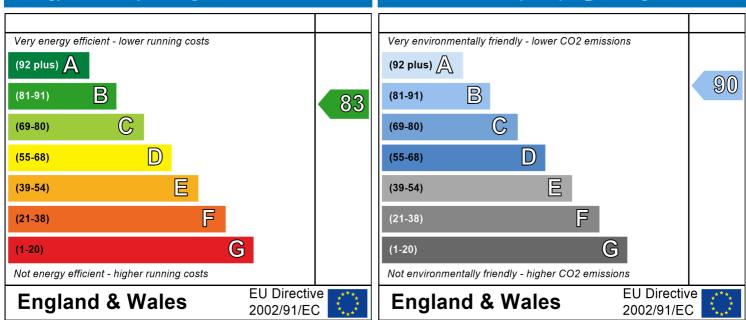
Flat C 23 Ravenshaw Street London NW6 1NP Dwelling type: Date of assessment: Produced by: Total floor area: Mid floor Flat 02 March 2020 Mark Heptonstall 74.61 m²

Environmental Impact (CO₂) Rating

This is a Predicted Energy Assessment for a property which is not yet complete. It includes a predicted energy rating which might not represent the final energy rating of the property on completion. Once the property is completed, an Energy Performance Certificate is required providing information about the energy performance of the completed property.

Energy performance has been assessed using the SAP 2012 methodology and is rated in terms of the energy use per square metre of floor area, energy efficiency based on fuel costs and environmental impact based on carbon dioxide (CO2) emissions.

Energy Efficiency Rating



The energy efficiency rating is a measure of the overall efficiency of a home. The higher the rating the more energy efficient the home is and the lower the fuel bills are likely to be. The environmental impact rating is a measure of a home's impact on the environment in terms of carbon dioxide (CO2) emissions. The higher the rating the less impact it has on the environment.



| Property Details: Flat C | |
|--------------------------|--|
| Address: | Flat C, 23 Ravenshaw Street, London, NW6 1NP |
| Located in: | England |
| Region: | South England |
| UPRN: | |
| Date of assessment: | 02 March 2020 |
| Date of certificate: | 04 March 2020 |
| Assessment type: | New dwelling design stage |
| Transaction type: | New dwelling |
| Thermal Mass Parameter: | Indicative Value Low |
| Comments: | |
| Comments: | |

| Dwelling type: | Flat | |
|-------------------------------|------------|--|
| Dwelling type: Detachment: | That | |
| Year Completed: | 2020 | |
| Front of dwelling faces: | North East | |

| Name: | Type: | Frame Factor: | g-value: | U-Value: | Area: |
|---------------------------|--------------|-----------------|----------|----------|-------|
| NE | Solid | 0.7 | 0 | 1.3 | 2 |
| NE | Windows | 0.7 | 0.72 | 1.2 | 2.63 |
| SW | Windows | 0.7 | 0.72 | 1.2 | 8.88 |
| Flat Roof | Roof Windows | 0.7 | 0.72 | 1.3 | 0.6 |
| Overshading: Comments: | Ave | rage or unknown | | | |

Opaque Elements:

| Type: External Elements | U-Va | lue: | Kappa: |
|---------------------------------|------|--|--------|
| | 0.10 | | |
| External Walls | 0.18 | Please provide the U-Value calculation to justify the U-Value entered into the assessment. | N/A |
| Communal | 0.18 | Please provide the U-Value calculation to justify the U-Value entered into the assessment. | N/A |
| Flat Roof | 0.15 | Please provide the U-Value calculation to justify the U-Value entered into the assessment. | N/A |
| Internal Elements (Area, Kappa) | | | |

Party Elements (Area, Kappa)

| Thermal bridges: | | | | | | |
|------------------|---|----------|-----|--|--|--|
| Thermal bridges: | User-defined (individual PSI-values) Y-Value = 0.0632 | | | | | |
| - | Length | Psi-valu | е | | | |
| | 12.1 | 0.05 | E1 | Steel lintel with perforated steel base plate | | |
| [Approved] | 1.4 | 0.04 | E3 | Sill | | |
| [Approved] | 19.88 | 0.05 | E4 | Jamb | | |
| [Approved] | 12.4 | 0.09 | E16 | Corner (normal) | | |
| [Approved] | 3.1 | -0.09 | E17 | Corner (inverted internal area greater than external area) | | |
| [Approved] | 10 | 0.06 | E18 | Party wall between dwellings | | |
| [Approved] | 44.54 | 0.07 | E7 | Party floor between dwellings (in blocks of flats) | | |
| | 8.54 | 0.08 | E14 | Flat roof | | |

Comments:

If specific construction details have been adopted then please provide the associated checklists; signed and dated.

Ventilation:

Pressure test: Ventilation: Yes (As designed) Balanced with heat recovery Number of wet rooms: Kitchen + 3 Ductwork: Insulation, rigid Approved Installation Scheme: True 5

Pressure test:

Comments:

Please provide the pressure test certificate, or certificates if the result is based on an average; signed and dated.

Main heating system:

Main heating system:

Community heating schemes Heat source: Community boilers heat from boilers – mains gas, heat fraction 1, efficiency 90 Piping>=1991, pre-insulated, low temp, variable flow

Comments:

Main heating Control:

Main heating Control:

Charging system linked to use of community heating, programmer and at least two room thermostats

Comments:

| Secondary heating system: | None |
|---|---|
| Comments: | |
| | |
| Water heating: | |
| Water heating: | Hot water cylinder Cylinder volume: 150 litres Cylinder insulation: Measured loss, 1.81kWh/day Primary pipework insulation: True Cylinderstat: True Cylinder in heated space: True |
| Comments: | |
| | Solar panel: False |
| Others: | |
| Electricity tariff: Low energy lights: Terrain type: Wind turbine: Photovoltaics: | Standard Tariff 100% Low rise urban / suburban No <u>Photovoltaic 1</u> Installed Peak power: 0.54 Tilt of collector: 45° Overshading: None or very little Collector Orientation: South |
| Comments: | |

Declaration :

I confirm that the property has been built to the above specification. Signed:

.....

Date:

.....

| Property Details: F | lat C | | | | | | |
|---|--|--|---|---|-----------------------------------|--|---|
| Address: Located in: Region: UPRN: Date of assessm Date of certifica Assessment type Transaction type Tenure type: Related party di Thermal Mass P Water use <= 1 PCDF Version: | ite: e: e: sclosure: arameter: | Englan South 02 Mar 04 Mar New d New d Unkno No rela Indicat | d England rch 2020 rch 2020 welling design sta welling | reet, London, NW6 ge | 5 1NP | | |
| Property descriptio | n: | | | | | | |
| Dwelling type: | | Flat | | | | | |
| Detachment: Year Completed: | | 2020 | | | | | |
| Floor Location: | | | area: | | | | |
| | | | | S | storey height: | | |
| Floor 0 | | | 74.61 m ² 2.5 m | | | | |
| Living area: Front of dwelling f | faces: | 39.99 North | m ² (fraction 0.53 East | 6) | | | |
| Opening types: | | | | | | | |
| Name: NE | Source: Manufacturer | | ype: olid | Glazing: | | Argon: | Frame: Wood |
| NE | Manufacturer | | /indows | low-E, En = | 0.15, hard coat | Yes | PVC-U |
| SW | Manufacturer | | /indows | | 0.15, hard coat | Yes | PVC-U |
| Flat Roof | Manufacturer | R | oof Windows | low-E, En = | 0.15, hard coat | Yes | PVC-U |
| Name: | Gap: | | Frame Facto | - | U-value: | Area: | No. of Openings: |
| NE NE | mm | r more | 0.7 0.7 | 0 | 1.3 | 2 | 1 |
| | 16mm o | | 0.7 | 0 /2 | | 263 | 1 |
| SW | 16mm o 16mm o | | 0.7 | 0.72 0.72 | 1.2 1.2 | 2.63 8.88 | 1 1 |
| SW Flat Roof | | r more | | | | | |
| Flat Roof | 16mm o 16mm o | r more r more | 0.7 0.7 | 0.72 0.72 | 1.2 | 8.88 0.6 | 1 1 |
| | 16mm o | r more r more e: L | 0.7 | 0.72 | 1.2 | 8.88 | 1 |
| Flat Roof Name: NE NE | 16mm o 16mm o | r more r more e: L C E | 0.7 0.7 ocation: ommunal kternal Walls | 0.72 0.72 Orient: North East North East | 1.2 | 8.88 0.6 Width: 0 0 | 1 1 Height: |
| Flat Roof Name: NE NE SW | 16mm o 16mm o | r more r more e: L C E E | 0.7 0.7 ocation: ommunal kternal Walls kternal Walls | 0.72 0.72 Orient: North East North East South West | 1.2 | 8.88 0.6 Width: 0 0 0 | 1 1 Height: 0 0 0 |
| Flat Roof Name: NE NE | 16mm o 16mm o | r more r more e: L C E E | 0.7 0.7 ocation: ommunal kternal Walls | 0.72 0.72 Orient: North East North East | 1.2 | 8.88 0.6 Width: 0 0 | 1 1 Height: 0 0 |
| Flat Roof Name: NE NE SW | 16mm o 16mm o | r more r more e: L C E: E: Fi | 0.7 0.7 ocation: ommunal kternal Walls kternal Walls | 0.72 0.72 Orient: North East North East South West | 1.2 | 8.88 0.6 Width: 0 0 0 | 1 1 Height: 0 0 0 |
| Flat Roof Name: NE NE SW Flat Roof | 16mm o 16mm o | r more r more e: L C E: E: Fi | 0.7 0.7 ocation: ommunal kternal Walls kternal Walls at Roof | 0.72 0.72 Orient: North East North East South West | 1.2 | 8.88 0.6 Width: 0 0 0 | 1 1 Height: 0 0 0 |
| Flat Roof Name: NE NE SW Flat Roof Overshading: Opaque Elements: | 16mm o 16mm o Type-Nam | r more r more e: L C E E E Fl Averaç | 0.7 0.7 ocation: ommunal kternal Walls kternal Walls at Roof | 0.72 0.72 Orient: North East North East South West Horizontal | 1.2 1.3 | 8.88 0.6 Width: 0 0 0.001 | 1 1 Height: 0 0 0 |
| Flat Roof Name: NE SW Flat Roof Overshading: Opaque Elements: | 16mm o 16mm o Type-Nam Gross area: | r more r more e: L C E: E: Fi | 0.7 0.7 ocation: ommunal kternal Walls kternal Walls at Roof | 0.72 0.72 Orient: North East North East South West | 1.2 | 8.88 0.6 Width: 0 0 0 | 1 1 Height: 0 0 0 |
| Flat Roof Name: NE SW Flat Roof Overshading: Opaque Elements: Type: External Elements External Walls | 16mm o 16mm o Type-Nam Gross area: 51.87 | r more r more e: L C E: E: Fl Averag Openings: 11.51 | 0.7 0.7 ocation: ommunal kternal Walls kternal Walls at Roof le or unknown Net area: 40.36 | 0.72 0.72 Orient: North East North East South West Horizontal U-value: 0.18 | 1.2 1.3 Ru value: 0 | 8.88 0.6 Width: 0 0 0.001 Curtain False | 1 Height: 0 0 0 0 0 0 |
| Flat Roof Name: NE SW Flat Roof Overshading: Opaque Elements: Type: External Elements External Walls Communal | 16mm o 16mm o Type-Nam Gross area: 51.87 34.7 | r more r more e: L C E: E: Fl Averag Openings: 11.51 2 | 0.7 0.7 ocation: ommunal kternal Walls kternal Walls at Roof te or unknown Net area: 40.36 32.7 | 0.72 0.72 Orient: North East North East South West Horizontal U-value: 0.18 0.18 | 1.2 1.3 Ru value: 0 0 | 8.88 0.6 Width: 0 0 0.001 Curtain | 1 Height: 0 0 0 0 0 0 0 N/A N/A |
| Flat Roof Name: NE SW Flat Roof Overshading: Opaque Elements: Type: External Elements External Walls Communal Flat Roof | 16mm o 16mm o Type-Nam Gross area: 51.87 | r more r more e: L C E: E: Fl Averag Openings: 11.51 | 0.7 0.7 ocation: ommunal kternal Walls kternal Walls at Roof le or unknown Net area: 40.36 | 0.72 0.72 Orient: North East North East South West Horizontal U-value: 0.18 | 1.2 1.3 Ru value: 0 | 8.88 0.6 Width: 0 0 0.001 Curtain False | 1 Height: 0 0 0 0 0 0 |
| Flat Roof Name: NE SW Flat Roof Overshading: Opaque Elements: Type: External Elements External Walls Communal | 16mm o 16mm o Type-Nam Gross area: 51.87 34.7 | r more r more e: L C E: E: Fl Averag Openings: 11.51 2 | 0.7 0.7 ocation: ommunal kternal Walls kternal Walls at Roof te or unknown Net area: 40.36 32.7 | 0.72 0.72 Orient: North East North East South West Horizontal U-value: 0.18 0.18 | 1.2 1.3 Ru value: 0 0 | 8.88 0.6 Width: 0 0 0.001 Curtain False | 1 Height: 0 0 0 0 0 0 0 N/A N/A |

