

Building Regulations England Part L (BREL) Compliance Report

Approved Document L1 2021 Edition, England assessed by Array SAP 10 program, Array

Date: Tue 26 Aug 2025 15:47:21

Project Information			
Assessed By	Daniel Smith	Building Type	Flat, Mid-terrace
OCDEA Registration	EES/030198	Assessment Date	2025-08-26

Dwelling Details			
Assessment Type	As built	Total Floor Area	62 m ²
Site Reference	Plot 1	Plot Reference	Plot 1
Address	Flat 1, Makers Court, 2 Francis Road, MANCHESTER, M20 4DD		

Client Details	
Name	Steve Brown
Company	J Greenwood (Builders) Limited
Address	Unit B9 Greengate Industrial Estate, 2 Francis Road, Chadderton, M24 1SW

This report covers items included within the SAP calculations. It is not a complete report of regulations compliance.

1a Target emission rate and dwelling emission rate			
Fuel for main heating system	Electricity		
Target carbon dioxide emission rate	11.08 kgCO ₂ /m ²		
Dwelling carbon dioxide emission rate	3.08 kgCO ₂ /m ²		OK
1b Target primary energy rate and dwelling primary energy			
Target primary energy	58.33 kWh _{PE} /m ²		
Dwelling primary energy	32.63 kWh _{PE} /m ²		OK
1c Target fabric energy efficiency and dwelling fabric energy efficiency			
Target fabric energy efficiency	24.7 kWh/m ²		
Dwelling fabric energy efficiency	20.2 kWh/m ²		OK

2a Fabric U-values				
Element	Maximum permitted average U-Value [W/m ² K]	Dwelling average U-Value [W/m ² K]	Element with highest individual U-Value	
External walls	0.26	0.19	Walls (1) (0.19)	OK
Party walls	0.2	0	Party Wall (1) (0)	N/A
Curtain walls	1.6	0	N/A	N/A
Floors	0.18	0.11	Heatloss Floor 1 (0.11)	OK
Roofs	0.16	N/A	N/A	N/A
Windows, doors, and roof windows	1.6	0.8	WT1 (0.8)	OK
Rooflights	2.2	N/A	N/A	N/A

2b Envelope elements (better than typically expected values are flagged with a subsequent (!))		
Name	Net area [m ²]	U-Value [W/m ² K]
Exposed wall: Walls (1)	14.3395	0.19
Party wall: Party Wall (1)	44.15	0 (!)
Party wall: Party Wall (2)	11.71	0 (!)
Ground floor: Heatloss Floor 1, Heatloss Floor 1	62	0.11

2c Openings (better than typically expected values are flagged with a subsequent (!))				
Name	Area [m ²]	Orientation	Frame factor	U-Value [W/m ² K]
WT1, Window	2.6235	North West	1.0	0.8 (!)
WT1, Window	2.6235	North West	1.0	0.8 (!)
WT1, Window	2.6235	North West	1.0	0.8 (!)

2d Thermal bridging (better than typically expected values are flagged with a subsequent (!))				
Building part 1: Thermal bridging calculated from linear thermal transmittances for each junction				
Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E2: Other lintels (including other steel lintels)	Calculated by person with suitable expertise	0.034 (!)	Plasmor
External wall	E3: Sill	Calculated by person with suitable expertise	0.026 (!)	Plasmor

Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E4: Jamb	Calculated by person with suitable expertise	0.03 (!)	Plasmor
External wall	E5: Ground floor (normal)	Calculated by person with suitable expertise	0.081	Plasmor
External wall	E18: Party wall between dwellings	Calculated by person with suitable expertise	0.029 (!)	Plasmor
External wall	E7: Party floor between dwellings (in blocks of flats)	Calculated by person with suitable expertise	-0.018 (!)	Plasmor
Party wall	P1: Ground floor	Calculated by person with suitable expertise	0.16	Default
Party wall	P3: Intermediate floor between dwellings (in blocks of flats)	SAP table default	0 (!)	

3 Air permeability (better than typically expected values are flagged with a subsequent (!))

Maximum permitted air permeability at 50Pa	8 m ³ /hm ²	
Dwelling air permeability at 50Pa	2.82 m ³ /hm ² , Measured value (!)	OK
Air permeability test certificate reference		

4 Space heating

Main heating system 1: Room heaters - Electricity

Efficiency	100.0%
Emitter type	
Flow temperature	
System type	Panel, convector or radiant heaters
Manufacturer	
Model	
Commissioning	

Main heating system 2: Heat pump with radiators or underfloor heating - Electricity

Efficiency	0.0%
Emitter type	
Flow temperature	
System type	
Manufacturer	GDC Group Ltd
Model	EDL200UK-630
Commissioning	

Secondary heating system: N/A

Fuel	N/A
Efficiency	N/A
Commissioning	

5 Hot water

Cylinder/store - type: N/A

Capacity	N/A
Declared heat loss	N/A
Primary pipework insulated	N/A
Manufacturer	
Model	
Commissioning	

Waste water heat recovery system 1 - type: N/A

Efficiency	
Manufacturer	
Model	

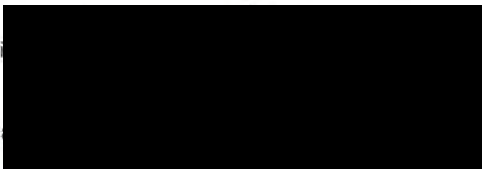
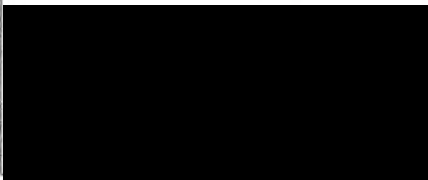
6 Controls

Main heating 1 - type: Programmer and appliance thermostats

Function	
Ecodesign class	
Manufacturer	
Model	

Main heating 2 - type: Not applicable

Function	
Ecodesign class	
Manufacturer	
Model	

Water heating - type: N/A		
Manufacturer		
Model		
7 Lighting		
Minimum permitted light source efficacy	75 lm/W	
Lowest light source efficacy	127.33 lm/W	OK
External lights control	N/A	
8 Mechanical ventilation		
System type: Balanced whole-house mechanical ventilation with heat recovery		
Maximum permitted specific fan power	1.5 W/(l/s)	
Specific fan power	0.6 W/(l/s)	OK
Minimum permitted heat recovery efficiency	73%	
Heat recovery efficiency	90%	OK
Manufacturer/Model	MRXBOXAB-ECO2, MRXBOXAB-ECO2C	
Commissioning		
9 Local generation		
N/A		
10 Heat networks		
N/A		
11 Supporting documentary evidence		
<p>Documentary evidence identified in 11.1 and 11.2 is needed to confirm the data values used for any calculations undertaken, manufacturer declarations made, and tests performed as reflected in this "As built" BREL Compliance Report are correct.</p> <p>11.1 SAP Conventions, Appendix 1 (documentary evidence) schedules the minimum documentary evidence required.</p> <p>11.2 Indicative photographic evidence of key stages during construction (guidance within Approved Document L, Volume 1 – Appendix B) that confirms the products identified in this BREL Compliance Report are used in this dwelling, and workmanship is of sufficient quality to support the calculated values claimed in 2a to 2d.</p>		
12 Declarations		
a. Assessor Declaration		
<p>This declaration by the assessor is confirmation that the contents of this BREL Compliance Report are a true and accurate reflection based upon the design and construction information submitted for this dwelling for the purpose of carrying out the assessment, and that the supporting documentary evidence (identified in 11.1 and 11.2) pursuant to Part L of the Building Regulations 2010 (as amended) has been reviewed in the course of preparing this BREL Compliance Report.</p>		
<p>Signed:</p> <p>N</p>		<p>Date: 27/08/2025</p>
b. Client Declaration		
<p>This declaration by the client is confirmation that the dwelling has been constructed and completed according to the specifications set out in this BREL Compliance Report, and that photographic evidence of key stages, as described in 11.2, has been provided to the Assessor for this dwelling.</p>		
	<p>Organisation: T Greenwood Builders LTD</p> <p>Date: 27.8.25</p>	

Building Regulations England Part L (BREL) Compliance Report

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Date: Tue 26 Aug 2025 15:47:21

Project Information			
Assessed By	Daniel Smith	Building Type	Flat, Mid-terrace
OCDEA Registration	EES/030198	Assessment Date	2025-08-26

Dwelling Details			
Assessment Type	As built	Total Floor Area	50 m ²
Site Reference	Plot 2	Plot Reference	Plot 2
Address	Flat 2, Makers Court, 2 Francis Road, MANCHESTER, M20 4DD		

Client Details	
Name	Steve Brown
Company	J Greenwood (Builders) Limited
Address	Unit B9 Greengate Industrial Estate, 2 Francis Road, Chadderton, M24 1SW

This report covers items included within the SAP calculations. It is not a complete report of regulations compliance.

1a Target emission rate and dwelling emission rate			
Fuel for main heating system	Electricity		
Target carbon dioxide emission rate	11.79 kgCO ₂ /m ²		
Dwelling carbon dioxide emission rate	3.26 kgCO ₂ /m ²		OK
1b Target primary energy rate and dwelling primary energy			
Target primary energy	62.37 kWh _{PE} /m ²		
Dwelling primary energy	34.59 kWh _{PE} /m ²		OK
1c Target fabric energy efficiency and dwelling fabric energy efficiency			
Target fabric energy efficiency	22.3 kWh/m ²		
Dwelling fabric energy efficiency	19.2 kWh/m ²		OK

2a Fabric U-values				
Element	Maximum permitted average U-Value [W/m ² K]	Dwelling average U-Value [W/m ² K]	Element with highest individual U-Value	
External walls	0.26	0.19	Walls (1) (0.19)	OK
Party walls	0.2	0	Party Wall (1) (0)	N/A
Curtain walls	1.6	0	N/A	N/A
Floors	0.18	0.11	Heatloss Floor 1 (0.11)	OK
Roofs	0.16	N/A	N/A	N/A
Windows, doors, and roof windows	1.6	0.8	WT1 (0.8)	OK
Rooflights	2.2	N/A	N/A	N/A

2b Envelope elements (better than typically expected values are flagged with a subsequent (!))			
Name	Net area [m ²]	U-Value [W/m ² K]	
Exposed wall: Walls (1)	8.903	0.19	
Party wall: Party Wall (1)	22.14	0 (!)	
Party wall: Party Wall (2)	31.43	0 (!)	
Ground floor: Heatloss Floor 1, Heatloss Floor 1	50	0.11	

2c Openings (better than typically expected values are flagged with a subsequent (!))				
Name	Area [m ²]	Orientation	Frame factor	U-Value [W/m ² K]
WT1, Window	2.6235	North West	1.0	0.8 (!)
WT1, Window	2.6235	North West	1.0	0.8 (!)

2d Thermal bridging (better than typically expected values are flagged with a subsequent (!))				
Building part 1: Thermal bridging calculated from linear thermal transmittances for each junction				
Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E2: Other lintels (including other steel lintels)	Calculated by person with suitable expertise	0.034 (!)	Plasmor
External wall	E3: Sill	Calculated by person with suitable expertise	0.026 (!)	Plasmor
External wall	E4: Jamb	Calculated by person with suitable expertise	0.03 (!)	Plasmor

Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E5: Ground floor (normal)	Calculated by person with suitable expertise	0.081	Plasmor
External wall	E18: Party wall between dwellings	Calculated by person with suitable expertise	0.029 (!)	Plasmor
External wall	E7: Party floor between dwellings (in blocks of flats)	Calculated by person with suitable expertise	-0.018 (!)	Plasmor
Party wall	P1: Ground floor	Calculated by person with suitable expertise	0.16	Default
Party wall	P3: Intermediate floor between dwellings (in blocks of flats)	SAP table default	0 (!)	

3 Air permeability (better than typically expected values are flagged with a subsequent (!))

Maximum permitted air permeability at 50Pa	8 m ³ /hm ²	
Dwelling air permeability at 50Pa	3.79 m ³ /hm ² , Measured value (!)	OK
Air permeability test certificate reference		

4 Space heating

Main heating system 1: Room heaters - Electricity

Efficiency	100.0%
Emitter type	
Flow temperature	
System type	Panel, convector or radiant heaters
Manufacturer	
Model	
Commissioning	

Main heating system 2: Heat pump with radiators or underfloor heating - Electricity

Efficiency	0.0%
Emitter type	
Flow temperature	
System type	
Manufacturer	GDC Group Ltd
Model	EDL200UK-630
Commissioning	

Secondary heating system: N/A

Fuel	N/A
Efficiency	N/A
Commissioning	

5 Hot water

Cylinder/store - type: N/A

Capacity	N/A
Declared heat loss	N/A
Primary pipework insulated	N/A
Manufacturer	
Model	
Commissioning	

Waste water heat recovery system 1 - type: N/A

Efficiency	
Manufacturer	
Model	

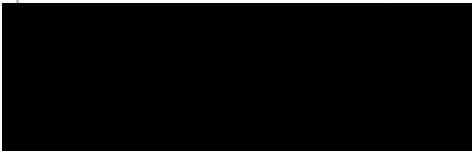
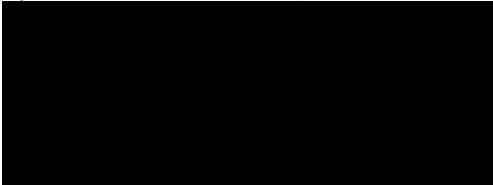
6 Controls

Main heating 1 - type: Programmer and appliance thermostats

Function	
Ecodesign class	
Manufacturer	
Model	

Main heating 2 - type: Not applicable

Function	
Ecodesign class	
Manufacturer	
Model	

Water heating - type: N/A		
Manufacturer		
Model		
7 Lighting		
Minimum permitted light source efficacy		75 lm/W
Lowest light source efficacy		125.4 lm/W OK
External lights control		N/A
8 Mechanical ventilation		
System type: Balanced whole-house mechanical ventilation with heat recovery		
Maximum permitted specific fan power		1.5 W/(l/s)
Specific fan power		0.6 W/(l/s) OK
Minimum permitted heat recovery efficiency		73%
Heat recovery efficiency		90% OK
Manufacturer/Model		MRXBOXAB-ECO2, MRXBOXAB-ECO2C
Commissioning		
9 Local generation		
N/A		
10 Heat networks		
N/A		
11 Supporting documentary evidence		
<p>Documentary evidence identified in 11.1 and 11.2 is needed to confirm the data values used for any calculations undertaken, manufacturer declarations made, and tests performed as reflected in this "As built" BREL Compliance Report are correct.</p> <p>11.1 SAP Conventions, Appendix 1 (documentary evidence) schedules the minimum documentary evidence required.</p> <p>11.2 Indicative photographic evidence of key stages during construction (guidance within Approved Document L, Volume 1 – Appendix B) that confirms the products identified in this BREL Compliance Report are used in this dwelling, and workmanship is of sufficient quality to support the calculated values claimed in 2a to 2d.</p>		
12 Declarations		
a. Assessor Declaration		
<p>This declaration by the assessor is confirmation that the contents of this BREL Compliance Report are a true and accurate reflection based upon the design and construction information submitted for this dwelling for the purpose of carrying out the assessment, and that the supporting documentary evidence (identified in 11.1 and 11.2) pursuant to Part L of the Building Regulations 2010 (as amended) has been reviewed in the course of preparing this BREL Compliance Report.</p>		
		<p>Assessor ID: </p> <p>Date: 27/08/2025</p>
b. Client Declaration		
<p>This declaration by the client is confirmation that the dwelling has been constructed and completed according to the specifications set out in this BREL Compliance Report, and that photographic evidence of key stages, as described in 11.2, has been provided to the Assessor for this dwelling.</p>		
		<p>Organisation: J Greenwood Builders LTD</p> <p>Date: 27.8.25</p>

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Project Information			
Assessed By	Daniel Smith	Building Type	Flat, End-terrace
OCDEA Registration	EES/030198	Assessment Date	2025-08-26

Dwelling Details			
Assessment Type	As built	Total Floor Area	67 m ²
Site Reference	Plot 3	Plot Reference	Plot 3
Address	Flat 3, Makers Court, 2 Francis Road, MANCHESTER, M20 4DD		

Client Details	
Name	Steve Brown
Company	J Greenwood (Builders) Limited
Address	Unit B9 Greengate Industrial Estate, 2 Francis Road, Chadderton, M24 1SW

This report covers items included within the SAP calculations. It is not a complete report of regulations compliance.

1a Target emission rate and dwelling emission rate		
Fuel for main heating system	Electricity	
Target carbon dioxide emission rate	11.77 kgCO ₂ /m ²	
Dwelling carbon dioxide emission rate	3.67 kgCO ₂ /m ²	OK
1b Target primary energy rate and dwelling primary energy		
Target primary energy	62.03 kWh _{PE} /m ²	
Dwelling primary energy	38.46 kWh _{PE} /m ²	OK
1c Target fabric energy efficiency and dwelling fabric energy efficiency		
Target fabric energy efficiency	29.5 kWh/m ²	
Dwelling fabric energy efficiency	23.7 kWh/m ²	OK

2a Fabric U-values				
Element	Maximum permitted average U-Value [W/m ² K]	Dwelling average U-Value [W/m ² K]	Element with highest individual U-Value	
External walls	0.26	0.19	Walls (1) (0.19)	OK
Party walls	0.2	0	Party Wall (1) (0)	N/A
Curtain walls	1.6	0	N/A	N/A
Floors	0.18	0.11	Heatloss Floor 1 (0.11)	OK
Roofs	0.16	N/A	N/A	N/A
Windows, doors, and roof windows	1.6	0.8	WT1 (0.8)	OK
Rooflights	2.2	N/A	N/A	N/A

2b Envelope elements (better than typically expected values are flagged with a subsequent (!))			
Name	Net area [m ²]	U-Value [W/m ² K]	
Exposed wall: Walls (1)	38.4595	0.19	
Party wall: Party Wall (1)	14.29	0 (!)	
Party wall: Party Wall (2)	19.72	0 (!)	
Ground floor: Heatloss Floor 1, Heatloss Floor 1	67	0.11	

2c Openings (better than typically expected values are flagged with a subsequent (!))				
Name	Area [m ²]	Orientation	Frame factor	U-Value [W/m ² K]
WT1, Window	2.6235	North West	1.0	0.8 (!)
WT1, Window	2.6235	North West	1.0	0.8 (!)
WT1, Window	2.6235	North West	1.0	0.8 (!)

2d Thermal bridging (better than typically expected values are flagged with a subsequent (!))				
Building part 1: Thermal bridging calculated from linear thermal transmittances for each junction				
Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E2: Other lintels (including other steel lintels)	Calculated by person with suitable expertise	0.034 (!)	Plasmor
External wall	E3: Sill	Calculated by person with suitable expertise	0.026 (!)	Plasmor

Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E4: Jamb	Calculated by person with suitable expertise	0.03 (!)	Plasmor
External wall	E5: Ground floor (normal)	Calculated by person with suitable expertise	0.081	Plasmor
External wall	E18: Party wall between dwellings	Calculated by person with suitable expertise	0.029 (!)	Plasmor
External wall	E7: Party floor between dwellings (in blocks of flats)	Calculated by person with suitable expertise	-0.018 (!)	Plasmor
Party wall	P1: Ground floor	Calculated by person with suitable expertise	0.16	Default
Party wall	P3: Intermediate floor between dwellings (in blocks of flats)	SAP table default	0 (!)	
External wall	E16: Corner (normal)	Calculated by person with suitable expertise	0.049	Plasmor
External wall	E17: Corner (inverted - internal area greater than external area)	Calculated by person with suitable expertise	-0.091	Plasmor

3 Air permeability (better than typically expected values are flagged with a subsequent (!))

Maximum permitted air permeability at 50Pa

8 m³/hm²

Dwelling air permeability at 50Pa

3.72 m³/hm², Measured value (!)

OK

Air permeability test certificate reference

4 Space heating

Main heating system 1: Room heaters - Electricity

Efficiency	100.0%
Emitter type	
Flow temperature	
System type	Panel, convector or radiant heaters
Manufacturer	
Model	
Commissioning	

Main heating system 2: Heat pump with radiators or underfloor heating - Electricity

Efficiency	0.0%
Emitter type	
Flow temperature	
System type	
Manufacturer	GDC Group Ltd
Model	EDL200UK-630
Commissioning	

Secondary heating system: N/A

Fuel	N/A
Efficiency	N/A
Commissioning	

5 Hot water

Cylinder/store - type: N/A

Capacity	N/A
Declared heat loss	N/A
Primary pipework insulated	N/A
Manufacturer	
Model	
Commissioning	

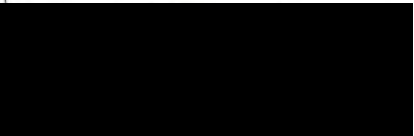
Waste water heat recovery system 1 - type: N/A

Efficiency	
Manufacturer	
Model	

6 Controls

Main heating 1 - type: Programmer and appliance thermostats

Function	
Ecodesign class	
Manufacturer	
Model	

Main heating 2 - type: Not applicable		
Function		
Ecodesign class		
Manufacturer		
Model		
Water heating - type: N/A		
Manufacturer		
Model		
7 Lighting		
Minimum permitted light source efficacy	75 lm/W	
Lowest light source efficacy	127.33 lm/W	OK
External lights control	N/A	
8 Mechanical ventilation		
System type: Balanced whole-house mechanical ventilation with heat recovery		
Maximum permitted specific fan power	1.5 W/(l/s)	
Specific fan power	0.6 W/(l/s)	OK
Minimum permitted heat recovery efficiency	73%	
Heat recovery efficiency	90%	OK
Manufacturer/Model	MRXBOXAB-ECO2, MRXBOXAB-ECO2C	
Commissioning		
9 Local generation		
N/A		
10 Heat networks		
N/A		
11 Supporting documentary evidence		
<p>Documentary evidence identified in 11.1 and 11.2 is needed to confirm the data values used for any calculations undertaken, manufacturer declarations made, and tests performed as reflected in this "As built" BREL Compliance Report are correct.</p> <p>11.1 SAP Conventions, Appendix 1 (documentary evidence) schedules the minimum documentary evidence required.</p> <p>11.2 Indicative photographic evidence of key stages during construction (guidance within Approved Document L, Volume 1 – Appendix B) that confirms the products identified in this BREL Compliance Report are used in this dwelling, and workmanship is of sufficient quality to support the calculated values claimed in 2a to 2d.</p>		
12 Declarations		
a. Assessor Declaration		
<p>This declaration by the assessor is confirmation that the contents of this BREL Compliance Report are a true and accurate reflection based upon the design and construction information submitted for this dwelling for the purpose of carrying out the assessment, and that the supporting documentary evidence (identified in 11.1 and 11.2) pursuant to Part L of the Building Regulations 2010 (as amended) has been reviewed in the course of preparing this BREL Compliance Report.</p>		
		<p>Assessor ID: </p> <p>Date: 28/08/2025</p>
b. Client Declaration		
<p>This declaration by the client is confirmation that the dwelling has been constructed and completed according to the specifications set out in this BREL Compliance Report, and that photographic evidence of key stages, as described in 11.2, has been provided to the Assessor for this dwelling.</p>		
		<p>Organisation: J Greenwood Builders LTD</p> <p>Date: 27.8.25</p>

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OCDEA Registration	EES/030198	Assessment Date	2025-08-26

Dwelling Details			
Assessment Type	As built	Total Floor Area	68 m ²
Site Reference	Plot 4	Plot Reference	Plot 4
Address	Flat 4, Makers Court, 2 Francis Road, MANCHESTER, M20 4DD		

Client Details	
Name	Steve Brown
Company	J Greenwood (Builders) Limited
Address	Unit B9 Greengate Industrial Estate, 2 Francis Road, Chadderton, M24 1SW

This report covers items included within the SAP calculations. It is not a complete report of regulations compliance.