Thermal bridges:

| Thermal bridges: | User-define | ed (individual P | SI-values) | Y-Value = 0.0632 |
|--|----------------------------|------------------|-------------|--|
| Ū. | Length | Psi-value | | |
| | 12.1 | 0.05 | E1 | Steel lintel with perforated steel base plate |
| [Approved] | 1.4 19.88 | 0.04 | E3 E4 | Sill Jamb |
| [Approved] [Approved] | 19.88 | 0.05 0.09 | E4 E16 | Corner (normal) |
| [Approved] | 3.1 | -0.09 | E17 | Corner (inverted internal area greater than external area) |
| [Approved] | 10 | 0.06 | E18 | Party wall between dwellings |
| [Approved] | 44.54 | 0.07 | E7 | Party floor between dwellings (in blocks of flats) |
| | 8.54 | 0.08 | E14 | Flat roof |
| Ventilation: | | | | |
| Pressure test: | Yes (As de | signed) | | |
| Ventilation: | | ith heat recover | ery | |
| | Number of | wet rooms: Kit | chen + 3 | |
| | | Insulation, rigi | | |
| | | nstallation Sch | eme: True | |
| Number of chimneys: | 0 | | | |
| Number of open flues: Number of fans: | 0 0 | | | |
| Number of passive stacks: | 0 | | | |
| Number of sides sheltered: | 2 | | | |
| Pressure test: | 5 | | | |
| Main heating system: | | | | |
| Main heating system: | Community | / heating schen | nes | |
| 5 5 | Heat sourc | e: Community | boilers | |
| | | | | at fraction 1, efficiency 90 |
| | Piping>=1 | 991, pre-insula | ted, low te | emp, variable flow |
| Main heating Control: | | | | |
| Main heating Control: | | | use of co | mmunity heating, programmer and at least two room |
| | thermostat | | | |
| | Control coo | le: 2312 | | |
| Secondary heating system: Secondary heating system: | Nego | | | |
| Water heating: | None | | | |
| Water heating: | From main | heating system | 0 | |
| water heating. | Water code | | | |
| | | from boilers – | mains gas | |
| | Hot water | | 0 | |
| | | lume: 150 litre | S | |
| | - | sulation: Measu | | 1.81kWh/day |
| | | ework insulation | on: True | |
| | Cylindersta | | - | |
| | Cylinder in Solar panel | heated space: | Irue | |
| Others: | | | | |
| Electricity tariff: | Standard T | ariff | | |
| In Smoke Control Area: | Unknown | | | |
| Conservatory: | No conserv | vatory | | |
| Low energy lights: | 100% | | | |
| Terrain type: | | ban / suburbar | ו | |
| EPC language: | English | | | |
| Wind turbine: | No | | | |
| Photovoltaics: | Photovolta | | | |
| | Installed Pe | eak power: 0.5 | 4 | |
| | | | | |

Tilt of collector: 45° Overshading: None or very little Collector Orientation: South No

Assess Zero Carbon Home:

SAP 2012 Overheating Assessment

Calculated by Stroma FSAP 2012 program, produced and printed on 04 March 2020

Property Details: Flat C

| Dwelling type: Located in: Region: Cross ventilation possible: Number of storeys: Front of dwelling faces: Overshading: Overhangs: Thermal mass parameter: Night ventilation: Blinds, curtains, shutters: Ventilation rate during hot weather (ach): | | | | Flat England South England Yes 1 North East Average or unknown None Indicative Value Low False 6 (Windows fully open) | | | | |
|---|--|------------------------------------|---|--|---------------------------------------|---|---|---|
| Summer ventilation h Transmission heat los | ss coeffi | cient: | ient: | 369.32 39.8 | | | | (P1) |
| Summer heat loss co | efficient | | | 409.17 | | | | (P2) |
| Overhangs: | | | | | | | | |
| Orientation: | Ratio: | | Z_overhangs: | | | | | |
| North East (NE) | 0 | | 1 | | | | | |
| South West (SW) Horizontal (Flat Roof) | 0 0 | | 1 1 | | | | | |
| · / | 0 | | 1 | | | | | |
| Solar shading: | | | | | | | | |
| | | | | | | | | |
| Orientation: | Z blinc | ls: | Solar access: | Over | hangs: | Z summer: | | |
| North East (NE) | Z blinc 1 | ls: | 0.9 | Over 1 | hangs: | 0.9 | | (P8) |
| North East (NE) South West (SW) | 1 1 | ls: | 0.9 0.9 | 1 1 | hangs: | 0.9 0.9 | | (P8) |
| North East (NE) South West (SW) Horizontal (Flat Roof) | | ls: | 0.9 | 1 | hangs: | 0.9 | | |
| North East (NE) South West (SW) | 1 1 | ls: | 0.9 0.9 | 1 1 | hangs: | 0.9 0.9 | | (P8) |
| North East (NE) South West (SW) Horizontal (Flat Roof) Solar gains: Orientation | 1 1 | ls: Area | 0.9 0.9 | 1 1 | hangs: FF | 0.9 0.9 | Gains | (P8) |
| North East (NE) South West (SW) Horizontal (Flat Roof) Solar gains: Orientation North East (NE) | 1 1 1 0.9 x | Area 2.63 | 0.9 0.9 1 Flux 106.05 | 1 1 1 g_ 0.72 | FF 0.7 | 0.9 0.9 1 Shading 0.9 | 113.86 | (P8) |
| North East (NE) South West (SW) Horizontal (Flat Roof) Solar gains: Orientation | 1 1 1 0.9 x 0.9 x | Area 2.63 8.88 | 0.9 0.9 1 Flux 106.05 127.31 | 1 1 g_ 0.72 0.72 | FF 0.7 0.7 | 0.9 0.9 1 Shading 0.9 0.9 | 113.86 461.53 | (P8) |
| North East (NE) South West (SW) Horizontal (Flat Roof) Solar gains: Orientation North East (NE) | 1 1 1 0.9 x | Area 2.63 | 0.9 0.9 1 Flux 106.05 | 1 1 1 g_ 0.72 | FF 0.7 | 0.9 0.9 1 Shading 0.9 0.9 1 | 113.86 461.53 59.06 | (P8) (P8) |
| North East (NE) South West (SW) Horizontal (Flat Roof) Solar gains: Orientation North East (NE) South West (SW) | 1 1 1 0.9 x 0.9 x | Area 2.63 8.88 | 0.9 0.9 1 Flux 106.05 127.31 | 1 1 g_ 0.72 0.72 | FF 0.7 0.7 | 0.9 0.9 1 Shading 0.9 0.9 | 113.86 461.53 59.06 | (P8) |
| North East (NE) South West (SW) Horizontal (Flat Roof) Solar gains: Orientation North East (NE) | 1 1 1 0.9 x 0.9 x | Area 2.63 8.88 | 0.9 0.9 1 Flux 106.05 127.31 | 1 1 g_ 0.72 0.72 | FF 0.7 0.7 | 0.9 0.9 1 Shading 0.9 0.9 1 | 113.86 461.53 59.06 | (P8) (P8) |
| North East (NE) South West (SW) Horizontal (Flat Roof) Solar gains: Orientation North East (NE) South West (SW) Internal gains | 1 1 1 0.9 x 0.9 x | Area 2.63 8.88 | 0.9 0.9 1 Flux 106.05 127.31 | 1 1 1 0.72 0.72 0.72 0.72 | FF 0.7 0.7 0.7 0.7 | 0.9 0.9 1 Shading 0.9 0.9 1 Total July 449.35 | 113.86 461.53 59.06 634.45 August 457.36 | (P8) (P8) (P3/P4) |
| North East (NE) South West (SW) Horizontal (Flat Roof) Solar gains: Orientation North East (NE) South West (SW) Internal gains: | 1 1 0.9 x 0.9 x 1 x | Area 2.63 8.88 | 0.9 0.9 1 Flux 106.05 127.31 | 1 1 1 0.72 0.72 0.72 0.72 | FF 0.7 0.7 0.7 0.7 | 0.9 0.9 1 Shading 0.9 0.9 1 Total July | 113.86 461.53 59.06 634.45 August | (P8) (P8) (P3/P4) |
| North East (NE) South West (SW) Horizontal (Flat Roof) Solar gains: Orientation North East (NE) South West (SW) Internal gains Total summer gains Summer gain/loss ratio Mean summer external | 1 1 0.9 x 0.9 x 1 x | Area 2.63 8.88 0.6 | 0.9 0.9 1 Flux 106.05 127.31 217 | 1 1 1 0.72 0.72 0.72 0.72 0.72 Jun 466 114 2.8 15. | FF 0.7 0.7 0.7 0.7 | 0.9 0.9 1 Shading 0.9 0.9 1 Total July 449.35 1083.8 2.65 17.3 | 113.86 461.53 59.06 634.45 August 457.36 1030.39 2.52 17.3 | (P8) (P8) (P3/P4) |
| North East (NE) South West (SW) Horizontal (Flat Roof) Solar gains: Orientation North East (NE) South West (SW) Internal gains Total summer gains Summer gain/loss ratio Mean summer external Thermal mass tempera | 1 1 0.9 x 0.9 x 1 x tempera | Area 2.63 8.88 0.6 | 0.9 0.9 1 Flux 106.05 127.31 217 | 1 1 1 0.72 0.72 0.72 0.72 0.72 Jui 460 114 2.8 15. 1.3 | FF 0.7 0.7 0.7 0.7 | 0.9 0.9 1 Shading 0.9 0.9 1 Total July 449.35 1083.8 2.65 17.3 1.3 | 113.86 461.53 59.06 634.45 August 457.36 1030.39 2.52 17.3 1.3 | (P8) (P8) (P3/P4) (P5) (P6) |
| North East (NE) South West (SW) Horizontal (Flat Roof) Solar gains: Orientation North East (NE) South West (SW) Internal gains Total summer gains Summer gain/loss ratio Mean summer external Thermal mass tempera Threshold temperature | 1 1 0.9 x 0.9 x 1 x tempera | Area 2.63 8.88 0.6 | 0.9 0.9 1 Flux 106.05 127.31 217 outh England) | 1 1 1 0.72 0.72 0.72 0.72 0.72 Jun 460 114 2.8 15. 1.3 19. | FF 0.7 0.7 0.7 0.7 0.7 | 0.9 0.9 1 Shading 0.9 0.9 1 Total July 449.35 1083.8 2.65 17.3 1.3 21.25 | 113.86 461.53 59.06 634.45 August 457.36 1030.39 2.52 17.3 1.3 21.12 | (P8) (P8) (P3/P4) |
| North East (NE) South West (SW) Horizontal (Flat Roof) Solar gains: Orientation North East (NE) South West (SW) Internal gains Total summer gains Summer gain/loss ratio Mean summer external Thermal mass tempera | 1 1 0.9 x 0.9 x 1 x tempera | Area 2.63 8.88 0.6 | 0.9 0.9 1 Flux 106.05 127.31 217 outh England) | 1 1 1 0.72 0.72 0.72 0.72 0.72 Jun 460 114 2.8 15. 1.3 19. | FF 0.7 0.7 0.7 0.7 | 0.9 0.9 1 Shading 0.9 0.9 1 Total July 449.35 1083.8 2.65 17.3 1.3 | 113.86 461.53 59.06 634.45 August 457.36 1030.39 2.52 17.3 1.3 | (P8) (P8) (P3/P4) (P5) (P6) |

| | ent L1A, 2013 Editior <i>ch 2020 at 13:22:4</i> 2 | n, England assessed by Strom | na FSAP 2012 program, Version: 1.0 | .4.25 |
|--|---|---|---|----------|
| Project Informati | | | | |
| Assessed By: | Mark Heptonstall (| STRO004925) | Building Type: Flat | |
| Dwelling Details: | | | | |
| | DESIGN STAGE | | Total Floor Area: 68.58m ² | |
| Site Reference : | 10628 - 23 Raven | shaw Street | Plot Reference: Flat D | |
| Address : | | haw Street, London, NW6 1N | | |
| Client Details: | | | • | |
| | | | | |
| Name: Address : | | | | |
| This report cove It is not a comple | ete report of regulat | ithin the SAP calculations. ions compliance. | | |
| 1a TER and DE | | (-) | | |
| Fuel factor: 1.00 (| ting system: Mains ga | as (C) | | |
| , | oxide Emission Rate | (TFR) | 17.39 kg/m² | |
| - | Dioxide Emission Rat | . , | 13.84 kg/m ² | ОК |
| 1b TFEE and DF | | | , i i i i i i i i i i i i i i i i i i i | |
| Target Fabric Ene | ergy Efficiency (TFEE |) | 43.4 kWh/m² | |
| Dwelling Fabric E | nergy Efficiency (DFE | EE) | 35.8 kWh/m² | |
| | | | | OK |
| 2 Fabric U-value | es | | | |
| Element | | Average | Highest | |
| External | wall | 0.18 (max. 0.30) | 0.18 (max. 0.70) | ОК |
| Floor | | (no floor) | 0.45 (max, 0.25) | OK |
| Roof Opening | e | 0.15 (max. 0.20) 1.22 (max. 2.00) | 0.15 (max. 0.35) 1.30 (max. 3.30) | OK OK |
| 2a Thermal brid | | 1.22 (max. 2.00) | 1.00 (max. 0.00) | OR |
| | | om linear thermal transmittan | ces for each junction | |
| 3 Air permeabili | | | | |
| - | bility at 50 pascals | | 5.00 (design value) | |
| Maximum | | | 10.0 | ОК |
| 4 Heating efficie | encv | | | |
| Main Heati | | Community heating scheme Community boilers | es - mains gas | |
| Secondary | heating system: | None | | |
| 5 Cylinder insul | ation | | | |
| Hot water S | Hot water Storage: Measured cylinder loss: 1.81 kWh/day Permitted by DBSCG: 1.89 kWh/day | | | ОК |
| Primary pip | ework insulated: | Yes | | ОК |
| 6 Controls | | | | |
| | | | | |
| Space heat | ting controls | Charging system linked to u | | |
| •• • | | programmer and at least tw | o room thermostats | OK |
| Hot water of | controls: | Cylinderstat | | OK |

| 7 Low energy lights | | |
|---|--------------------|----|
| Percentage of fixed lights with low-energy fittings | 100.0% | |
| Minimum | 75.0% | OK |
| 8 Mechanical ventilation | | |
| Continuous supply and extract system | | |
| Specific fan power: | 0.77 | |
| Maximum | 1.5 | OK |
| MVHR efficiency: | 87% | |
| Minimum | 70% | OK |
| 9 Summertime temperature | | |
| Overheating risk (South England): | Slight | ОК |
| Based on: | | |
| Overshading: | Average or unknown | |
| Windows facing: North East | 2.63m ² | |
| Windows facing: South West | 6.32m ² | |
| Ventilation rate: | 6.00 | |
| | | |

10 Key features

Community heating, heat from boilers – mains gas Photovoltaic array

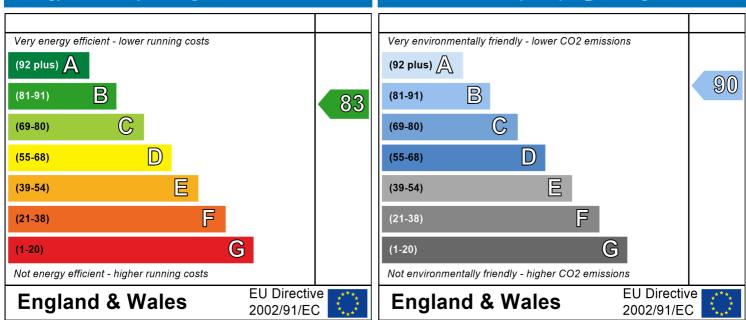
Flat D 23 Ravenshaw Street London NW6 1NP Dwelling type: Date of assessment: Produced by: Total floor area: Mid floor Flat 02 March 2020 Mark Heptonstall 68.58 m²

Environmental Impact (CO₂) Rating

This is a Predicted Energy Assessment for a property which is not yet complete. It includes a predicted energy rating which might not represent the final energy rating of the property on completion. Once the property is completed, an Energy Performance Certificate is required providing information about the energy performance of the completed property.

Energy performance has been assessed using the SAP 2012 methodology and is rated in terms of the energy use per square metre of floor area, energy efficiency based on fuel costs and environmental impact based on carbon dioxide (CO2) emissions.

Energy Efficiency Rating



The energy efficiency rating is a measure of the overall efficiency of a home. The higher the rating the more energy efficient the home is and the lower the fuel bills are likely to be. The environmental impact rating is a measure of a home's impact on the environment in terms of carbon dioxide (CO2) emissions. The higher the rating the less impact it has on the environment.



| Property Details: Flat D | | |
|--------------------------|--|--|
| Address: | Flat D, 23 Ravenshaw Street, London, NW6 1NP | |
| Located in: | England | |
| Region: | South England | |
| UPRN: | | |
| Date of assessment: | 02 March 2020 | |
| Date of certificate: | 04 March 2020 | |
| Assessment type: | New dwelling design stage | |
| Transaction type: | New dwelling | |
| Thermal Mass Parameter: | Indicative Value Low | |
| Comments: | | |

| Dwelling type: Detachment: | Flat |
|-------------------------------|------------|
| Year Completed: | 2020 |
| Front of dwelling faces: | North West |
| Comments: | |

| Opening types | : | | | | |
|---------------------------|---------|--------------------|----------|----------|-------|
| Name: | Type: | Frame Factor: | g-value: | U-Value: | Area: |
| NW | Solid | 0.7 | 0 | 1.3 | 2 |
| NE | Windows | 0.7 | 0.72 | 1.2 | 2.63 |
| SW | Windows | 0.7 | 0.72 | 1.2 | 6.32 |
| Overshading: Comments: | ŀ | Average or unknown | | | |

Opaque Elements:

| Type: External Elements | U-Va | lue: | Kappa: |
|--|--------------|--|------------|
| External Walls Communal | 0.18 0.18 | Please provide the U-Value calculation to justify the U-Value entered into the assessment. Please provide the U-Value calculation to justify the U-Value entered into the assessment. | N/A N/A |
| Flat Roof | 0.15 | Please provide the U-Value calculation to justify the U-Value entered into the assessment. | N/A |
| <u>Internal Elements (Area, Kappa)</u> Party Elements (Area, Kappa) | | | |

| Thermal bridges: | | | | |
|--|--|---|--|--|
| Thermal bridges: | User-defin Length 12.1 | ed (individua Psi-valu 0.05 | | ues) Y-Value = 0.0699 Steel lintel with perforated steel base plate |
| [Approved] [Approved] [Approved] [Approved] [Approved] [Approved] | 1.4 19.88 12.4 3.1 10 44.54 8.54 | 0.04 0.05 0.09 -0.09 0.06 0.07 0.08 | E3 E4 E16 E17 E18 E7 E14 | Sill Jamb Corner (normal) Corner (inverted internal area greater than external area) Party wall between dwellings Party floor between dwellings (in blocks of flats) Flat roof |

Comments:

If specific construction details have been adopted then please provide the associated checklists; signed and dated.

Ventilation:

Pressure test: Ventilation: Yes (As designed) Balanced with heat recovery Number of wet rooms: Kitchen + 3 Ductwork: Insulation, rigid Approved Installation Scheme: True 5

Pressure test: Comments:

Please provide the pressure test certificate, or certificates if the result is based on an average; signed and dated.

| Main heating system: | |
|----------------------|--|
| Main heating system: | Community heating schemes Heat source: Community boilers heat from boilers – mains gas, heat fraction 1, efficiency 90 Piping>=1991, pre-insulated, low temp, variable flow |
| Comments: | |

Main heating Control:

Main heating Control:

Charging system linked to use of community heating, programmer and at least two room thermostats

Comments:

| Secondary heating system: Comments: | None |
|---|--|
| | |
| Water heating: | |
| Water heating: | Hot water cylinder Cylinder volume: 150 litres Cylinder insulation: Measured loss, 1.81kWh/day Primary pipework insulation: True Cylinderstat: True Cylinder in heated space: True |
| Comments: | |
| | Solar panel: False |
| Others: | |
| Electricity tariff: Low energy lights: Terrain type: Wind turbine: Photovoltaics: | Standard Tariff 100% Low rise urban / suburban No <u>Photovoltaic 1</u> Installed Peak power: 0.5 Tilt of collector: 45° Overshading: None or very little Collector Orientation: South |
| | |

Declaration :

I confirm that the property has been built to the above specification. Signed:

.....

Date:

.....

| Property Details: Fl | at D | | | | | | | |
|--|------------------------------|-------------------------------|---------------------------------------|--------------------------|-----------------|-----------|---------------|------------|
| Address: Located in: Region: UPRN: | | Flat D, England South E | k | reet, London, NW | '6 1NP | | | |
| Date of assessm Date of certifica Assessment type | te: e: | | ch 2020 velling design sta | ge | | | | |
| Transaction type Tenure type: Related party dis Thermal Mass Pa | sclosure: | | 0 | | | | | |
| Water use <= 12 PCDF Version: | | | True | | | | | |
| Property description | า: | | | | | | | |
| Dwelling type: Detachment: | | Flat | | | | | | |
| Year Completed: Floor Location: | | 2020 Eleor | araa | | | | | |
| FIOOI LOCATION: | | Floor | area: | : | Storey height: | : | | |
| Floor 0 | | 68.58 r | | | 2.5 m | | | |
| Living area: Front of dwelling fa | aces: | 36.1 m North V | ² (fraction 0.526) Vest |) | | | | |
| Opening types: | | | | | | | | |
| Name: | Source: | - | /pe: | Glazing: | | Argon: | Fram | e: |
| NW NE | Manufacturer Manufacturer | | ilid indows | low-E, En = | 0.15, hard coat | Yes | Wood PVC-U | |
| SW | Manufacturer | W | indows | low-E, En = | 0.15, hard coat | Yes | PVC-U | |
| | Gap: | | Frame Facto | - | U-value: | Area: | | f Openings |
| NW NE | mm 16mm o | r more | 0.7 0.7 | 0 0.72 | 1.3 1.2 | 2 2.63 | 1 1 | |
| SW | 16mm o | r more | 0.7 | 0.72 | 1.2 | 6.32 | 1 | |
| Name: | Type-Name | | ocation: | Orient: | | Width: | Heigh | nt: |
| NW NE | | | ommunal ternal Walls | North West North East | | 0 0 | 0 0 | |
| SW | | | ternal Walls | South West | | 0 | 0 | |
| Overshading: | | Average | e or unknown | | | | | |
| Opaque Elements: | | | | | | | | |
| Type: <u>External Elements</u> | Gross area: | Openings: | Net area: | U-value: | Ru value: | Curtain | wall: | Kappa: |
| External Walls | 59.77 | 8.95 | 50.82 | 0.18 | 0 | False | | N/A |
| Communal Flat Roof | 30.7 8.1 | 2 0 | 28.7 8.1 | 0.18 0.15 | 0 0 | False | | N/A N/A |
| Internal Elements Party Elements | | - | | | - | | | |
| Thermal bridges: | | | | | | | | |
| | | | | | 0.0/00 | | | |
| Thermal bridges: | | User-de Lengt | | PSI-values) Y-Val | ue = 0.0699 | | | |