1a Target emission rate and dwelling emission rate			
Fuel for main heating system	Electricity		
Target carbon dioxide emission rate	10.44 kgCO ₂ /m ²		
Dwelling carbon dioxide emission rate	3.35 kgCO ₂ /m ²		OK
1b Target primary energy rate and dwelling primary energy			
Target primary energy	54.79 kWh _{PE} /m ²		
Dwelling primary energy	35.27 kWh _{PE} /m ²		OK
1c Target fabric energy efficiency and dwelling fabric energy efficiency			
Target fabric energy efficiency	23.5 kWh/m ²		
Dwelling fabric energy efficiency	20.2 kWh/m ²		OK

2a Fabric U-values				
Element	Maximum permitted average U-Value [W/m ² K]	Dwelling average U-Value [W/m ² K]	Element with highest individual U-Value	
External walls	0.26	0.19	Walls (1) (0.19)	OK
Party walls	0.2	0	Party Wall (1) (0)	N/A
Curtain walls	1.6	0	N/A	N/A
Floors	0.18	0.11	Heatloss Floor 1 (0.11)	OK
Roofs	0.16	N/A	N/A	N/A
Windows, doors, and roof windows	1.6	0.8	WT1 (0.8)	OK
Rooflights	2.2	N/A	N/A	N/A

2b Envelope elements (better than typically expected values are flagged with a subsequent (!))		
Name	Net area [m ²]	U-Value [W/m ² K]
Exposed wall: Walls (1)	12.1781	0.19
Exposed wall: Walls (2)	16.35	0.19
Party wall: Party Wall (1)	43.92	0 (!)
Ground floor: Heatloss Floor 1, Heatloss Floor 1	68	0.11

2c Openings (better than typically expected values are flagged with a subsequent (!))				
Name	Area [m ²]	Orientation	Frame factor	U-Value [W/m ² K]
WT1, Window	2.6235	South East	1.0	0.8 (!)
WT1, Window	2.6235	South East	1.0	0.8 (!)
WT2, Window	3.3549	South East	1.0	0.8 (!)

2d Thermal bridging (better than typically expected values are flagged with a subsequent (!))				
Building part 1: Thermal bridging calculated from linear thermal transmittances for each junction				
Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E2: Other lintels (including other steel lintels)	Calculated by person with suitable expertise	0.034 (!)	Plasmor
External wall	E3: Sill	Calculated by person with suitable expertise	0.026 (!)	Plasmor

Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E4: Jamb	Calculated by person with suitable expertise	0.03 (!)	Plasmor
External wall	E5: Ground floor (normal)	Calculated by person with suitable expertise	0.081	Plasmor
External wall	E7: Party floor between dwellings (in blocks of flats)	Calculated by person with suitable expertise	-0.018 (!)	Plasmor
Party wall	P1: Ground floor	Calculated by person with suitable expertise	0.16	Default
Party wall	P3: Intermediate floor between dwellings (in blocks of flats)	SAP table default	0 (!)	
External wall	E16: Corner (normal)	Calculated by person with suitable expertise	0.049	Plasmor
External wall	E18: Party wall between dwellings	Calculated by person with suitable expertise	0.029 (!)	Plasmor

3 Air permeability (better than typically expected values are flagged with a subsequent (!))

Maximum permitted air permeability at 50Pa	8 m ³ /hm ²	
Dwelling air permeability at 50Pa	3.91 m ³ /hm ² , Measured value (!)	OK
Air permeability test certificate reference		

4 Space heating

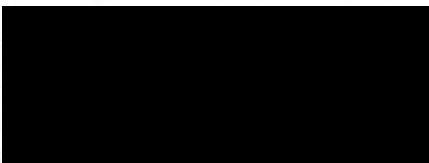
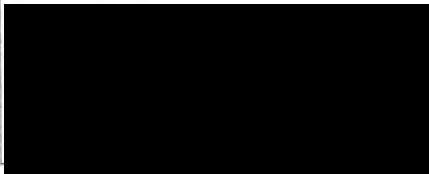
Main heating system 1: Room heaters - Electricity		
Efficiency	100.0%	
Emitter type		
Flow temperature		
System type	Panel, convector or radiant heaters	
Manufacturer		
Model		
Commissioning		
Main heating system 2: Heat pump with radiators or underfloor heating - Electricity		
Efficiency	0.0%	
Emitter type		
Flow temperature		
System type		
Manufacturer	GDC Group Ltd	
Model	EDL200UK-630	
Commissioning		
Secondary heating system: N/A		
Fuel	N/A	
Efficiency	N/A	
Commissioning		

5 Hot water

Cylinder/store - type: N/A		
Capacity	N/A	
Declared heat loss	N/A	
Primary pipework insulated	N/A	
Manufacturer		
Model		
Commissioning		
Waste water heat recovery system 1 - type: N/A		
Efficiency		
Manufacturer		
Model		

6 Controls

Main heating 1 - type: Programmer and appliance thermostats		
Function		
Ecodesign class		
Manufacturer		
Model		

Main heating 2 - type: Not applicable		
Function		
Ecodesign class		
Manufacturer		
Model		
Water heating - type: N/A		
Manufacturer		
Model		
7 Lighting		
Minimum permitted light source efficacy	75 lm/W	
Lowest light source efficacy	127.33 lm/W	OK
External lights control	N/A	
8 Mechanical ventilation		
System type: Balanced whole-house mechanical ventilation with heat recovery		
Maximum permitted specific fan power	1.5 W/(l/s)	
Specific fan power	0.6 W/(l/s)	OK
Minimum permitted heat recovery efficiency	73%	
Heat recovery efficiency	90%	OK
Manufacturer/Model	MRXBOXAB-ECO2, MRXBOXAB-ECO2C	
Commissioning		
9 Local generation		
N/A		
10 Heat networks		
N/A		
11 Supporting documentary evidence		
<p>Documentary evidence identified in 11.1 and 11.2 is needed to confirm the data values used for any calculations undertaken, manufacturer declarations made, and tests performed as reflected in this "As built" BREL Compliance Report are correct.</p> <p>11.1 SAP Conventions, Appendix 1 (documentary evidence) schedules the minimum documentary evidence required.</p> <p>11.2 Indicative photographic evidence of key stages during construction (guidance within Approved Document L, Volume 1 – Appendix B) that confirms the products identified in this BREL Compliance Report are used in this dwelling, and workmanship is of sufficient quality to support the calculated values claimed in 2a to 2d.</p>		
12 Declarations		
a. Assessor Declaration		
<p>This declaration by the assessor is confirmation that the contents of this BREL Compliance Report are a true and accurate reflection based upon the design and construction information submitted for this dwelling for the purpose of carrying out the assessment, and that the supporting documentary evidence (identified in 11.1 and 11.2) pursuant to Part L of the Building Regulations 2010 (as amended) has been reviewed in the course of preparing this BREL Compliance Report.</p>		
	Assessor: 	
	Date: 27/08/2025	
b. Client Declaration		
<p>This declaration by the client is confirmation that the dwelling has been constructed and completed according to the specifications set out in this BREL Compliance Report, and that photographic evidence of key stages, as described in 11.2, has been provided to the Assessor for this dwelling.</p>		
	Organisation: J Gizaewood Builders LTD	
	Date: 27-8-25	

Building Regulations England Part L (BREL) Compliance Report

Approved Document L1 2021 Edition, England assessed by Array SAP 10 program, Array

Date: Tue 26 Aug 2025 15:47:21

Project Information			
Assessed By	Daniel Smith	Building Type	Flat, Mid-terrace
OCDEA Registration	EES/030198	Assessment Date	2025-08-26

Dwelling Details			
Assessment Type	As built	Total Floor Area	50 m ²
Site Reference	Plot 5	Plot Reference	Plot 5
Address	Flat 5, Makers Court, 2 Francis Road, MANCHESTER, M20 4DD		

Client Details	
Name	Steve Brown
Company	J Greenwood (Builders) Limited
Address	Unit B9 Greengate Industrial Estate, 2 Francis Road, Chadderton, M24 1SW

This report covers items included within the SAP calculations. It is not a complete report of regulations compliance.

1a Target emission rate and dwelling emission rate			
Fuel for main heating system	Electricity		
Target carbon dioxide emission rate	11.22 kgCO ₂ /m ²		
Dwelling carbon dioxide emission rate	3.2 kgCO ₂ /m ²		OK
1b Target primary energy rate and dwelling primary energy			
Target primary energy	59.26 kWh _{PE} /m ²		
Dwelling primary energy	33.95 kWh _{PE} /m ²		OK
1c Target fabric energy efficiency and dwelling fabric energy efficiency			
Target fabric energy efficiency	19.3 kWh/m ²		
Dwelling fabric energy efficiency	17.7 kWh/m ²		OK

2a Fabric U-values				
Element	Maximum permitted average U-Value [W/m ² K]	Dwelling average U-Value [W/m ² K]	Element with highest individual U-Value	
External walls	0.26	0.19	Walls (1) (0.19)	OK
Party walls	0.2	0	Party Wall (1) (0)	N/A
Curtain walls	1.6	0	N/A	N/A
Floors	0.18	0.11	Heatloss Floor 1 (0.11)	OK
Roofs	0.16	N/A	N/A	N/A
Windows, doors, and roof windows	1.6	0.8	WT1 (0.8)	OK
Rooflights	2.2	N/A	N/A	N/A

2b Envelope elements (better than typically expected values are flagged with a subsequent (!))			
Name	Net area [m ²]	U-Value [W/m ² K]	
Exposed wall: Walls (1)	7.6016	0.19	
Party wall: Party Wall (1)	34.18	0 (!)	
Party wall: Party Wall (2)	20.62	0 (!)	
Ground floor: Heatloss Floor 1, Heatloss Floor 1	50	0.11	

2c Openings (better than typically expected values are flagged with a subsequent (!))				
Name	Area [m ²]	Orientation	Frame factor	U-Value [W/m ² K]
WT1, Window	2.6235	South East	1.0	0.8 (!)
WT2, Window	3.3549	South East	1.0	0.8 (!)

2d Thermal bridging (better than typically expected values are flagged with a subsequent (!))				
Building part 1: Thermal bridging calculated from linear thermal transmittances for each junction				
Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E2: Other lintels (including other steel lintels)	Calculated by person with suitable expertise	0.034 (!)	Plasmor
External wall	E3: Sill	Calculated by person with suitable expertise	0.026 (!)	Plasmor
External wall	E4: Jamb	Calculated by person with suitable expertise	0.03 (!)	Plasmor

Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E5: Ground floor (normal)	Calculated by person with suitable expertise	0.081	Plasmor
External wall	E18: Party wall between dwellings	Calculated by person with suitable expertise	0.029 (!)	Plasmor
External wall	E7: Party floor between dwellings (in blocks of flats)	Calculated by person with suitable expertise	-0.018 (!)	Plasmor
Party wall	P1: Ground floor	Calculated by person with suitable expertise	0.16	Default
Party wall	P3: Intermediate floor between dwellings (in blocks of flats)	SAP table default	0 (!)	
External wall	E25: Staggered party wall between dwellings	Calculated by person with suitable expertise	0.09	Plasmor

3 Air permeability (better than typically expected values are flagged with a subsequent (!))

Maximum permitted air permeability at 50Pa	8 m ³ /hm ²	
Dwelling air permeability at 50Pa	3.9 m ³ /hm ² , Measured value (!)	OK
Air permeability test certificate reference		

4 Space heating

Main heating system 1: Room heaters - Electricity

Efficiency	100.0%
Emitter type	
Flow temperature	
System type	Panel, convector or radiant heaters
Manufacturer	
Model	
Commissioning	

Main heating system 2: Heat pump with radiators or underfloor heating - Electricity

Efficiency	0.0%
Emitter type	
Flow temperature	
System type	
Manufacturer	GDC Group Ltd
Model	EDL200UK-630
Commissioning	

Secondary heating system: N/A

Fuel	N/A
Efficiency	N/A
Commissioning	

5 Hot water

Cylinder/store - type: N/A

Capacity	N/A
Declared heat loss	N/A
Primary pipework insulated	N/A
Manufacturer	
Model	
Commissioning	

Waste water heat recovery system 1 - type: N/A

Efficiency	
Manufacturer	
Model	

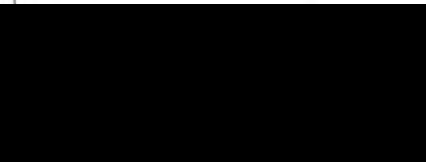
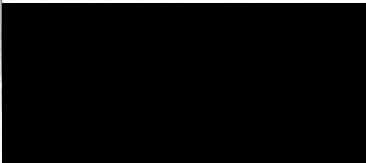
6 Controls

Main heating 1 - type: Programmer and appliance thermostats

Function	
Ecodesign class	
Manufacturer	
Model	

Main heating 2 - type: Not applicable

Function	
Ecodesign class	
Manufacturer	
Model	

Water heating - type: N/A		
Manufacturer		
Model		
7 Lighting		
Minimum permitted light source efficacy	75 lm/W	
Lowest light source efficacy	125.4 lm/W	OK
External lights control	N/A	
8 Mechanical ventilation		
System type: Balanced whole-house mechanical ventilation with heat recovery		
Maximum permitted specific fan power	1.5 W/(l/s)	
Specific fan power	0.6 W/(l/s)	OK
Minimum permitted heat recovery efficiency	73%	
Heat recovery efficiency	90%	OK
Manufacturer/Model	MRXBOXAB-ECO2, MRXBOXAB-ECO2C	
Commissioning		
9 Local generation		
N/A		
10 Heat networks		
N/A		
11 Supporting documentary evidence		
<p>Documentary evidence identified in 11.1 and 11.2 is needed to confirm the data values used for any calculations undertaken, manufacturer declarations made, and tests performed as reflected in this "As built" BREL Compliance Report are correct.</p> <p>11.1 SAP Conventions, Appendix 1 (documentary evidence) schedules the minimum documentary evidence required.</p> <p>11.2 Indicative photographic evidence of key stages during construction (guidance within Approved Document L, Volume 1 – Appendix B) that confirms the products identified in this BREL Compliance Report are used in this dwelling, and workmanship is of sufficient quality to support the calculated values claimed in 2a to 2d.</p>		
12 Declarations		
a. Assessor Declaration		
<p>This declaration by the assessor is confirmation that the contents of this BREL Compliance Report are a true and accurate reflection based upon the design and construction information submitted for this dwelling for the purpose of carrying out the assessment, and that the supporting documentary evidence (identified in 11.1 and 11.2) pursuant to Part L of the Building Regulations 2010 (as amended) has been reviewed in the course of preparing this BREL Compliance Report.</p>		
		<p>Assessor: </p> <p>Date: 27/08/2025</p>
b. Client Declaration		
<p>This declaration by the client is confirmation that the dwelling has been constructed and completed according to the specifications set out in this BREL Compliance Report, and that photographic evidence of key stages, as described in 11.2, has been provided to the Assessor for this dwelling.</p>		
		<p>Organisation: J Greenwood Builders LTD</p> <p>Date: 27.8.25</p>

Building Regulations England Part L (BREL) Compliance Report

Approved Document L1 2021 Edition, England assessed by Array SAP 10 program, Array

Date: Tue 26 Aug 2025 15:47:22

Project Information

Assessed By	Daniel Smith	Building Type	Flat, End-terrace
OCDEA Registration	EES/030198	Assessment Date	2025-08-26

Dwelling Details

Assessment Type	As built	Total Floor Area	69 m ²
Site Reference	Plot 6	Plot Reference	Plot 6
Address	Flat 6, Makers Court, 2 Francis Road, MANCHESTER, M20 4DD		

Client Details

Name	Steve Brown
Company	J Greenwood (Builders) Limited
Address	Unit B9 Greengate Industrial Estate, 2 Francis Road, Chadderton, M24 1SW

This report covers items included within the SAP calculations. It is not a complete report of regulations compliance.

1a Target emission rate and dwelling emission rate

Fuel for main heating system	Electricity
Target carbon dioxide emission rate	10.41 kgCO ₂ /m ²
Dwelling carbon dioxide emission rate	3.33 kgCO ₂ /m ² OK

1b Target primary energy rate and dwelling primary energy

Target primary energy	54.62 kWh _{PE} /m ²
Dwelling primary energy	35.06 kWh _{PE} /m ² OK

1c Target fabric energy efficiency and dwelling fabric energy efficiency

Target fabric energy efficiency	23.7 kWh/m ²
Dwelling fabric energy efficiency	20.1 kWh/m ² OK

2a Fabric U-values

Element	Maximum permitted average U-Value [W/m ² K]	Dwelling average U-Value [W/m ² K]	Element with highest individual U-Value	
External walls	0.26	0.19	Walls (1) (0.19)	OK
Party walls	0.2	0	Party Wall (1) (0)	N/A
Curtain walls	1.6	0	N/A	N/A
Floors	0.18	0.11	Heatloss Floor 1 (0.11)	OK
Roofs	0.16	N/A	N/A	N/A
Windows, doors, and roof windows	1.6	0.8	WT1 (0.8)	OK
Rooflights	2.2	N/A	N/A	N/A

2b Envelope elements (better than typically expected values are flagged with a subsequent (!))

Name	Net area [m ²]	U-Value [W/m ² K]
Exposed wall: Walls (1)	30.4781	0.19
Party wall: Party Wall (1)	18.27	0 (!)
Party wall: Party Wall (2)	20.62	0 (!)
Ground floor: Heatloss Floor 1, Heatloss Floor 1	69	0.11

2c Openings (better than typically expected values are flagged with a subsequent (!))

Name	Area [m ²]	Orientation	Frame factor	U-Value [W/m ² K]
WT1, Window	2.6235	South East	1.0	0.8 (!)
WT1, Window	2.6235	South East	1.0	0.8 (!)
WT2, Window	3.3549	South East	1.0	0.8 (!)

2d Thermal bridging (better than typically expected values are flagged with a subsequent (!))

Building part 1: Thermal bridging calculated from linear thermal transmittances for each junction				
Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E2: Other lintels (including other steel lintels)	Calculated by person with suitable expertise	0.034 (!)	Plasmor
External wall	E3: Sill	Calculated by person with suitable expertise	0.026 (!)	Plasmor

Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E4: Jamb	Calculated by person with suitable expertise	0.03 (!)	Plasmor
External wall	E5: Ground floor (normal)	Calculated by person with suitable expertise	0.081	Plasmor
External wall	E18: Party wall between dwellings	Calculated by person with suitable expertise	0.029 (!)	Plasmor
External wall	E7: Party floor between dwellings (in blocks of flats)	Calculated by person with suitable expertise	-0.018 (!)	Plasmor
Party wall	P1: Ground floor	Calculated by person with suitable expertise	0.16	Default
Party wall	P3: Intermediate floor between dwellings (in blocks of flats)	SAP table default	0 (!)	
External wall	E16: Corner (normal)	Calculated by person with suitable expertise	0.049	Plasmor

3 Air permeability (better than typically expected values are flagged with a subsequent (!))

Maximum permitted air permeability at 50Pa	8 m ³ /hm ²	
Dwelling air permeability at 50Pa	3.86 m ³ /hm ² , Measured value (!)	OK
Air permeability test certificate reference		

4 Space heating

Main heating system 1: Room heaters - Electricity

Efficiency	100.0%
Emitter type	
Flow temperature	
System type	Panel, convector or radiant heaters
Manufacturer	
Model	
Commissioning	

Main heating system 2: Heat pump with radiators or underfloor heating - Electricity

Efficiency	0.0%
Emitter type	
Flow temperature	
System type	
Manufacturer	GDC Group Ltd
Model	EDL200UK-630
Commissioning	

Secondary heating system: N/A

Fuel	N/A
Efficiency	N/A
Commissioning	

5 Hot water

Cylinder/store - type: N/A

Capacity	N/A
Declared heat loss	N/A
Primary pipework insulated	N/A
Manufacturer	
Model	
Commissioning	

Waste water heat recovery system 1 - type: N/A

Efficiency	
Manufacturer	
Model	

6 Controls

Main heating 1 - type: Programmer and appliance thermostats

Function	
Ecodesign class	
Manufacturer	
Model	

Main heating 2 - type: Not applicable	
Function	
Ecodesign class	
Manufacturer	
Model	
Water heating - type: N/A	
Manufacturer	
Model	
7 Lighting	
Minimum permitted light source efficacy	75 lm/W
Lowest light source efficacy	127.33 lm/W
External lights control	N/A
8 Mechanical ventilation	
System type: Balanced whole-house mechanical ventilation with heat recovery	
Maximum permitted specific fan power	1.5 W/(l/s)
Specific fan power	0.6 W/(l/s)
Minimum permitted heat recovery efficiency	73%
Heat recovery efficiency	90%
Manufacturer/Model	MRXBOXAB-ECO2, MRXBOXAB-ECO2C
Commissioning	
9 Local generation	
N/A	
10 Heat networks	
N/A	
11 Supporting documentary evidence	
<p>Documentary evidence identified in 11.1 and 11.2 is needed to confirm the data values used for any calculations undertaken, manufacturer declarations made, and tests performed as reflected in this "As built" BREL Compliance Report are correct.</p> <p>11.1 SAP Conventions, Appendix 1 (documentary evidence) schedules the minimum documentary evidence required.</p> <p>11.2 Indicative photographic evidence of key stages during construction (guidance within Approved Document L, Volume 1 – Appendix B) that confirms the products identified in this BREL Compliance Report are used in this dwelling, and workmanship is of sufficient quality to support the calculated values claimed in 2a to 2d.</p>	
12 Declarations	
a. Assessor Declaration	
<p>This declaration by the assessor is confirmation that the contents of this BREL Compliance Report are a true and accurate reflection based upon the design and construction information submitted for this dwelling for the purpose of carrying out the assessment, and that the supporting documentary evidence (identified in 11.1 and 11.2) pursuant to Part L of the Building Regulations 2010 (as amended) has been reviewed in the course of preparing this BREL Compliance Report.</p>	
Sign  Name	Assessor ID:  Date: 27/08/2025
b. Client Declaration	
<p>This declaration by the client is confirmation that the dwelling has been constructed and completed according to the specifications set out in this BREL Compliance Report, and that photographic evidence of key stages, as described in 11.2, has been provided to the Assessor for this dwelling.</p>	
Sign  Name	Organisation: J Greenwood Builders LTD Date: 27.8.25

Building Regulations England Part L (BREL) Compliance Report

Approved Document L1 2021 Edition, England assessed by Array SAP 10 program, Array

Date: Tue 26 Aug 2025 15:47:22

Project Information			
Assessed By	Daniel Smith	Building Type	Flat, End-terrace
OCDEA Registration	EES/030198	Assessment Date	2025-08-26

Dwelling Details			
Assessment Type	As built	Total Floor Area	50 m ²
Site Reference	Plot 7	Plot Reference	Plot 7
Address	Flat 7, Makers Court, 2 Francis Road, MANCHESTER, M20 4DD		

Client Details	
Name	Steve Brown
Company	J Greenwood (Builders) Limited
Address	Unit B9 Greengate Industrial Estate, 2 Francis Road, Chadderton, M24 1SW

This report covers items included within the SAP calculations. It is not a complete report of regulations compliance.