| [Approved] | 1.4 | 0.04 | E3 | Sill |
|------------|-------|-------|-----|--|
| [Approved] | 19.88 | 0.05 | E4 | Jamb |
| [Approved] | 12.4 | 0.09 | E16 | Corner (normal) |
| [Approved] | 3.1 | -0.09 | E17 | Corner (inverted internal area greater than external area) |
| [Approved] | 10 | 0.06 | E18 | Party wall between dwellings |
| [Approved] | 44.54 | 0.07 | E7 | Party floor between dwellings (in blocks of flats) |
| | 8.54 | 0.08 | E14 | Flat roof |

| Ventilation: | |
|---|---|
| Pressure test: Ventilation: | Yes (As designed) Balanced with heat recovery Number of wet rooms: Kitchen + 3 Ductwork: Insulation, rigid Approved Installation Scheme: True |
| Number of chimneys: Number of open flues: Number of fans: Number of passive stacks: Number of sides sheltered: Pressure test: | 0 0 0 2 5 |
| Main heating system: | |
| Main heating system: | Community heating schemes Heat source: Community boilers heat from boilers – mains gas, heat fraction 1, efficiency 90 Piping>=1991, pre-insulated, low temp, variable flow |
| Main heating Control: | |
| Main heating Control: | Charging system linked to use of community heating, programmer and at least two room thermostats Control code: 2312 |
| Secondary heating system: | |
| Secondary heating system: | None |
| Water heating: | |
| Water heating: | From main heating system Water code: 901 Fuel :heat from boilers – mains gas Hot water cylinder Cylinder volume: 150 litres Cylinder insulation: Measured loss, 1.81kWh/day Primary pipework insulation: True Cylinderstat: True Cylinder in heated space: True Solar panel: False |
| Others: | |
| Electricity tariff: In Smoke Control Area: Conservatory: Low energy lights: Terrain type: EPC language: Wind turbine: Photovoltaics: | Standard Tariff Unknown No conservatory 100% Low rise urban / suburban English No <u>Photovoltaic 1</u> Installed Peak power: 0.5 Tilt of collector: 45° Overshading: None or very little Collector Orientation: South |

Assess Zero Carbon Home: No

SAP 2012 Overheating Assessment

Calculated by Stroma FSAP 2012 program, produced and printed on 04 March 2020

Property Details: Flat D

| Dwelling type: Located in: Region: Cross ventilation pos Number of storeys: Front of dwelling face Overshading: Overhangs: Thermal mass param Night ventilation: Blinds, curtains, shur Ventilation rate durin | es: eter: tters: | ather (a | ich): | None Indicativ False | - | | | |
|---|--------------------------|-----------------------------|------------------------------------|----------------------------|---|--|--|----------------------|
| Summer ventilation h Transmission heat lo Summer heat loss co | ss coeffi | cient: | ient: | 339.47 35.3 374.74 | | | | (P1) (P2) |
| Overhangs: | | | | | | | | |
| Orientation: North East (NE) South West (SW) | Ratio: 0 0 | | Z_overhangs: 1 1 | | | | | |
| Solar shading: | | | | | | | | |
| Orientation: North East (NE) South West (SW) | Z blind 1 1 | ls: | Solar access: 0.9 0.9 | Ov 1 1 | verhangs: | Z summer: 0.9 0.9 | | (P8) (P8) |
| Solar gains: | | | | | | | | |
| Orientation North East (NE) South West (SW) | 0.9 x 0.9 x | Area 2.63 6.32 | Flux 106.05 127.31 | g_ 0.72 0.72 | FF 0.7 0.7 | Shading 0.9 0.9 Total | Gains 113.86 328.47 442.34 | (P3/P4) |
| Internal gains: | | | | | | | | |
| Internal gains Total summer gains Summer gain/loss ratio Mean summer externa Thermal mass tempera Threshold temperature Likelihood of high int | l tempera ature incre | ement | <i>.</i> | | June 444.08 918.16 2.45 15.4 1.3 19.15 Not significant | July 428.22 870.55 2.32 17.3 1.3 20.92 Slight | August 436.11 834.98 2.23 17.3 1.3 20.83 Slight | (P5) (P6) (P7) |
| Assessment of likelih | nood of h | igh inte | ernal temperatur | 'e: <u>`</u> | <u>Slight</u> | | | |

Regulations Compliance Report

| •• | ent L1A, 2013 Editio rch 2020 at 13:22:31 | • | na FSAP 2012 program, Version: 1.0.4.25 | 5 |
|--|--|---|---|----------|
| Project Informati | | | | |
| Assessed By: | Mark Heptonstall | (STR0004925) | Building Type: Flat | |
| Dwelling Details: | | (011(0001020) | | |
| | DESIGN STAGE | | Total Floor Area: 71.86m ² | |
| Site Reference : | 10628 - 23 Raver | schour Street | Plot Reference: Flat E | |
| | | | | |
| Address : | Flat E, 23 Ravens | haw Street, London, NW6 1N | P | |
| Client Details: | | | | |
| Name: Address : | | | | |
| This report cove It is not a comple | ete report of regula | vithin the SAP calculations. tions compliance. | | |
| 1a TER and DEI | | | | |
| | ting system: Mains g | as (c) | | |
| Fuel factor: 1.00 (| • • • • • • | | 17.15 kg/m^2 | |
| - | oxide Emission Rate Dioxide Emission Ra | | 17.15 kg/m² 13.43 kg/m² | ОК |
| 1b TFEE and DI | | | 10.40 Kg/m | UN |
| | ergy Efficiency (TFE | Ξ) | 43.2 kWh/m² | |
| - | nergy Efficiency (DF | | 35.7 kWh/m ² | |
| - | | | | ОК |
| 2 Fabric U-value | es | | | |
| Element | t | Average | Highest | |
| External | wall | 0.18 (max. 0.30) | 0.18 (max. 0.70) | ОК |
| Floor | | (no floor) | | |
| Roof | • | 0.15 (max. 0.20) | 0.15 (max. 0.35) | OK |
| Opening | | 1.22 (max. 2.00) | 1.30 (max. 3.30) | OK |
| 2a Thermal brid | | | and for each investion | |
| 3 Air permeabil | | rom linear thermal transmittan | ices for each junction | |
| - | bility at 50 pascals | | 5.00 (design value) | |
| Maximum | ibility at 50 pascals | | 10.0 | ОК |
| 4 Heating offici | | | | |
| 4 Heating efficie | | Community booting ochom | | |
| Main Heau | ng system: | Community heating scheme Community boilers | es - mains gas | |
| Secondary | heating system: | None | | |
| 5 Cylinder insu | lation | | | |
| Hot water \$ | | Measured cylinder loss: 1.8 | 31 kWh/day | |
| | - | Permitted by DBSCG: 1.89 | kWh/day | OK |
| | pework insulated: | Yes | | ОК |
| 6 Controls | | | | |
| - | • | | | |
| Space hea | ting controls | Charging system linked to u | | 01/ |
| Hot water of | controls: | programmer and at least tw Cylinderstat | | OK OK |
| | | Oyintoorstat | | UN |

Regulations Compliance Report

| 7 Low energy lights | | |
|---|--------------------|----|
| Percentage of fixed lights with low-energy fittings | 100.0% | |
| Minimum | 75.0% | OK |
| 8 Mechanical ventilation | | |
| Continuous supply and extract system | | |
| Specific fan power: | 0.77 | |
| Maximum | 1.5 | OK |
| MVHR efficiency: | 87% | |
| Minimum | 70% | OK |
| 9 Summertime temperature | | |
| Overheating risk (South England): | Slight | ОК |
| Based on: | | |
| Overshading: | Average or unknown | |
| Windows facing: North East | 3.35m ² | |
| Windows facing: South West | 5.47m ² | |
| Ventilation rate: | 6.00 | |
| | | |

10 Key features

Community heating, heat from boilers – mains gas Photovoltaic array

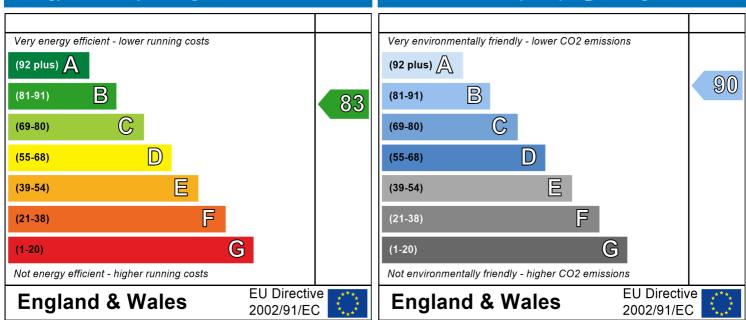
Flat E 23 Ravenshaw Street London NW6 1NP Dwelling type: Date of assessment: Produced by: Total floor area: Mid floor Flat 02 March 2020 Mark Heptonstall 71.86 m²

Environmental Impact (CO₂) Rating

This is a Predicted Energy Assessment for a property which is not yet complete. It includes a predicted energy rating which might not represent the final energy rating of the property on completion. Once the property is completed, an Energy Performance Certificate is required providing information about the energy performance of the completed property.

Energy performance has been assessed using the SAP 2012 methodology and is rated in terms of the energy use per square metre of floor area, energy efficiency based on fuel costs and environmental impact based on carbon dioxide (CO2) emissions.

Energy Efficiency Rating



The energy efficiency rating is a measure of the overall efficiency of a home. The higher the rating the more energy efficient the home is and the lower the fuel bills are likely to be. The environmental impact rating is a measure of a home's impact on the environment in terms of carbon dioxide (CO2) emissions. The higher the rating the less impact it has on the environment.



| Property Details: Flat E | |
|--------------------------|--|
| Address: | Flat E, 23 Ravenshaw Street, London, NW6 1NP |
| Located in: | England |
| Region: UPRN: | South England |
| Date of assessment: | 02 March 2020 |
| Date of certificate: | 04 March 2020 |
| Assessment type: | New dwelling design stage |
| Transaction type: | New dwelling |
| Thermal Mass Parameter: | Indicative Value Low |
| Comments: | |

| Dwelling type: | Flat | |
|--------------------------------|------------|--|
| Detachment: Year Completed: | 2020 | |
| Front of dwelling faces: | South East | |

| Туре: | Frame Factor: | | | |
|---------|--------------------|-------------|---|------------------------------------|
| 5. | | g-value: | U-Value: | Area: |
| Solid | 0.7 | 0 | 1.3 | 2 |
| Windows | 0.7 | 0.72 | 1.2 | 3.35 |
| Windows | 0.7 | 0.72 | 1.2 | 5.47 |
| Д | werage or unknown | | | |
| | Windows Windows | Windows 0.7 | Windows 0.7 0.72 Windows 0.7 0.72 | Windows0.70.721.2Windows0.70.721.2 |

Opaque Elements:

| Type: External Elements | U-Va | lue: | Kappa: |
|---------------------------------|------|--|--------|
| External Walls | 0.18 | Please provide the U-Value calculation to justify the U-Value entered into the assessment. | N/A |
| Communal | 0.18 | Please provide the U-Value calculation to justify the U-Value entered into the assessment. | N/A |
| Flat Roof | 0.15 | Please provide the U-Value calculation to justify the U-Value entered into the assessment. | N/A |
| Rafters | 0.15 | Please provide the U-Value calculation to justify the U-Value entered into the assessment. | N/A |
| Internal Elements (Area, Kappa) | | | |

Party Elements (Area, Kappa)

| Thermal bridges: | | | | |
|------------------|------------|---------------|------------|--|
| Thermal bridges: | User-defin | ed (individua | l PSI-valu | ues) Y-Value = 0.0654 |
| C C | Length | Psi-value | Э | |
| | 12.1 | 0.05 | E1 | Steel lintel with perforated steel base plate |
| [Approved] | 1.4 | 0.04 | E3 | Sill |
| [Approved] | 19.88 | 0.05 | E4 | Jamb |
| [Approved] | 12.4 | 0.09 | E16 | Corner (normal) |
| [Approved] | 3.1 | -0.09 | E17 | Corner (inverted internal area greater than external area) |
| [Approved] | 10 | 0.06 | E18 | Party wall between dwellings |
| | 8.38 | 0.08 | E14 | Flat roof |
| [Approved] | 36.28 | 0.07 | E7 | Party floor between dwellings (in blocks of flats) |
| [Approved] | 3.05 | 0.04 | E13 | Gable (insulation at rafter level) |
| [Approved] | 4.6 | 0.04 | E11 | Eaves (insulation at rafter level) |

Comments:

If specific construction details have been adopted then please provide the associated checklists; signed and dated.

Ventilation: Pressure test:

Ventilation:

Yes (As designed) Balanced with heat recovery Number of wet rooms: Kitchen + 3 Ductwork: Insulation, rigid Approved Installation Scheme: True 5

Pressure test:

Comments:

Please provide the pressure test certificate, or certificates if the result is based on an average; signed and dated.

| Main heating system: | | |
|----------------------|--|--|
| Main heating system: | Community heating schemes Heat source: Community boilers heat from boilers – mains gas, heat fraction 1, efficiency 90 Piping>=1991, pre-insulated, low temp, variable flow | |
| Comments: | | |
| | | |

Main heating Control:

Main heating Control:

Charging system linked to use of community heating, programmer and at least two

room thermostats

Secondary heating system:

Secondary heating system: Comments:

None

Water heating:

Water heating:

Comments:

Hot water cylinder Cylinder volume: 150 litres Cylinder insulation: Measured loss, 1.81kWh/day Primary pipework insulation: True Cylinderstat: True Cylinder in heated space: True

Comments:

| | Solar panel: False |
|---|---|
| Others: | |
| Electricity tariff: Low energy lights: Terrain type: Wind turbine: Photovoltaics: | Standard Tariff 100% Low rise urban / suburban No <u>Photovoltaic 1</u> Installed Peak power: 0.52 Tilt of collector: 45° Overshading: None or very little |
| Comments: | Collector Orientation: South |

Please provide the MCS certificate or data sheet equivalent confirming the size of the array on the roof. This should include any calculations to support a proportioned amount included in the assessment.

Declaration

I confirm that the property has been built to the above specification.

| Signed: | |
|---------|--|
| Date: | |
| | |

| Property Detailer El | at E | | | | | | | |
|---|---------------------------------------|--|-------------------------------------|-------------------------------------|--------------------------------------|-----------------------------------|------------------------------|--------------------------|
| Property Details: Fl Address: Located in: Region: UPRN: Date of assessm Date of certifica | ent: | England South E 02 Mar | | reet, London, NW | 6 1NP | | | |
| Assessment type Transaction type Tenure type: Related party dis Thermal Mass Pa Water use <= 12 PCDF Version: | e: sclosure: arameter: | New dv Unknov No rela Indicat | | ge | | | | |
| Property description | ו: | | | | | | | |
| Dwelling type: Detachment: Year Completed: | | Flat 2020 | | | | | | |
| Floor Location: | | Floor | area: | | Storey height | : | | |
| Floor 0 Living area: | | 71.86 r 34.13 r South I | n ² (fraction 0.47 | 5) | 2.5 m | | | |
| Front of dwelling factors of opening types: | aces: | South E | 2051 | | | | | |
| Name: SE | Source: Manufacturer | - | /pe: lid | Glazing: | | Argon: | Frame Wood | : |
| NE SW | Manufacturer Manufacturer | | indows indows | | 0.15, hard coat 0.15, hard coat | | PVC-U PVC-U | |
| Name: SE NE SW | Gap: mm 16mm o 16mm o | | Frame Facto 0.7 0.7 0.7 | or: g-value: 0 0.72 0.72 | U-value: 1.3 1.2 1.2 | Area: 2 3.35 5.47 | No. of 1 1 1 | Openings |
| Name: SE NE | Type-Nam | e: Lo Co | ocation: ommunal ternal Walls | Orient: South East North East | 1.2 | Width: 0 0 | Heigh [:] 0 0 | :: |
| SW | | | ternal Walls | South West | | 0 | 0 | |
| Overshading: Opaque Elements: | | Averag | e or unknown | | | | | |
| | Gross area: | Openings: | Net area: | U-value: | Ru value: | Curtain | wall: | Kappa: |
| External Elements External Walls Communal Flat Roof Rafters | 57.76 16.87 12.42 14.01 | 8.82 2 0 0 | 48.94 14.87 12.42 14.01 | 0.18 0.18 0.15 0.15 | 0 0 0 0 | False False | | N/A N/A N/A N/A |
| Internal Elements Party Elements | | | | | | | | |
| Thermal bridges: Thermal bridges: | | | efined (individual l | | ue = 0.0654 | | | |
| | | Lengt 12.1 | h Psi-valu 0.05 | | lintel with perforat | ed steel base p | olate | |

| [Approved] [Approved] [Approved] [Approved] [Approved] [Approved] [Approved] | 1.4 19.88 12.4 3.1 10 8.38 36.28 3.05 4.6 | 0.04 0.05 0.09 -0.09 0.06 0.08 0.07 0.04 0.04 | E3 E4 E16 E17 E18 E14 E7 E13 E11 | Sill Jamb Corner (normal) Corner (inverted internal area greater than external area) Party wall between dwellings Flat roof Party floor between dwellings (in blocks of flats) Gable (insulation at rafter level) Eaves (insulation at rafter level) |
|---|---|---|--|--|
| Ventilation: | | | | |
| Pressure test: Ventilation: | Number of Ductwork: | signed) vith heat recov wet rooms: Ki Insulation, rigi Installation Sch | tchen + 3 d | |
| Number of chimneys: Number of open flues: Number of fans: Number of passive stacks: Number of sides sheltered: Pressure test: | 0 0 0 0 2 5 | | | |
| Main heating system: | | | | |
| Main heating system: | Heat source heat from | | boilers 1s gas, hea | at fraction 1, efficiency 90 emp, variable flow |
| Main heating Control: | | | | |
| Main heating Control: | Charging s thermostat Control co | S | o use of co | mmunity heating, programmer and at least two room |
| Secondary heating system: | | | | |
| Secondary heating system: | None | | | |
| Water heating: | | | | |
| Water heating: | Water cod Fuel :heat Hot water Cylinder vo Cylinder in Primary pij Cylindersta Cylinder in | from boilers – cylinder blume: 150 litre sulation: Measu bework insulation at: True heated space: | mains gas es ured loss, on: True | |
| Others: | Solar pane | | | |
| Electricity tariff: In Smoke Control Area: Conservatory: Low energy lights: Terrain type: EPC language: Wind turbine: Photovoltaics: | English No <u>Photovolt</u> | vatory rban / suburba <u>aic 1</u> eak power: 0.5 | | |

Tilt of collector: 45°

Overshading: None or very little Collector Orientation: South No

Assess Zero Carbon Home:

SAP 2012 Overheating Assessment

Calculated by Stroma FSAP 2012 program, produced and printed on 04 March 2020

Property Details: Flat E

| Dwelling type: Located in: Region: Cross ventilation poss Number of storeys: Front of dwelling face Overshading: Overhangs: Thermal mass param Night ventilation: Blinds, curtains, shuft Ventilation rate durin Overheating Details: Summer ventilation hat los Summer heat loss co | es: eter: g hot wea eat loss ss coeffic | coeffici | | None Indicativ False | ngland | | | (P1) (P2) |
|--|---|----------|--|----------------------------|---|--|---|-------------------------|
| Orientation: North East (NE) South West (SW) Solar shading: Orientation: North East (NE) South West (SW) Solar gains: | Ratio: 0 0 Z blind 1 1 | ˈs: | Z_overhangs: 1 1 Solar access: 0.9 0.9 | Ο ν 1 1 | verhangs: | Z summer: 0.9 0.9 | | (P8) (P8) |
| Orientation North East (NE) South West (SW) Internal gains Internal gains Total summer gains Summer gain/loss ratio Mean summer external | tempera | | Flux 106.05 127.31 | | FF 0.7 0.7 June 457.04 918.2 2.35 15.4 | Shading 0.9 0.9 Total July 440.66 869.99 2.23 17.3 | August 448.83 832.11 2.13 17.3 | (P3/P4) (P5) (P6) |
| Thermal mass tempera Threshold temperature Likelihood of high int Assessment of likelih | ernal ten | nperatu | | | 1.3 19.05 Not significant <u>Slight</u> | 1.3 20.83 Slight | 1.3 20.73 Slight | (P7) |

Regulations Compliance Report

| | ent L1A, 2013 Editior ch 2020 at 13:22:20 | n, England assessed by Strom | na FSAP 2012 program, Version: 1.0.4 | 4.25 |
|---|--|---|--|----------|
| Project Information | | | | |
| Assessed By: | Mark Heptonstall | STRO004925) | Building Type: Flat | |
| Dwelling Details: | | | | |
| NEW DWELLING | DESIGN STAGE | | Total Floor Area: 72.49m ² | |
| Site Reference : | 10628 - 23 Raven | shaw Street | Plot Reference: Flat F | |
| Address : | Flat F. 23 Ravens | haw Street, London, NW6 1N | P | |
| Client Details: | , | | | |
| Name: | | | | |
| Address : | | | | |
| This report cover It is not a comple | te report of regulat | ithin the SAP calculations. ions compliance. | | |
| 1a TER and DER | | | | |
| | ing system: Mains g | as (c) | | |
| Fuel factor: 1.00 (r | nains gas (c)) oxide Emission Rate | | 17.46 kg/m^2 | |
| - | Dioxide Emission Rate | . , | 17.46 kg/m² 13.68 kg/m² | ОК |
| 1b TFEE and DF | | | 13.00 kg/m | UN |
| | rgy Efficiency (TFEE |) | 44.8 kWh/m² | |
| - | nergy Efficiency (DFI | · | 37.0 kWh/m ² | |
| 9 | 3, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, | , | | ОК |
| 2 Fabric U-value | s | | | |
| Element | | Average | Highest | |
| External | wall | 0.18 (max. 0.30) | 0.18 (max. 0.70) | OK |
| Floor | | (no floor) | | |
| Roof | | 0.15 (max. 0.20) | 0.15 (max. 0.35) | OK |
| Openings | | 1.22 (max. 2.00) | 1.30 (max. 3.30) | OK |
| 2a Thermal brid | | | | |
| | | rom linear thermal transmittan | ces for each junction | |
| 3 Air permeabili | | | 5.00 (1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1 | |
| Air permeat Maximum | pility at 50 pascals | | 5.00 (design value) 10.0 | ОК |
| | | | 10.0 | OIT |
| 4 Heating efficie | | | | |
| Main Heatir | ig system: | Community heating scheme Community boilers | es - mains gas | |
| Secondary | heating system: | None | | |
| 5 Cylinder insula | ation | | | |
| Hot water S | | Measured cylinder loss: 1.8 | 31 kWh/day | |
| | - | Permitted by DBSCG: 1.89 | • | ОК |
| | ework insulated: | Yes | | ОК |
| 6 Controls | | | | |
| | | . | | |
| Space heat | ing controls | Charging system linked to u | | |
| Hot water c | ontrols: | programmer and at least tw Cylinderstat | | OK OK |
| not water c | 0111013. | Cymueisiai | | UN |