1a Target emission rate and dwelling emission rate		
Fuel for main heating system	Electricity	
Target carbon dioxide emission rate	13.99 kgCO ₂ /m ²	
Dwelling carbon dioxide emission rate	3.85 kgCO ₂ /m ²	OK

1b Target primary energy rate and dwelling primary energy		
Target primary energy	74.16 kWh _{PE} /m ²	
Dwelling primary energy	40.48 kWh _{PE} /m ²	OK

1c Target fabric energy efficiency and dwelling fabric energy efficiency		
Target fabric energy efficiency	32.7 kWh/m ²	
Dwelling fabric energy efficiency	23.7 kWh/m ²	OK

2a Fabric U-values				
Element	Maximum permitted average U-Value [W/m ² K]	Dwelling average U-Value [W/m ² K]	Element with highest individual U-Value	
External walls	0.26	0.19	Walls (1) (0.19)	OK
Party walls	0.2	0	Party Wall (1) (0)	N/A
Curtain walls	1.6	0	N/A	N/A
Floors	0.18	0.13	Cycle Store (0.13)	OK
Roofs	0.16	N/A	N/A	N/A
Windows, doors, and roof windows	1.6	0.8	WT1 (0.8)	OK
Rooflights	2.2	N/A	N/A	N/A

2b Envelope elements (better than typically expected values are flagged with a subsequent (!))		
Name	Net area [m ²]	U-Value [W/m ² K]
Exposed wall: Walls (1)	27.5116	0.19
Party wall: Party Wall (1)	16.64	0 (!)
Party wall: Party Wall (2)	16.83	0 (!)
Party floor: Cycle Store, Cycle Store	8	0.13
Upper floor: Plant Room, Plant Room	28	0.13

2c Openings (better than typically expected values are flagged with a subsequent (!))				
Name	Area [m ²]	Orientation	Frame factor	U-Value [W/m ² K]
WT1, Window	2.6235	North West	1.0	0.8 (!)
WT2, Window	3.3549	North West	1.0	0.8 (!)

2d Thermal bridging (better than typically expected values are flagged with a subsequent (!))				
Building part 1: Thermal bridging calculated from linear thermal transmittances for each junction				
Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E2: Other lintels (including other steel lintels)	Calculated by person with suitable expertise	0.034 (!)	Plasmor
External wall	E3: Sill	Calculated by person with suitable expertise	0.026 (!)	Plasmor

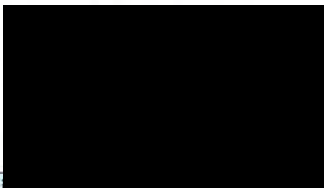
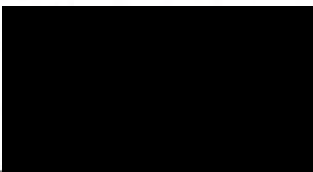
Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E4: Jamb	Calculated by person with suitable expertise	0.03 (!)	Plasmor
External wall	E18: Party wall between dwellings	Calculated by person with suitable expertise	0.029 (!)	Plasmor
External wall	E7: Party floor between dwellings (in blocks of flats)	Calculated by person with suitable expertise	-0.018 (!)	Plasmor
External wall	E16: Corner (normal)	Calculated by person with suitable expertise	0.049	Plasmor
External wall	E20: Exposed floor (normal)	Calculated by person with suitable expertise	0.169	Plasmor
Party wall	P3: Intermediate floor between dwellings (in blocks of flats)	SAP table default	0 (!)	
External wall	E21: Exposed floor (inverted)	Calculated by person with suitable expertise	0.075	Plasmor
Party wall	P8: Exposed floor (inverted)	Calculated by person with suitable expertise	0.24	Default

3 Air permeability (better than typically expected values are flagged with a subsequent (!))			
Maximum permitted air permeability at 50Pa	8 m ³ /hm ²		
Dwelling air permeability at 50Pa	3.76 m ³ /hm ² , Measured value (!)		OK
Air permeability test certificate reference			

4 Space heating	
Main heating system 1: Room heaters - Electricity	
Efficiency	100.0%
Emitter type	
Flow temperature	
System type	Panel, convector or radiant heaters
Manufacturer	
Model	
Commissioning	
Main heating system 2: Heat pump with radiators or underfloor heating - Electricity	
Efficiency	0.0%
Emitter type	
Flow temperature	
System type	
Manufacturer	GDC Group Ltd
Model	EDL200UK-630
Commissioning	
Secondary heating system: N/A	
Fuel	N/A
Efficiency	N/A
Commissioning	

5 Hot water	
Cylinder/store - type: N/A	
Capacity	N/A
Declared heat loss	N/A
Primary pipework insulated	N/A
Manufacturer	
Model	
Commissioning	
Waste water heat recovery system 1 - type: N/A	
Efficiency	
Manufacturer	
Model	

6 Controls	
Main heating 1 - type: Programmer and appliance thermostats	
Function	
Ecodesign class	
Manufacturer	
Model	

Main heating 2 - type: Not applicable		
Function		
Ecodesign class		
Manufacturer		
Model		
Water heating - type: N/A		
Manufacturer		
Model		
7 Lighting		
Minimum permitted light source efficacy	75 lm/W	
Lowest light source efficacy	125.4 lm/W	OK
External lights control	N/A	
8 Mechanical ventilation		
System type: Balanced whole-house mechanical ventilation with heat recovery		
Maximum permitted specific fan power	1.5 W/(l/s)	
Specific fan power	0.6 W/(l/s)	OK
Minimum permitted heat recovery efficiency	73%	
Heat recovery efficiency	90%	OK
Manufacturer/Model	MRXBOXAB-ECO2, MRXBOXAB-ECO2C	
Commissioning		
9 Local generation		
N/A		
10 Heat networks		
N/A		
11 Supporting documentary evidence		
<p>Documentary evidence identified in 11.1 and 11.2 is needed to confirm the data values used for any calculations undertaken, manufacturer declarations made, and tests performed as reflected in this "As built" BREL Compliance Report are correct.</p> <p>11.1 SAP Conventions, Appendix 1 (documentary evidence) schedules the minimum documentary evidence required.</p> <p>11.2 Indicative photographic evidence of key stages during construction (guidance within Approved Document L, Volume 1 – Appendix B) that confirms the products identified in this BREL Compliance Report are used in this dwelling, and workmanship is of sufficient quality to support the calculated values claimed in 2a to 2d.</p>		
12 Declarations		
a. Assessor Declaration		
<p>This declaration by the assessor is confirmation that the contents of this BREL Compliance Report are a true and accurate reflection based upon the design and construction information submitted for this dwelling for the purpose of carrying out the assessment, and that the supporting documentary evidence (identified in 11.1 and 11.2) pursuant to Part L of the Building Regulations 2010 (as amended) has been reviewed in the course of preparing this BREL Compliance Report.</p>		
Signed:		Assessor ID: 
Name:		Date: 27/08/2025
b. Client Declaration		
<p>This declaration by the client is confirmation that the dwelling has been constructed and completed according to the specifications set out in this BREL Compliance Report, and that photographic evidence of key stages, as described in 11.2, has been provided to the Assessor for this dwelling.</p>		
Signed:		Organisation: J Greenwood Builders LTD
Name:		Date: 27-8-25

Building Regulations England Part L (BREL) Compliance Report

Approved Document L1 2021 Edition, England assessed by Array SAP 10 program, Array

Date: Tue 26 Aug 2025 15:47:22

Project Information			
Assessed By	Daniel Smith	Building Type	Flat, Mid-terrace
OCDEA Registration	EES/030198	Assessment Date	2025-08-26

Dwelling Details			
Assessment Type	As built	Total Floor Area	62 m ²
Site Reference	Plot 8	Plot Reference	Plot 8
Address	Flat 8, Makers Court, 2 Francis Road, MANCHESTER, M20 4DD		

Client Details	
Name	Steve Brown
Company	J Greenwood (Builders) Limited
Address	Unit B9 Greengate Industrial Estate, 2 Francis Road, Chadderton, M24 1SW

This report covers items included within the SAP calculations. It is not a complete report of regulations compliance.

1a Target emission rate and dwelling emission rate		
Fuel for main heating system	Electricity	
Target carbon dioxide emission rate	9.24 kgCO ₂ /m ²	
Dwelling carbon dioxide emission rate	2.42 kgCO ₂ /m ²	OK
1b Target primary energy rate and dwelling primary energy		
Target primary energy	48.4 kWh _{PE} /m ²	
Dwelling primary energy	26.01 kWh _{PE} /m ²	OK
1c Target fabric energy efficiency and dwelling fabric energy efficiency		
Target fabric energy efficiency	15.9 kWh/m ²	
Dwelling fabric energy efficiency	11.1 kWh/m ²	OK

2a Fabric U-values				
Element	Maximum permitted average U-Value [W/m ² K]	Dwelling average U-Value [W/m ² K]	Element with highest individual U-Value	
External walls	0.26	0.19	Walls (1) (0.19)	OK
Party walls	0.2	0	Party Wall (1) (0)	N/A
Curtain walls	1.6	0	N/A	N/A
Floors	0.18	N/A	N/A	N/A
Roofs	0.16	N/A	N/A	N/A
Windows, doors, and roof windows	1.6	0.8	WT1 (0.8)	OK
Rooflights	2.2	N/A	N/A	N/A

2b Envelope elements (better than typically expected values are flagged with a subsequent (!))			
Name	Net area [m ²]	U-Value [W/m ² K]	
Exposed wall: Walls (1)	13.6081	0.19	
Party wall: Party Wall (1)	32.45	0 (!)	
Party wall: Party Wall (2)	23.42	0 (!)	

2c Openings (better than typically expected values are flagged with a subsequent (!))				
Name	Area [m ²]	Orientation	Frame factor	U-Value [W/m ² K]
WT1, Window	2.6235	North West	1.0	0.8 (!)
WT1, Window	2.6235	North West	1.0	0.8 (!)
WT2, Window	3.3549	North West	1.0	0.8 (!)

2d Thermal bridging (better than typically expected values are flagged with a subsequent (!))				
Building part 1: Thermal bridging calculated from linear thermal transmittances for each junction				
Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E2: Other lintels (including other steel lintels)	Calculated by person with suitable expertise	0.034 (!)	Plasmor
External wall	E3: Sill	Calculated by person with suitable expertise	0.026 (!)	Plasmor
External wall	E4: Jamb	Calculated by person with suitable expertise	0.03 (!)	Plasmor

Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E18: Party wall between dwellings	Calculated by person with suitable expertise	0.029 (!)	Plasmor
External wall	E7: Party floor between dwellings (in blocks of flats)	Calculated by person with suitable expertise	-0.018 (!)	Plasmor
Party wall	P3: Intermediate floor between dwellings (in blocks of flats)	SAP table default	0 (!)	