Regulations Compliance Report

| 7 Low energy lights | | |
|---|--------------------|----|
| Percentage of fixed lights with low-energy fittings | 100.0% | |
| Minimum | 75.0% | OK |
| 8 Mechanical ventilation | | |
| Continuous supply and extract system | | |
| Specific fan power: | 0.77 | |
| Maximum | 1.5 | OK |
| MVHR efficiency: | 87% | |
| Minimum | 70% | OK |
| 9 Summertime temperature | | |
| Overheating risk (South England): | Slight | ОК |
| Based on: | | |
| Overshading: | Average or unknown | |
| Windows facing: North East | 3.35m ² | |
| Windows facing: South West | 5.47m ² | |
| Ventilation rate: | 6.00 | |
| | | |

10 Key features

Community heating, heat from boilers – mains gas Photovoltaic array

S

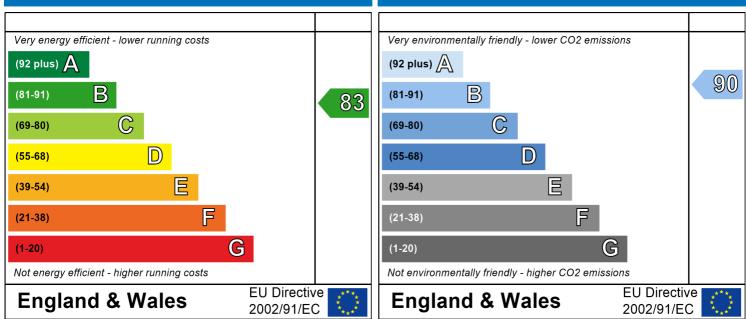
Flat F 23 Ravenshaw Street London NW6 1NP Dwelling type: Date of assessment: Produced by: Total floor area: Mid floor Flat 02 March 2020 Mark Heptonstall 72.49 m²

Environmental Impact (CO₂) Rating

This is a Predicted Energy Assessment for a property which is not yet complete. It includes a predicted energy rating which might not represent the final energy rating of the property on completion. Once the property is completed, an Energy Performance Certificate is required providing information about the energy performance of the completed property.

Energy performance has been assessed using the SAP 2012 methodology and is rated in terms of the energy use per square metre of floor area, energy efficiency based on fuel costs and environmental impact based on carbon dioxide (CO2) emissions.

Energy Efficiency Rating



The energy efficiency rating is a measure of the overall efficiency of a home. The higher the rating the more energy efficient the home is and the lower the fuel bills are likely to be. The environmental impact rating is a measure of a home's impact on the environment in terms of carbon dioxide (CO2) emissions. The higher the rating the less impact it has on the environment.

| Property Details: Flat F | |
|--|---|
| Address: Located in: | Flat F, 23 Ravenshaw Street, London, NW6 1NP England |
| Region: UPRN: | South England |
| Date of assessment: | 02 March 2020 |
| Date of certificate: Assessment type: | 04 March 2020 New dwelling design stage |
| Transaction type: Thermal Mass Parameter: | New dwelling Indicative Value Low |
| Comments: | |

| Dwelling type: Detachment: | Flat | |
|-------------------------------|------------|--|
| Year Completed: | 2020 | |
| Front of dwelling faces: | North West | |

| Type:Frame Factor:g-value:U-Value:Area:Solid0.701.32Windows0.70.721.23.35Windows0.70.721.25.47 |
|--|
| Windows 0.7 0.72 1.2 3.35 |
| |
| Windows 0.7 0.72 1.2 5.47 |
| |
| Average or unknown |

Opaque Elements:

| Type: External Elements | U-Va | lue: | Kappa: |
|---------------------------------|------|--|--------|
| External Walls | 0.18 | Please provide the U-Value calculation to justify the U-Value entered into the assessment. | N/A |
| Communal | 0.18 | Please provide the U-Value calculation to justify the U-Value entered into the assessment. | N/A |
| Flat Roof | 0.15 | Please provide the U-Value calculation to justify the U-Value entered into the assessment. | N/A |
| Joists (void) | 0.15 | Please provide the U-Value calculation to justify the U-Value entered into the assessment. | N/A |
| Internal Elements (Area, Kappa) | | | |

Party Elements (Area, Kappa)

| Thermal bridges: | | | | |
|------------------|--------|-----------|-----|--|
| Thermal bridges: | Length | Psi-value | | ues) Y-Value = 0.0716 |
| FA 13 | 12.1 | 0.05 | E1 | Steel lintel with perforated steel base plate |
| [Approved] | 1.4 | 0.04 | E3 | Sill |
| [Approved] | 19.88 | 0.05 | E4 | Jamb |
| [Approved] | 15 | 0.09 | E16 | Corner (normal) |
| [Approved] | 5 | -0.09 | E17 | Corner (inverted internal area greater than external area) |
| [Approved] | 33.35 | 0.06 | E18 | Party wall between dwellings |
| | 11.65 | 0.08 | E14 | Flat roof |
| [Approved] | 23.82 | 0.07 | E7 | Party floor between dwellings (in blocks of flats) |
| [Approved] | 5.25 | 0.06 | E10 | Eaves (insulation at ceiling level) |

Comments:

If specific construction details have been adopted then please provide the associated checklists; signed and dated.

Ventilation:

Pressure test: Yes (As designed) Ventilation: Balanced with heat recovery Number of wet rooms: Kitchen + 3 Ductwork: Insulation, rigid Approved Installation Scheme: True Pressure test: 5

Comments:

Please provide the pressure test certificate, or certificates if the result is based on an average; signed and dated.

| Main heating system: | |
|----------------------|--|
| Main heating system: | Community heating schemes Heat source: Community boilers heat from boilers – mains gas, heat fraction 1, efficiency 90 Piping>=1991, pre-insulated, low temp, variable flow |
| Comments: | |

Main heating Control:

Main heating Control:

Charging system linked to use of community heating, programmer and at least two room thermostats

| Comments: | |
|---|---|
| | |
| | |
| Secondary heating system: | |
| Secondary heating system: Comments: | None |
| | |
| | |
| Water heating: | |
| Water heating: | Hot water cylinder Cylinder volume: 150 litres Cylinder insulation: Measured loss, 1.81kWh/day Primary pipework insulation: True Cylinderstat: True Cylinder in heated space: True |
| Comments: | cylinder in heated space. The |
| | |
| | Solar panel: False |
| Others: | |
| Electricity tariff: Low energy lights: Terrain type: Wind turbine: Photovoltaics: | Standard Tariff 100% Low rise urban / suburban No <u>Photovoltaic 1</u> Installed Peak power: 0.53 Tilt of collector: 45° Overshading: None or very little |
| Comments: | Collector Orientation: South |
| | data sheet equivalent confirming the size of the array on the roof. This should proportioned amount included in the assessment. |
| Declaration : | |

I confirm that the property has been built to the above specification. Signed:

Date:

.....

| Property Details: Fl | at F | | 22 Deverse have Char | et Leveley NIM | (1)0 | | | |
|--|------------------------------|-------------------------|---|--------------------------|---------------------------------|-------------------|-------------------|------------|
| Address: Located in: Region: UPRN: | I | | 23 Ravenshaw Stre d England | et, London, NW | 6 TNP | | | |
| Date of assessm Date of certifica | te: | 04 Mai | rch 2020 rch 2020 | | | | | |
| Assessment type Transaction type | | New d | • | 2 | | | | |
| Tenure type: Related party dis Thermal Mass Pa | | | wn ated party :ive Value Low | | | | | |
| Water use <= 12 PCDF Version: | | | True | | | | | |
| Property description | ו: | | | | | | | |
| Dwelling type: Detachment: | | Flat | | | | | | |
| Year Completed: Floor Location: | | 2020 Floor | area. | | | | | |
| | | | | : | Storey height | : | | |
| Floor 0 Living area: | | 72.49 40.17 | m ² m ² (fraction 0.554) | | 2.5 m | | | |
| Front of dwelling for Opening types: | aces: | North | West | | | | | |
| Name: | Source: | т | ype: | Glazing: | | Argon: | Fram | 0: |
| NW | Manufacturer | | olid | 0 | | - | Wood | е. |
| NE SW | Manufacturer Manufacturer | | /indows /indows | | 0.15, hard coat 0.15, hard coat | | PVC-U PVC-U | |
| Name: NW | Gap: mm | | Frame Factor | : g-value: | U-value: 1.3 | Area: 2 | No. o 1 | f Openings |
| NE SW | 16mm o 16mm o | | 0.7 0.7 | 0.72 0.72 | 1.2 1.2 | 3.35 5.47 | 1 1 | |
| Name: NW | Type-Nam | | ocation: ommunal | Orient: North West | | Width: 0 | Heigh 0 | nt: |
| NE SW | | E | xternal Walls xternal Walls | North East South West | | 0 0 | 0 0 | |
| Overshading: | | Averag | je or unknown | | | | | |
| Opaque Elements: | | | | | | | | |
| Type: External Elements | Gross area: | Openings: | Net area: | U-value: | Ru value: | Curtain | wall: | Kappa: |
| External Walls | 54.65 | 8.82 | 45.83 | 0.18 | 0 | False | | N/A N/A |
| Communal Flat Roof | 27.35 14.47 | 2 0 | 25.35 14.47 | 0.18 0.15 | 0 0 | False | | N/A N/A |
| Joists (void) <u>Internal Elements</u> <u>Party Elements</u> | 7.87 | 0 | 7.87 | 0.15 | 0 | | | N/A |
| Thermal bridges: | | | | | | | | |
| Thermal bridges: | | User-d Leng t | efined (individual P: h Psi-value | | | | | |
| | | 12.1 | 0.05 | E1 Steel | lintel with perforat | ed steel base p | olate | |

| [Approved] | 1.4 | 0.04 | E3 | Sill |
|------------|-------|-------|-----|---|
| [Approved] | 19.88 | 0.05 | E4 | Jamb |
| [Approved] | 15 | 0.09 | E16 | Corner (normal) |
| [Approved] | 5 | -0.09 | E17 | Corner (inverted internal area greater than external area |
| [Approved] | 33.35 | 0.06 | E18 | Party wall between dwellings |
| | 11.65 | 0.08 | E14 | Flat roof |
| [Approved] | 23.82 | 0.07 | E7 | Party floor between dwellings (in blocks of flats) |
| [Approved] | 5.25 | 0.06 | E10 | Eaves (insulation at ceiling level) |

| Ventilation: | |
|---|---|
| Pressure test: Ventilation: | Yes (As designed) Balanced with heat recovery Number of wet rooms: Kitchen + 3 Ductwork: Insulation, rigid Approved Installation Scheme: True |
| Number of chimneys: Number of open flues: Number of fans: Number of passive stacks: Number of sides sheltered: Pressure test: | 0 0 0 0 2 5 |
| Main heating system: | |
| Main heating system: | Community heating schemes Heat source: Community boilers heat from boilers – mains gas, heat fraction 1, efficiency 90 Piping>=1991, pre-insulated, low temp, variable flow |
| Main heating Control: | |
| Main heating Control: | Charging system linked to use of community heating, programmer and at least two room thermostats Control code: 2312 |
| Secondary heating system: | |
| Secondary heating system: | None |
| Water heating: | |
| Water heating: | From main heating system Water code: 901 Fuel :heat from boilers – mains gas Hot water cylinder Cylinder volume: 150 litres Cylinder insulation: Measured loss, 1.81kWh/day Primary pipework insulation: True Cylinderstat: True Cylinder in heated space: True Solar panel: False |
| Others: | |
| Electricity tariff: In Smoke Control Area: Conservatory: Low energy lights: Terrain type: EPC language: Wind turbine: Photovoltaics: | Standard Tariff Unknown No conservatory 100% Low rise urban / suburban English No <u>Photovoltaic 1</u> Installed Peak power: 0.53 Tilt of collector: 45° Overshading: None or very little |

Assess Zero Carbon Home:

Collector Orientation: South No

SAP 2012 Overheating Assessment

Calculated by Stroma FSAP 2012 program, produced and printed on 04 March 2020

Property Details: Flat F

| Dwelling type: Located in: Region: Cross ventilation pos Number of storeys: Front of dwelling face Overshading: Overhangs: Thermal mass param Night ventilation: Blinds, curtains, shur Ventilation rate durin | es: eter: tters: | ather (a | ch): | None Indicativ False | ngland | | | |
|---|------------------------|-----------------------------|---------------------------------|---|--|--|---|--------------|
| Summer ventilation h Transmission heat lo | | | ent: | 358.83 36.3 | | | | (P1) |
| Summer heat loss co | efficient: | | | 395.16 | | | | (P2) |
| Overhangs: | | | | | | | | |
| Orientation: | Ratio: | | Z_overhangs: | | | | | |
| North East (NE) South West (SW) | 0 0 | | 1 1 | | | | | |
| Solar shading: | | | | | | | | |
| Orientation: | Z blind | s: | Solar access: | 0 | verhangs: | Z summer: | | |
| North East (NE) South West (SW) | 1 1 | | 0.9 0.9 | 1 1 | | 0.9 0.9 | | (P8) (P8) |
| Solar gains: | | | | | | | | |
| Orientation North East (NE) South West (SW) | 0.9 x 0.9 x | Area 3.35 5.47 | Flux 106.05 127.31 | g_ 0.72 0.72 | FF 0.7 0.7 | Shading 0.9 0.9 Total | Gains 145.03 284.3 429.33 | (P3/P4) |
| Internal gains: | | | | | | | | |
| Internal gains Total summer gains Summer gain/loss ratio Mean summer external temperature (South England) Thermal mass temperature increment Threshold temperature Likelihood of high internal temperature | | | | June 459.46 920.62 2.33 15.4 1.3 19.03 Not significant | July 442.98 872.31 2.21 17.3 1.3 20.81 Slight | August 451.21 834.49 2.11 17.3 1.3 20.71 Slight | (P5) (P6) (P7) | |
| Assessment of likelihood of high internal temperature | | | e: | <u>Slight</u> | | | | |

Regulations Compliance Report

| | ent L1A, 2013 Editior ch 2020 at 13:22:08 | , England assessed by Stror | na FSAP 2012 program, Versior | n: 1.0.4.25 |
|----------------------|--|---|-------------------------------|-------------|
| Project Information | | | | |
| Assessed By: | Mark Heptonstall (| STRO004925) | Building Type: F | lat |
| Dwelling Details: | | | | |
| NEW DWELLING | | | Total Floor Area: 78.93 | 3m² |
| Site Reference : | 10628 - 23 Ravens | shaw Street | Plot Reference: Fla | at G |
| Address : | Flat G. 23 Ravens | haw Street, London, NW6 1N | IP | |
| Client Details: | | | | |
| Name: | | | | |
| Address : | | | | |
| It is not a comple | ete report of regulat | ithin the SAP calculations. ions compliance. | | |
| 1a TER and DEF | | | | |
| | ing system: Mains ga | as (c) | | |
| Fuel factor: 1.00 (I | oxide Emission Rate | | 21.38 kg/m ² | |
| - | Dioxide Emission Rat | . , | 16.73 kg/m ² | OK |
| 1b TFEE and DF | | | Ŭ | |
| Target Fabric Ene | rgy Efficiency (TFEE |) | 68.5 kWh/m² | |
| Dwelling Fabric Er | nergy Efficiency (DFE | EE) | 55.0 kWh/m² | |
| | | | | OK |
| 2 Fabric U-value | | • | | |
| Element | | | Highest | OK |
| External Floor | wall | 0.18 (max. 0.30) (no floor) | 0.18 (max. 0.70) | OK |
| Roof | | 0.15 (max. 0.20) | 0.15 (max. 0.35) | OK |
| Openings | 6 | 1.24 (max. 2.00) | 1.30 (max. 3.30) | OK |
| 2a Thermal brid | ging | | | |
| Thermal | bridging calculated fr | om linear thermal transmittar | nces for each junction | |
| 3 Air permeabili | | | | |
| • | bility at 50 pascals | | 5.00 (design value) | OK |
| Maximum | | | 10.0 | OK |
| 4 Heating efficie | | | | |
| Main Heatir | ng system: | Community heating schem Community boilers | es - mains gas | |
| Secondary | heating system: | None | | |
| 5 Cylinder insul | ation | | | |
| Hot water S | Storage: | Measured cylinder loss: 1.8 Permitted by DBSCG: 1.89 | • | ок |
| Primary pip | ework insulated: | Yes | - | ОК |
| 6 Controls | | | | |
| | | | | |
| Space heat | ing controls | Charging system linked to | | 01/ |
| Hot water c | ontrols. | programmer and at least tw Cylinderstat | | OK OK |
| | | Cymraerolat | | |

Regulations Compliance Report

| 7 Low energy lights | | |
|---|--------------------|----|
| Percentage of fixed lights with low-energy fittings | 100.0% | |
| Minimum | 75.0% | OK |
| 8 Mechanical ventilation | | |
| Continuous supply and extract system | | |
| Specific fan power: | 0.77 | |
| Maximum | 1.5 | ОК |
| MVHR efficiency: | 87% | |
| Minimum | 70% | OK |
| 9 Summertime temperature | | |
| Overheating risk (South England): | Slight | ОК |
| Based on: | | |
| Overshading: | Average or unknown | |
| Windows facing: South West | 5.3m ² | |
| Windows facing: South West | 2.82m ² | |
| Roof windows facing: North East | 3.9m ² | |
| Ventilation rate: | 6.00 | |
| | | |
| 10 Key features | | |
| | | |

Thermal bridging Community heating, heat from boilers – mains gas Photovoltaic array 0.027 W/m²K

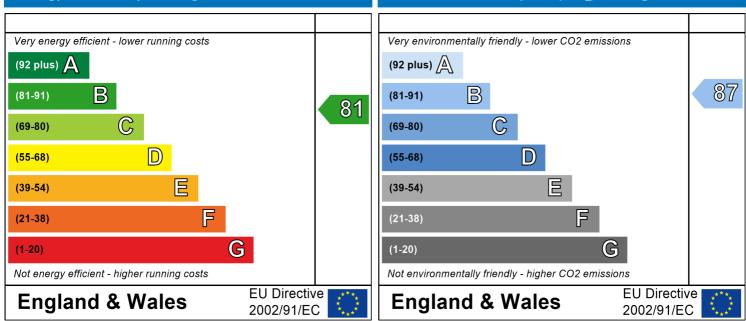
Flat G 23 Ravenshaw Street London NW6 1NP Dwelling type: Date of assessment: Produced by: Total floor area: Top floor Flat 02 March 2020 Mark Heptonstall 78.93 m²

Environmental Impact (CO₂) Rating

This is a Predicted Energy Assessment for a property which is not yet complete. It includes a predicted energy rating which might not represent the final energy rating of the property on completion. Once the property is completed, an Energy Performance Certificate is required providing information about the energy performance of the completed property.

Energy performance has been assessed using the SAP 2012 methodology and is rated in terms of the energy use per square metre of floor area, energy efficiency based on fuel costs and environmental impact based on carbon dioxide (CO2) emissions.

Energy Efficiency Rating



The energy efficiency rating is a measure of the overall efficiency of a home. The higher the rating the more energy efficient the home is and the lower the fuel bills are likely to be. The environmental impact rating is a measure of a home's impact on the environment in terms of carbon dioxide (CO2) emissions. The higher the rating the less impact it has on the environment.



| Property Details: Flat G | |
|--------------------------|--|
| Address: | Flat G, 23 Ravenshaw Street, London, NW6 1NP |
| Located in: | England |
| Region: UPRN: | South England |
| Date of assessment: | 02 March 2020 |
| Date of certificate: | 04 March 2020 |
| Assessment type: | New dwelling design stage |
| Transaction type: | New dwelling |
| Thermal Mass Parameter: | Indicative Value Low |
| Comments: | |
| | |

| Dwelling type: | Flat | |
|--------------------------|------------|--|
| Detachment: | | |
| Year Completed: | 2020 | |
| Front of dwelling faces: | South East | |
| Comments: | | |

| Opening types | | | | | |
|---------------|--------------|-----------------|----------|----------|-------|
| Name: | Туре: | Frame Factor: | g-value: | U-Value: | Area: |
| SE | Solid | 0.7 | 0 | 1.3 | 2 |
| SW | Windows | 0.7 | 0.72 | 1.2 | 5.3 |
| SWD | Windows | 0.7 | 0.72 | 1.2 | 2.82 |
| NE | Roof Windows | 0.7 | 0.72 | 1.3 | 3.9 |
| Overshading: | Ave | rage or unknown | | | |
| Comments: | | - | | | |

Opaque Elements:

| Type: External Elements | U-Value: | Kappa: |
|--------------------------------|--|---------|
| External Walls Communal | 0.18 Please provide the U-Value calculation to justify the U-Value entered into the assessment 0.18 Please provide the U-Value calculation to justify the U-Value entered into the assessment 0.19 Please provide the U-Value calculation to justify the U-Value entered into the assessment | nt. N/A |
| Dormer Flat Roof Rafters | 0.18 Please provide the U-Value calculation to justify the U-Value entered into the assessment 0.15 Please provide the U-Value calculation to justify the U-Value entered into the assessment 0.15 Please provide the U-Value calculation to justify the U-Value entered into the assessment | nt. N/A |

0.15 Please provide the U-Value calculation to justify the U-Value entered into the assessment. N/A

Joists Internal Elements (Area, Kappa) Party Elements (Area, Kappa)

Thermal bridges:

| Thermal bridges: | User-defin | ed (individua | al PSI-valu | ues) Y-Value = 0.0271 |
|------------------|------------|---------------|-------------|--|
| 5 | Length | Psi-valu | е | |
| | 12.1 | 0.05 | E1 | Steel lintel with perforated steel base plate |
| [Approved] | 1.4 | 0.04 | E3 | Sill |
| [Approved] | 19.88 | 0.05 | E4 | Jamb |
| [Approved] | 15 | 0.09 | E16 | Corner (normal) |
| [Approved] | 5 | -0.09 | E17 | Corner (inverted internal area greater than external area) |
| [Approved] | 33.35 | 0.06 | E18 | Party wall between dwellings |
| - ••• - | 11.65 | 0.08 | E14 | Flat roof |
| [Approved] | 23.82 | 0.07 | E7 | Party floor between dwellings (in blocks of flats) |
| [Approved] | 5.25 | 0.06 | E10 | Eaves (insulation at ceiling level) |
| [Approved] | 2.61 | 0.04 | E13 | Gable (insulation at rafter level) |
| [Approved] | 9.29 | 0.04 | E11 | Eaves (insulation at rafter level) |

Comments:

If specific construction details have been adopted then please provide the associated checklists; signed and dated.

| Ventilation: | |
|----------------|------------------------------------|
| Pressure test: | Yes (As designed) |
| Ventilation: | Balanced with heat recovery |
| | Number of wet rooms: Kitchen + 3 |
| | Ductwork: Insulation, rigid |
| | Approved Installation Scheme: True |
| Pressure test: | 5 |
| Comments: | |

Please provide the pressure test certificate, or certificates if the result is based on an average; signed and dated.