3 Air permeability (better than typically expected values are flagged with a subsequent (!))

Maximum permitted air permeability at 50Pa	8 m ³ /hm ²	
Dwelling air permeability at 50Pa	3.85 m ³ /hm ² , Measured value (!)	OK
Air permeability test certificate reference		

4 Space heating

Main heating system 1: Room heaters - Electricity

Efficiency	100.0%
Emitter type	
Flow temperature	
System type	Panel, convector or radiant heaters
Manufacturer	
Model	
Commissioning	

Main heating system 2: Heat pump with radiators or underfloor heating - Electricity

Efficiency	0.0%
Emitter type	
Flow temperature	
System type	
Manufacturer	GDC Group Ltd
Model	EDL200UK-630
Commissioning	

Secondary heating system: N/A

Fuel	N/A
Efficiency	N/A
Commissioning	

5 Hot water

Cylinder/store - type: N/A

Capacity	N/A
Declared heat loss	N/A
Primary pipework insulated	N/A
Manufacturer	
Model	
Commissioning	

Waste water heat recovery system 1 - type: N/A

Efficiency	
Manufacturer	
Model	

6 Controls

Main heating 1 - type: Programmer and appliance thermostats

Function	
Ecodesign class	
Manufacturer	
Model	

Main heating 2 - type: Not applicable

Function	
Ecodesign class	
Manufacturer	
Model	

Water heating - type: N/A

Manufacturer	
Model	

7 Lighting		
Minimum permitted light source efficacy	75 lm/W	
Lowest light source efficacy	127.33 lm/W	OK
External lights control	N/A	
8 Mechanical ventilation		
System type: Balanced whole-house mechanical ventilation with heat recovery		
Maximum permitted specific fan power	1.5 W/(l/s)	
Specific fan power	0.6 W/(l/s)	OK
Minimum permitted heat recovery efficiency	73%	
Heat recovery efficiency	90%	OK
Manufacturer/Model	MRXBOXAB-ECO2, MRXBOXAB-ECO2C	
Commissioning		
9 Local generation		
N/A		
10 Heat networks		
N/A		
11 Supporting documentary evidence		
<p>Documentary evidence identified in 11.1 and 11.2 is needed to confirm the data values used for any calculations undertaken, manufacturer declarations made, and tests performed as reflected in this "As built" BREL Compliance Report are correct.</p> <p>11.1 SAP Conventions, Appendix 1 (documentary evidence) schedules the minimum documentary evidence required.</p> <p>11.2 Indicative photographic evidence of key stages during construction (guidance within Approved Document L, Volume 1 – Appendix B) that confirms the products identified in this BREL Compliance Report are used in this dwelling, and workmanship is of sufficient quality to support the calculated values claimed in 2a to 2d.</p>		
12 Declarations		
a. Assessor Declaration		
This declaration by the assessor is confirmation that the contents of this BREL Compliance Report are a true and accurate reflection based upon the design and construction information submitted for this dwelling for the purpose of carrying out the assessment, and that the supporting documentary evidence (identified in 11.1 and 11.2) pursuant to Part L of the Building Regulations 2010 (as amended) has been reviewed in the course of preparing this BREL Compliance Report.		
Signed: [Redacted]	Assessor ID: [Redacted]	
Name: [Redacted]	Date: 27/08/2025	
b. Client Declaration		
This declaration by the client is confirmation that the dwelling has been constructed and completed according to the specifications set out in this BREL Compliance Report, and that photographic evidence of key stages, as described in 11.2, has been provided to the Assessor for this dwelling.		
Signed: [Redacted]	Organisation: J Greenwood Builders LTD	
Name: [Redacted]	Date: 27.8.25	

Building Regulations England Part L (BREL) Compliance Report

Approved Document L1 2021 Edition, England assessed by Array SAP 10 program, Array

Date: Tue 26 Aug 2025 15:47:22

Project Information			
Assessed By	Daniel Smith	Building Type	Flat, Mid-terrace
OCDEA Registration	EES/030198	Assessment Date	2025-08-26

Dwelling Details			
Assessment Type	As built	Total Floor Area	50 m ²
Site Reference	Plot 9	Plot Reference	Plot 9
Address	Flat 9, Makers Court, 2 Francis Road, MANCHESTER, M20 4DD		

Client Details	
Name	Steve Brown
Company	J Greenwood (Builders) Limited
Address	Unit B9 Greengate Industrial Estate, 2 Francis Road, Chadderton, M24 1SW

This report covers items included within the SAP calculations. It is not a complete report of regulations compliance.

1a Target emission rate and dwelling emission rate			
Fuel for main heating system	Electricity		
Target carbon dioxide emission rate	10.07 kgCO ₂ /m ²		
Dwelling carbon dioxide emission rate	2.57 kgCO ₂ /m ²		OK
1b Target primary energy rate and dwelling primary energy			
Target primary energy	53.1 kWh _{PE} /m ²		
Dwelling primary energy	27.65 kWh _{PE} /m ²		OK
1c Target fabric energy efficiency and dwelling fabric energy efficiency			
Target fabric energy efficiency	13.5 kWh/m ²		
Dwelling fabric energy efficiency	9.3 kWh/m ²		OK

2a Fabric U-values				
Element	Maximum permitted average U-Value [W/m ² K]	Dwelling average U-Value [W/m ² K]	Element with highest individual U-Value	
External walls	0.26	0.19	Walls (1) (0.19)	OK
Party walls	0.2	0	Party Wall (1) (0)	N/A
Curtain walls	1.6	0	N/A	N/A
Floors	0.18	N/A	N/A	N/A
Roofs	0.16	N/A	N/A	N/A
Windows, doors, and roof windows	1.6	0.8	WT1 (0.8)	OK
Rooflights	2.2	N/A	N/A	N/A

2b Envelope elements (better than typically expected values are flagged with a subsequent (!))		
Name	Net area [m ²]	U-Value [W/m ² K]
Exposed wall: Walls (1)	8.1716	0.19
Party wall: Party Wall (1)	22.14	0 (!)
Party wall: Party Wall (2)	31.43	0 (!)

2c Openings (better than typically expected values are flagged with a subsequent (!))				
Name	Area [m ²]	Orientation	Frame factor	U-Value [W/m ² K]
WT1, Window	2.6235	North West	1.0	0.8 (!)
WT2, Window	3.3549	North West	1.0	0.8 (!)

2d Thermal bridging (better than typically expected values are flagged with a subsequent (!))				
Building part 1: Thermal bridging calculated from linear thermal transmittances for each junction				
Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E2: Other lintels (including other steel lintels)	Calculated by person with suitable expertise	0.034 (!)	Plasmor
External wall	E3: Sill	Calculated by person with suitable expertise	0.026 (!)	Plasmor
External wall	E4: Jamb	Calculated by person with suitable expertise	0.03 (!)	Plasmor

Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E18: Party wall between dwellings	Calculated by person with suitable expertise	0.029 (!)	Plasmor
External wall	E7: Party floor between dwellings (in blocks of flats)	Calculated by person with suitable expertise	-0.018 (!)	Plasmor
Party wall	P3: Intermediate floor between dwellings (in blocks of flats)	SAP table default	0 (!)	

3 Air permeability (better than typically expected values are flagged with a subsequent (!))

Maximum permitted air permeability at 50Pa	8 m ³ /hm ²	
Dwelling air permeability at 50Pa	3.85 m ³ /hm ² , Measured value (!)	OK
Air permeability test certificate reference		

4 Space heating

Main heating system 1: Room heaters - Electricity

Efficiency	100.0%
Emitter type	
Flow temperature	
System type	Panel, convector or radiant heaters
Manufacturer	
Model	
Commissioning	

Main heating system 2: Heat pump with radiators or underfloor heating - Electricity

Efficiency	0.0%
Emitter type	
Flow temperature	
System type	
Manufacturer	GDC Group Ltd
Model	EDL200UK-630
Commissioning	

Secondary heating system: N/A

Fuel	N/A
Efficiency	N/A
Commissioning	

5 Hot water

Cylinder/store - type: N/A

Capacity	N/A
Declared heat loss	N/A
Primary pipework insulated	N/A
Manufacturer	
Model	
Commissioning	

Waste water heat recovery system 1 - type: N/A

Efficiency	
Manufacturer	
Model	

6 Controls

Main heating 1 - type: Programmer and appliance thermostats

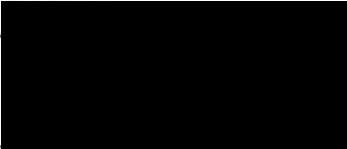
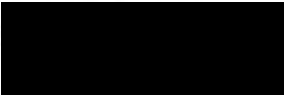
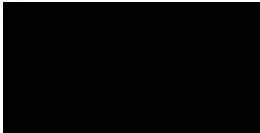
Function	
Ecodesign class	
Manufacturer	
Model	

Main heating 2 - type: Not applicable

Function	
Ecodesign class	
Manufacturer	
Model	

Water heating - type: N/A

Manufacturer	
Model	

7 Lighting		
Minimum permitted light source efficacy	75 lm/W	
Lowest light source efficacy	125.4 lm/W	OK
External lights control	N/A	
8 Mechanical ventilation		
System type: Balanced whole-house mechanical ventilation with heat recovery		
Maximum permitted specific fan power	1.5 W/(l/s)	
Specific fan power	0.6 W/(l/s)	OK
Minimum permitted heat recovery efficiency	73%	
Heat recovery efficiency	90%	OK
Manufacturer/Model	MRXBOXAB-ECO2, MRXBOXAB-ECO2C	
Commissioning		
9 Local generation		
N/A		
10 Heat networks		
N/A		
11 Supporting documentary evidence		
<p>Documentary evidence identified in 11.1 and 11.2 is needed to confirm the data values used for any calculations undertaken, manufacturer declarations made, and tests performed as reflected in this "As built" BREL Compliance Report are correct.</p> <p>11.1 SAP Conventions, Appendix 1 (documentary evidence) schedules the minimum documentary evidence required.</p> <p>11.2 Indicative photographic evidence of key stages during construction (guidance within Approved Document L, Volume 1 – Appendix B) that confirms the products identified in this BREL Compliance Report are used in this dwelling, and workmanship is of sufficient quality to support the calculated values claimed in 2a to 2d.</p>		
12 Declarations		
a. Assessor Declaration		
<p>This declaration by the assessor is confirmation that the contents of this BREL Compliance Report are a true and accurate reflection based upon the design and construction information submitted for this dwelling for the purpose of carrying out the assessment, and that the supporting documentary evidence (identified in 11.1 and 11.2) pursuant to Part L of the Building Regulations 2010 (as amended) has been reviewed in the course of preparing this BREL Compliance Report.</p>		
Signed:		Assessor ID: 
Name:		Date: 27/08/2025
b. Client Declaration		
<p>This declaration by the client is confirmation that the dwelling has been constructed and completed according to the specifications set out in this BREL Compliance Report, and that photographic evidence of key stages, as described in 11.2, has been provided to the Assessor for this dwelling.</p>		
Signed:		Organisation: J. G. G. Builders LTD
Name:		Date: 27.8.25

Building Regulations England Part L (BREL) Compliance Report

Approved Document L1 2021 Edition, England assessed by Array SAP 10 program, Array

Date: Tue 26 Aug 2025 15:47:22

Project Information			
Assessed By	Daniel Smith	Building Type	Flat, Mid-terrace
OCDEA Registration	EES/030198	Assessment Date	2025-08-26

Dwelling Details			
Assessment Type	As built	Total Floor Area	51 m ²
Site Reference	Plot 10	Plot Reference	Plot 10
Address	Flat 2, Makers Court, 2 Francis Road, MANCHESTER, M20 4DD		

Client Details	
Name	Steve Brown
Company	J Greenwood (Builders) Limited
Address	Unit B9 Greengate Industrial Estate, 2 Francis Road, Chadderton, M24 1SW

This report covers items included within the SAP calculations. It is not a complete report of regulations compliance.

1a Target emission rate and dwelling emission rate		
Fuel for main heating system	Electricity	
Target carbon dioxide emission rate	9.93 kgCO ₂ /m ²	
Dwelling carbon dioxide emission rate	2.54 kgCO ₂ /m ²	OK
1b Target primary energy rate and dwelling primary energy		
Target primary energy	52.34 kWh _{PE} /m ²	
Dwelling primary energy	27.41 kWh _{PE} /m ²	OK
1c Target fabric energy efficiency and dwelling fabric energy efficiency		
Target fabric energy efficiency	13.4 kWh/m ²	
Dwelling fabric energy efficiency	9.2 kWh/m ²	OK

2a Fabric U-values				
Element	Maximum permitted average U-Value [W/m ² K]	Dwelling average U-Value [W/m ² K]	Element with highest individual U-Value	
External walls	0.26	0.19	Walls (1) (0.19)	OK
Party walls	0.2	0	Party Wall (1) (0)	N/A
Curtain walls	1.6	0	N/A	N/A
Floors	0.18	N/A	N/A	N/A
Roofs	0.16	N/A	N/A	N/A
Windows, doors, and roof windows	1.6	0.8	WT1 (0.8)	OK
Rooflights	2.2	N/A	N/A	N/A

2b Envelope elements (better than typically expected values are flagged with a subsequent (!))			
Name	Net area [m ²]	U-Value [W/m ² K]	
Exposed wall: Walls (1)	8.3316	0.19	
Party wall: Party Wall (1)	14.43	0 (!)	
Party wall: Party Wall (2)	39.39	0 (!)	

2c Openings (better than typically expected values are flagged with a subsequent (!))				
Name	Area [m ²]	Orientation	Frame factor	U-Value [W/m ² K]
WT1, Window	2.6235	North West	1.0	0.8 (!)
WT2, Window	3.3549	North West	1.0	0.8 (!)

2d Thermal bridging (better than typically expected values are flagged with a subsequent (!))				
Building part 1: Thermal bridging calculated from linear thermal transmittances for each junction				
Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E2: Other lintels (including other steel lintels)	Calculated by person with suitable expertise	0.034 (!)	Plasmor
External wall	E3: Sill	Calculated by person with suitable expertise	0.026 (!)	Plasmor
External wall	E4: Jamb	Calculated by person with suitable expertise	0.03 (!)	Plasmor

Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E18: Party wall between dwellings	Calculated by person with suitable expertise	0.029 (!)	Plasmor
External wall	E7: Party floor between dwellings (in blocks of flats)	Calculated by person with suitable expertise	-0.018 (!)	Plasmor
Party wall	P3: Intermediate floor between dwellings (in blocks of flats)	SAP table default	0 (!)	

3 Air permeability (better than typically expected values are flagged with a subsequent (!))

Maximum permitted air permeability at 50Pa	8 m ³ /hm ²	
Dwelling air permeability at 50Pa	3.77 m ³ /hm ² , Measured value (!)	OK
Air permeability test certificate reference		

4 Space heating

Main heating system 1: Room heaters - Electricity

Efficiency	100.0%
Emitter type	
Flow temperature	
System type	Panel, convector or radiant heaters
Manufacturer	
Model	
Commissioning	

Main heating system 2: Heat pump with radiators or underfloor heating - Electricity

Efficiency	0.0%
Emitter type	
Flow temperature	
System type	
Manufacturer	GDC Group Ltd
Model	EDL200UK-630
Commissioning	

Secondary heating system: N/A

Fuel	N/A
Efficiency	N/A
Commissioning	

5 Hot water

Cylinder/store - type: N/A

Capacity	N/A
Declared heat loss	N/A
Primary pipework insulated	N/A
Manufacturer	
Model	
Commissioning	

Waste water heat recovery system 1 - type: N/A

Efficiency	
Manufacturer	
Model	

6 Controls

Main heating 1 - type: Programmer and appliance thermostats

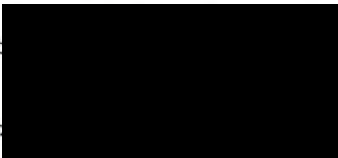
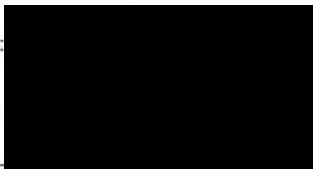
Function	
Ecodesign class	
Manufacturer	
Model	

Main heating 2 - type: Not applicable

Function	
Ecodesign class	
Manufacturer	
Model	

Water heating - type: N/A

Manufacturer	
Model	

7 Lighting		
Minimum permitted light source efficacy	75 lm/W	
Lowest light source efficacy	127.33 lm/W	OK
External lights control	N/A	
8 Mechanical ventilation		
System type: Balanced whole-house mechanical ventilation with heat recovery		
Maximum permitted specific fan power	1.5 W/(l/s)	
Specific fan power	0.6 W/(l/s)	OK
Minimum permitted heat recovery efficiency	73%	
Heat recovery efficiency	90%	OK
Manufacturer/Model	MRXBOXAB-ECO2, MRXBOXAB-ECO2C	
Commissioning		
9 Local generation		
N/A		
10 Heat networks		
N/A		
11 Supporting documentary evidence		
<p>Documentary evidence identified in 11.1 and 11.2 is needed to confirm the data values used for any calculations undertaken, manufacturer declarations made, and tests performed as reflected in this "As built" BREL Compliance Report are correct.</p> <p>11.1 SAP Conventions, Appendix 1 (documentary evidence) schedules the minimum documentary evidence required.</p> <p>11.2 Indicative photographic evidence of key stages during construction (guidance within Approved Document L, Volume 1 – Appendix B) that confirms the products identified in this BREL Compliance Report are used in this dwelling, and workmanship is of sufficient quality to support the calculated values claimed in 2a to 2d.</p>		
12 Declarations		
a. Assessor Declaration		
<p>This declaration by the assessor is confirmation that the contents of this BREL Compliance Report are a true and accurate reflection based upon the design and construction information submitted for this dwelling for the purpose of carrying out the assessment, and that the supporting documentary evidence (identified in 11.1 and 11.2) pursuant to Part L of the Building Regulations 2010 (as amended) has been reviewed in the course of preparing this BREL Compliance Report.</p>		
Signed:		Assessor: 
Name:		Date: 27/08/2025
b. Client Declaration		
<p>This declaration by the client is confirmation that the dwelling has been constructed and completed according to the specifications set out in this BREL Compliance Report, and that photographic evidence of key stages, as described in 11.2, has been provided to the Assessor for this dwelling.</p>		
Signed:		Organisation: J Bickwood Builders LTD
Name:		Date: 27.8.25

Building Regulations England Part L (BREL) Compliance Report

Approved Document L1 2021 Edition, England assessed by Array SAP 10 program, Array

Date: Tue 26 Aug 2025 15:47:22

Project Information			
Assessed By	Daniel Smith	Building Type	Flat, End-terrace
OCDEA Registration	EES/030198	Assessment Date	2025-08-26

Dwelling Details			
Assessment Type	As built	Total Floor Area	51 m ²
Site Reference	Plot 11	Plot Reference	Plot 11
Address	Flat 11, Makers Court, 2 Francis Road, MANCHESTER, M20 4DD		

Client Details	
Name	Steve Brown
Company	J Greenwood (Builders) Limited
Address	Unit B9 Greengate Industrial Estate, 2 Francis Road, Chadderton, M24 1SW

This report covers items included within the SAP calculations. It is not a complete report of regulations compliance.

1a Target emission rate and dwelling emission rate			
Fuel for main heating system	Electricity		
Target carbon dioxide emission rate	15.82 kgCO ₂ /m ²		
Dwelling carbon dioxide emission rate	6.25 kgCO ₂ /m ²		OK

1b Target primary energy rate and dwelling primary energy			
Target primary energy	84.01 kWh _{PE} /m ²		
Dwelling primary energy	65.04 kWh _{PE} /m ²		OK

1c Target fabric energy efficiency and dwelling fabric energy efficiency			
Target fabric energy efficiency	41.1 kWh/m ²		
Dwelling fabric energy efficiency	41.0 kWh/m ²		OK

2a Fabric U-values				
Element	Maximum permitted average U-Value [W/m ² K]	Dwelling average U-Value [W/m ² K]	Element with highest individual U-Value	
External walls	0.26	0.18	Walls (1) (0.18)	OK
Party walls	0.2	0	Party Wall (1) (0)	N/A
Curtain walls	1.6	0	N/A	N/A
Floors	0.18	0.11	Heatloss Floor 1 (0.11)	OK
Roofs	0.16	0.12	Roof (1) (0.12)	OK
Windows, doors, and roof windows	1.6	0.8	WT1 (0.8)	OK
Rooflights	2.2	N/A	N/A	N/A

2b Envelope elements (better than typically expected values are flagged with a subsequent (!))		
Name	Net area [m ²]	U-Value [W/m ² K]
Exposed wall: Walls (1)	28.0116	0.18
Party wall: Party Wall (1)	14.46	0 (!)
Party wall: Party Wall (2)	19.69	0 (!)
Upper floor: Heatloss Floor 1, Heatloss Floor 1	25.84	0.11
Exposed roof: Roof (1)	51	0.12

2c Openings (better than typically expected values are flagged with a subsequent (!))				
Name	Area [m ²]	Orientation	Frame factor	U-Value [W/m ² K]
WT1, Window	2.6235	North West	1.0	0.8 (!)
WT2, Window	3.3549	North West	1.0	0.8 (!)

2d Thermal bridging (better than typically expected values are flagged with a subsequent (!))				
Building part 1: Thermal bridging calculated from linear thermal transmittances for each junction				
Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E2: Other lintels (including other steel lintels)	Calculated by person with suitable expertise	0.098	Frametech
External wall	E3: Sill	Calculated by person with suitable expertise	0.04	Frametech

Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E4: Jamb	Calculated by person with suitable expertise	0.053	Frametech
External wall	E18: Party wall between dwellings	Calculated by person with suitable expertise	0.05	Frametech
Party wall	P4: Roof (insulation at ceiling level)	Calculated by person with suitable expertise	0.143	Frametech
External wall	E20: Exposed floor (normal)	SAP table default	0.32	
External wall	E7: Party floor between dwellings (in blocks of flats)	Calculated by person with suitable expertise	0.052	Trada
External wall	E14: Flat roof	SAP table default	0.16	
External wall	E16: Corner (normal)	Calculated by person with suitable expertise	0.055	Frametech
Party wall	P8: Exposed floor (inverted)	SAP table default	0.48	
External wall	E24: Eaves (insulation at ceiling level - inverted)	SAP table default	0.15	
External wall	E21: Exposed floor (inverted)	SAP table default	0.32	

3 Air permeability (better than typically expected values are flagged with a subsequent (!))

Maximum permitted air permeability at 50Pa	8 m ³ /hm ²
Dwelling air permeability at 50Pa	2.58 m ³ /hm ² , Measured value (!)
Air permeability test certificate reference	OK

4 Space heating

Main heating system 1: Room heaters - Electricity

Efficiency	100.0%
Emitter type	
Flow temperature	
System type	Panel, convector or radiant heaters
Manufacturer	
Model	
Commissioning	

Main heating system 2: Heat pump with radiators or underfloor heating - Electricity

Efficiency	0.0%
Emitter type	
Flow temperature	
System type	
Manufacturer	GDC Group Ltd
Model	EDL200UK-630
Commissioning	