Main heating system:

Main heating system:

Community heating schemes Heat source: Community boilers heat from boilers – mains gas, heat fraction 1, efficiency 90 Piping>=1991, pre-insulated, low temp, variable flow

Comments:

| Main heating Control: | |
|--|---|
| Main heating Control: Comments: | Charging system linked to use of community heating, programmer and at least two room thermostats |
| | |
| Secondary heating system: | |
| Secondary heating system: Comments: | None |
| | |
| Water heating: | |
| Water heating: | Hot water cylinder Cylinder volume: 150 litres Cylinder insulation: Measured loss, 1.81kWh/day Primary pipework insulation: True Cylinderstat: True Cylinder in heated space: True |
| Comments: | |
| | |
| | Solar panel: False |
| Others: | |

Electricity tariff: Low energy lights: Terrain type: Wind turbine: Photovoltaics: Standard Tariff 100% Low rise urban / suburban No <u>Photovoltaic 1</u> Installed Peak power: 0.73 Tilt of collector: 45° Overshading: None or very little Collector Orientation: South

Comments:

Please provide the MCS certificate or data sheet equivalent confirming the size of the array on the roof. This should include any calculations to support a proportioned amount included in the assessment.

Declaration :

I confirm that the property has been built to the above specification. Signed:

Date:

.....

.....

| Property Details: | Flat G | | | | | | | |
|--|--|---|---|--------------|-----------------|----------------|-------|-------------|
| Address: Located in: Region: UPRN: Date of assess Date of certific Assessment ty Transaction ty Tenure type: Related party Thermal Mass Water use <= PCDF Version: | sment: cate: /pe: /pe: disclosure: Parameter: 125 litres/per | Engla South 02 Ma 04 Ma New 0 New 0 Unkn No re Indica | n England arch 2020 arch 2020 dwelling design stag dwelling | | 6 1NP | | | |
| Property descript | | 430 | | | | | | |
| | | Flat | | | | | | |
| Dwelling type: Detachment: | | Flat | | | | | | |
| Year Completed | : | 2020 | | | | | | |
| Floor Location | | Floo | r area: | | | | | |
| | | | | | Storey height | : | | |
| Floor 0 | | 78.93 | m² | | 2.5 m | | | |
| Living area: | | 39 m ² | ² (fraction 0.494) | | | | | |
| Front of dwelling | g faces: | South | | | | | | |
| Opening types: | | | | | | | | |
| Name: | Source: | - | Туре: | Glazing: | | Argon: | Fram | ie: |
| SE | Manufacture | | Solid | 0 | | U | Wood | |
| SW | Manufacture | | Windows | | 0.15, hard coat | | PVC-L | |
| SWD | Manufacture | | Windows | | 0.15, hard coat | | PVC-L | |
| NE | Manufacture | | Roof Windows | low-E, En = | 0.15, hard coat | Yes | PVC-L | |
| Name: | Gap: | | Frame Facto | or: g-value: | U-value: | Area: | No. c | of Openings |
| SE | mm | | 0.7 | 0 | 1.3 | 2 | 1 | |
| SW | 16mm c | | 0.7 | 0.72 | 1.2 | 5.3 | 1 | |
| SWD | 16mm c | | 0.7 | 0.72 | 1.2 | 2.82 | 1 | |
| NE | 16mm c | or more | 0.7 | 0.72 | 1.3 | 3.9 | 1 | |
| Name: | Type-Nam | <u>ه</u> . | Location: | Orient: | | Width: | Heig | ht· |
| SE | Type Nam | | Communal | South East | | 0 | 0 | |
| SW | | l | External Walls | South West | | 0 | 0 | |
| SWD | | I | Dormer | South West | | 0 | 0 | |
| NE | | I | Rafters | North East | | 0.001 | 0 | |
| Overshading: | | Διγρησ | ige or unknown | | | | | |
| Opaque Element | S: | | | | | | | |
| | | | | | | | | |
| Type: | Gross area: | Openings: | Net area: | U-value: | Ru value: | Curtain | wall: | Kappa: |
| External Elemen External Walls | | 5.2 | 140.04 | 0 10 | 0 | Eales | | N/A |
| Communal | 166.24 31.83 | 5.3 2 | 160.94 29.83 | 0.18 0.18 | 0 0 | False False | | N/A N/A |
| Dormer | 9.59 | 2 2.82 | 6.77 | 0.18 | 0 | False | | N/A N/A |
| Flat Roof | 30.83 | 0 | 30.83 | 0.15 | 0 | | | N/A |
| Rafters | 26.99 | 3.9 | 23.09 | 0.15 | 0 | | | N/A |
| Joists | 27.31 | 0 | 27.31 | 0.15 | 0 | | | N/A |
| Internal Elemen | | | | . – | - | | | |
| | | | | | | | | |

Party Elements

| Thermal bridges: | | | | |
|----------------------------|--|---|-------------------------------|--|
| Thermal bridges: | User-define | d (individual I | PSI-values) | Y-Value = 0.0271 |
| ine inagesi | Length | Psi-valu | | |
| | 12.1 | 0.05 | E1 | Steel lintel with perforated steel base plate |
| [Approved] | 1.4 | 0.04 | E3 | Sill |
| [Approved] | 19.88 | 0.05 | E4 | Jamb |
| [Approved] | 15 | 0.09 | E16 | Corner (normal) |
| [Approved] | 5 | -0.09 | E17 | Corner (inverted internal area greater than external area) |
| [Approved] | 33.35 | 0.06 | E18 | Party wall between dwellings |
| | 11.65 | 0.08 | E14 | Flat roof |
| [Approved] | 23.82 | 0.07 | E7 | Party floor between dwellings (in blocks of flats) |
| [Approved] | 5.25 | 0.06 | E10 | Eaves (insulation at ceiling level) |
| [Approved] | 2.61 | 0.04 | E13 | Gable (insulation at rafter level) |
| [Approved] | 9.29 | 0.04 | E11 | Eaves (insulation at rafter level) |
| Ventilation: | | | | |
| Pressure test: | Yes (As des | ianed) | | |
| Ventilation: | | ith heat recov | verv | |
| · c.matorn | | wet rooms: K | 2 | |
| | | nsulation, rig | | |
| | | nstallation Sch | | |
| Number of chimneys: | 0 | | | |
| Number of open flues: | 0 | | | |
| Number of fans: | 0 | | | |
| Number of passive stacks: | 0 | | | |
| Number of sides sheltered: | 2 | | | |
| Pressure test: | 5 | | | |
| Main heating system: | | | | |
| Main heating system: | Community | heating sche | mes | |
| | | e: Community | | |
| | | | | t fraction 1, efficiency 90 |
| | Piping>=19 | 91, pre-insula | ated, low te | emp, variable flow |
| Main heating Control: | | | | |
| Main heating Control: | | | o use of co | mmunity heating, programmer and at least two room |
| | thermostats | | | |
| | Control cod | e: 2312 | | |
| Secondary heating system: | None | | | |
| Secondary heating system: | None | | | |
| Water heating: | | | | |
| Water heating: | From main | heating syste | m | |
| | Water code | . 001 | | |
| | | | | |
| | Fuel :heat f | rom boilers – | mains gas | |
| | Fuel :heat f Hot water c | rom boilers – ylinder | | |
| | Fuel :heat f Hot water c Cylinder vol | rom boilers – ylinder ume: 150 litre | es | |
| | Fuel :heat f Hot water c Cylinder vol Cylinder ins | rom boilers – ylinder ume: 150 litro ulation: Meas | es sured loss, | 1.81kWh/day |
| | Fuel :heat f Hot water c Cylinder vol Cylinder ins Primary pip | rom boilers – ylinder ume: 150 litro ulation: Meas ework insulat | es sured loss, | 1.81kWh/day |
| | Fuel :heat f Hot water c Cylinder vol Cylinder ins Primary pip Cylinderstat | rom boilers – ylinder ume: 150 litro ulation: Meas ework insulat :: True | es ured loss, ion: True | 1.81kWh/day |
| | Fuel :heat f Hot water c Cylinder vol Cylinder ins Primary pip Cylinderstat Cylinder in | rom boilers – ylinder ume: 150 litro ulation: Meas ework insulat :: True heated space: | es ured loss, ion: True | 1.81kWh/day |
| | Fuel :heat f Hot water c Cylinder vol Cylinder ins Primary pip Cylinderstat | rom boilers – ylinder ume: 150 litro ulation: Meas ework insulat :: True heated space: | es ured loss, ion: True | 1.81kWh/day |
| Others: | Fuel :heat f Hot water c Cylinder vol Cylinder ins Primary pip Cylinderstat Cylinder in Solar panel | rom boilers – ylinder ume: 150 litro ulation: Meas ework insulat :: True heated space: : False | es ured loss, ion: True | 1.81kWh/day |
| Electricity tariff: | Fuel :heat f Hot water of Cylinder vol Cylinder ins Primary pip Cylinderstat Cylinder in Solar panel Standard Ta | rom boilers – ylinder ume: 150 litro ulation: Meas ework insulat :: True heated space: : False | es ured loss, ion: True | 1.81kWh/day |
| | Fuel :heat f Hot water c Cylinder vol Cylinder ins Primary pip Cylinderstat Cylinder in Solar panel | rom boilers – ylinder ume: 150 litro ulation: Meas ework insulat :: True heated space: : False | es ured loss, ion: True | 1.81kWh/day |

Conservatory: Low energy lights: Terrain type: EPC language: Wind turbine: Photovoltaics: No conservatory 100% Low rise urban / suburban English No <u>Photovoltaic 1</u> Installed Peak power: 0.73 Tilt of collector: 45° Overshading: None or very little Collector Orientation: South No

Assess Zero Carbon Home:

SAP 2012 Overheating Assessment

Calculated by Stroma FSAP 2012 program, produced and printed on 04 March 2020

Property Details: Flat G

| Dwelling type: Located in: Region: Cross ventilation post Number of storeys: Front of dwelling face Overshading: Overhangs: Thermal mass parame Night ventilation: Blinds, curtains, shut Ventilation rate during Overheating Details: | es: eter: ters: | ather (a | ch): | Flat England South Engl Yes 1 South East Average or None Indicative V False 6 (Window | unknown | | | |
|--|---------------------------------------|-----------------------------------|---|--|---|---------------------------------|--|-----------------|
| Summer ventilation he Transmission heat los Summer heat loss co | ss coeffi | cient: | ent: | 390.7 72.4 463.11 | | | | (P1) (P2) |
| Overhangs: Orientation: South West (SW) South West (SWD) | Ratio: 0 0 | | Z_overhangs: 1 1 | | | | | |
| North East (NE) Solar shading: Orientation: | 0 Z blind | ls: | 1 Solar access: | Over | hangs: | Z summer: | | |
| South West (SW) | 1 | | 0.9 | 1 | U | 0.9 | | (P8) |
| South West (SWD) North East (NE) | 1 1 | | 0.9 1 | 1 1 | | 0.9 1 | | (P8) (P8) |
| South West (SWD) North East (NE) Solar gains: | - | _ | 1 | 1 | | 1 | | |
| South West (SWD) North East (NE) Solar gains: Orientation South West (SW) South West (SWD) | - | Area 5.3 2.82 3.9 | | - | FF 0.7 0.7 0.7 | | Gains 275.46 146.57 297.66 719.69 | |
| South West (SWD) North East (NE) Solar gains: Orientation South West (SW) | 1 0.9 x 0.9 x | 5.3 2.82 | 1 Flux 127.31 127.31 | 1 g_ 0.72 0.72 | 0.7 0.7 | 1 Shading 0.9 0.9 1 | 275.46 146.57 297.66 | (P8) |
| South West (SWD) North East (NE) Solar gains: Orientation South West (SW) South West (SWD) | 1 0.9 x 0.9 x 1 x tempera | 5.3 2.82 3.9 ture (So | 1 Flux 127.31 127.31 168.26 | 1 g _ 0.72 0.72 0.72 Jun 48° 12! 2.7 15. 1.3 19. | 0.7 0.7 0.7 1.6 57.21 1 4 | 1 Shading 0.9 0.9 1 | 275.46 146.57 297.66 | (P8) (P3/P4) |