Secondary heating system: N/A

Fuel	N/A
Efficiency	N/A
Commissioning	

5 Hot water

Cylinder/store - type: N/A

Capacity	N/A
Declared heat loss	N/A
Primary pipework insulated	N/A
Manufacturer	
Model	
Commissioning	

Waste water heat recovery system 1 - type: N/A

Efficiency	
Manufacturer	
Model	

6 Controls

Main heating 1 - type: Programmer and appliance thermostats

Function	
Ecodesign class	
Manufacturer	
Model	

Main heating 2 - type: Not applicable	
Function	
Ecodesign class	
Manufacturer	
Model	
Water heating - type: N/A	
Manufacturer	
Model	
7 Lighting	
Minimum permitted light source efficacy	75 lm/W
Lowest light source efficacy	126.45 lm/W
External lights control	N/A
8 Mechanical ventilation	
System type: Balanced whole-house mechanical ventilation with heat recovery	
Maximum permitted specific fan power	1.5 W/(l/s)
Specific fan power	0.6 W/(l/s)
Minimum permitted heat recovery efficiency	73%
Heat recovery efficiency	90%
Manufacturer/Model	MRXBOXAB-ECO2, MRXBOXAB-ECO2C
Commissioning	
9 Local generation	
N/A	
10 Heat networks	
N/A	
11 Supporting documentary evidence	
<p>Documentary evidence identified in 11.1 and 11.2 is needed to confirm the data values used for any calculations undertaken, manufacturer declarations made, and tests performed as reflected in this "As built" BREL Compliance Report are correct.</p> <p>11.1 SAP Conventions, Appendix 1 (documentary evidence) schedules the minimum documentary evidence required.</p> <p>11.2 Indicative photographic evidence of key stages during construction (guidance within Approved Document L, Volume 1 – Appendix B) that confirms the products identified in this BREL Compliance Report are used in this dwelling, and workmanship is of sufficient quality to support the calculated values claimed in 2a to 2d.</p>	
12 Declarations	
a. Assessor Declaration	
This declaration by the assessor is confirmation that the contents of this BREL Compliance Report are a true and accurate reflection based upon the design and construction information submitted for this dwelling for the purpose of carrying out the assessment, and that the supporting documentary evidence (identified in 11.1 and 11.2) pursuant to Part L of the Building Regulations 2010 (as amended) has been reviewed in the course of preparing this BREL Compliance Report.	
Signed: [Redacted]	Assessor ID: [Redacted]
Name: [Redacted]	Date: 27/08/2025
b. Client Declaration	
This declaration by the client is confirmation that the dwelling has been constructed and completed according to the specifications set out in this BREL Compliance Report, and that photographic evidence of key stages, as described in 11.2, has been provided to the Assessor for this dwelling.	
Signed: [Redacted]	Organisation: J Geomised Builders LTD
Name: [Redacted]	Date: 27 8.25

Building Regulations England Part L (BREL) Compliance Report

Approved Document L1 2021 Edition, England assessed by Array SAP 10 program, Array

Date: Tue 26 Aug 2025 15:47:22

Project Information

Assessed By	Daniel Smith	Building Type	Flat, End-terrace
OCDEA Registration	EES/030198	Assessment Date	2025-08-26

Dwelling Details

Assessment Type	As built	Total Floor Area	50 m ²
Site Reference	Plot 12	Plot Reference	Plot 12
Address	Flat 12, Makers Court, 2 Francis Road, MANCHESTER, M20 4DD		

Client Details

Name	Steve Brown
Company	J Greenwood (Builders) Limited
Address	Unit B9 Greengate Industrial Estate, 2 Francis Road, Chadderton, M24 1SW

This report covers items included within the SAP calculations. It is not a complete report of regulations compliance.

1a Target emission rate and dwelling emission rate

Fuel for main heating system	Electricity
Target carbon dioxide emission rate	15.76 kgCO ₂ /m ²
Dwelling carbon dioxide emission rate	5.61 kgCO ₂ /m ² OK

1b Target primary energy rate and dwelling primary energy

Target primary energy	83.65 kWh _{PE} /m ²
Dwelling primary energy	58.49 kWh _{PE} /m ² OK

1c Target fabric energy efficiency and dwelling fabric energy efficiency

Target fabric energy efficiency	40.2 kWh/m ²
Dwelling fabric energy efficiency	35.7 kWh/m ² OK

2a Fabric U-values

Element	Maximum permitted average U-Value [W/m ² K]	Dwelling average U-Value [W/m ² K]	Element with highest individual U-Value	
External walls	0.26	0.18	Walls (1) (0.18)	OK
Party walls	0.2	0	Party Wall (1) (0)	N/A
Curtain walls	1.6	0	N/A	N/A
Floors	0.18	0.11	Heatloss Floor 1 (0.11)	OK
Roofs	0.16	0.12	Roof (1) (0.12)	OK
Windows, doors, and roof windows	1.6	0.8	WT2 (0.8)	OK
Rooflights	2.2	N/A	N/A	N/A

2b Envelope elements (better than typically expected values are flagged with a subsequent (!))

Name	Net area [m ²]	U-Value [W/m ² K]
Exposed wall: Walls (1)	27.1102	0.18
Party wall: Party Wall (1)	14.36	0 (!)
Party wall: Party Wall (2)	19.46	0 (!)
Upper floor: Heatloss Floor 1, Heatloss Floor 1	50	0.11
Exposed roof: Roof (1)	50	0.12

2c Openings (better than typically expected values are flagged with a subsequent (!))

Name	Area [m ²]	Orientation	Frame factor	U-Value [W/m ² K]
WT2, Window	3.3549	South East	1.0	0.8 (!)
WT2, Window	3.3549	South East	1.0	0.8 (!)

2d Thermal bridging (better than typically expected values are flagged with a subsequent (!))

Building part 1: Thermal bridging calculated from linear thermal transmittances for each junction				
Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E2: Other lintels (including other steel lintels)	Calculated by person with suitable expertise	0.098	Frametech
External wall	E3: Sill	Calculated by person with suitable expertise	0.04	Frametech

Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E4: Jamb	Calculated by person with suitable expertise	0.053	Frametech
External wall	E18: Party wall between dwellings	Calculated by person with suitable expertise	0.05	Frametech
Party wall	P4: Roof (insulation at ceiling level)	Calculated by person with suitable expertise	0.143	Frametech
External wall	E20: Exposed floor (normal)	SAP table default	0.32	
External wall	E14: Flat roof	SAP table default	0.16	
External wall	E16: Corner (normal)	Calculated by person with suitable expertise	0.055	Frametech
Party wall	P8: Exposed floor (inverted)	Calculated by person with suitable expertise	0 (!)	
External wall	E24: Eaves (insulation at ceiling level - inverted)	SAP table default	0.15	

3 Air permeability (better than typically expected values are flagged with a subsequent (!))

Maximum permitted air permeability at 50Pa	8 m ³ /hm ²
Dwelling air permeability at 50Pa	3.11 m ³ /hm ² , Measured value (!)
Air permeability test certificate reference	OK

4 Space heating

Main heating system 1: Room heaters - Electricity

Efficiency	100.0%
Emitter type	
Flow temperature	
System type	Panel, convector or radiant heaters
Manufacturer	
Model	
Commissioning	

Main heating system 2: Heat pump with radiators or underfloor heating - Electricity

Efficiency	0.0%
Emitter type	
Flow temperature	
System type	
Manufacturer	GDC Group Ltd
Model	EDL200UK-630
Commissioning	

Secondary heating system: N/A

Fuel	N/A
Efficiency	N/A
Commissioning	

5 Hot water

Cylinder/store - type: N/A

Capacity	N/A
Declared heat loss	N/A
Primary pipework insulated	N/A
Manufacturer	
Model	
Commissioning	

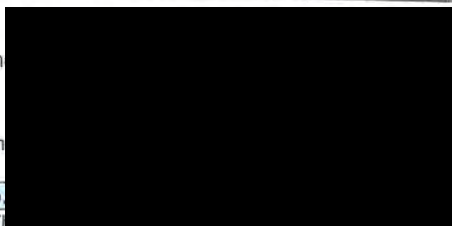
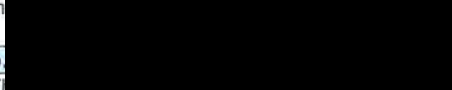
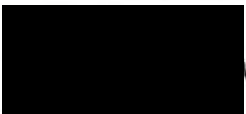
Waste water heat recovery system 1 - type: N/A

Efficiency	
Manufacturer	
Model	

6 Controls

Main heating 1 - type: Programmer and appliance thermostats

Function	
Ecodesign class	
Manufacturer	
Model	

Main heating 2 - type: Not applicable	
Function	
Ecodesign class	
Manufacturer	
Model	
Water heating - type: N/A	
Manufacturer	
Model	
7 Lighting	
Minimum permitted light source efficacy	75 lm/W
Lowest light source efficacy	126.45 lm/W
External lights control	N/A
OK	
8 Mechanical ventilation	
System type: Balanced whole-house mechanical ventilation with heat recovery	
Maximum permitted specific fan power	1.5 W/(l/s)
Specific fan power	0.6 W/(l/s)
Minimum permitted heat recovery efficiency	73%
Heat recovery efficiency	90%
Manufacturer/Model	MRXBOXAB-ECO2, MRXBOXAB-ECO2C
Commissioning	
OK	
9 Local generation	
N/A	
10 Heat networks	
N/A	
11 Supporting documentary evidence	
<p>Documentary evidence identified in 11.1 and 11.2 is needed to confirm the data values used for any calculations undertaken, manufacturer declarations made, and tests performed as reflected in this "As built" BREL Compliance Report are correct.</p> <p>11.1 SAP Conventions, Appendix 1 (documentary evidence) schedules the minimum documentary evidence required.</p> <p>11.2 Indicative photographic evidence of key stages during construction (guidance within Approved Document L, Volume 1 – Appendix B) that confirms the products identified in this BREL Compliance Report are used in this dwelling, and workmanship is of sufficient quality to support the calculated values claimed in 2a to 2d.</p>	
12 Declarations	
a. Assessor Declaration	
<p>This declaration by the assessor is confirmation that the contents of this BREL Compliance Report are a true and accurate reflection based upon the design and construction information submitted for this dwelling for the purpose of carrying out the assessment, and that the supporting documentary evidence (identified in 11.1 and 11.2) pursuant to Part L of the Building Regulations 2010 (as amended) has been reviewed in the course of preparing this BREL Compliance Report.</p>	
Sign:  Name: 	Assessor ID:  Date: 27/08/2025
b. Client Declaration	
<p>This declaration by the client is confirmation that the dwelling has been constructed and completed according to the specifications set out in this BREL Compliance Report, and that photographic evidence of key stages, as described in 11.2, has been provided to the Assessor for this dwelling.</p>	
Signed:  Name:	Organisation: JG Oraxwood Builders Date: 27.8.25

Building Regulations England Part L (BREL) Compliance Report

Approved Document L1 2021 Edition, England assessed by Array SAP 10 program, Array

Date: Tue 26 Aug 2025 15:47:22

Project Information			
Assessed By	Daniel Smith	Building Type	Flat, Mid-terrace
OCDEA Registration	EES/030198	Assessment Date	2025-08-26

Dwelling Details			
Assessment Type	As built	Total Floor Area	51 m ²
Site Reference	Plot 13	Plot Reference	Plot 13
Address	Flat 13, Makers Court, 2 Francis Road, MANCHESTER, M20 4DD		

Client Details	
Name	Steve Brown
Company	J Greenwood (Builders) Limited
Address	Unit B9 Greengate Industrial Estate, 2 Francis Road, Chadderton, M24 1SW

This report covers items included within the SAP calculations. It is not a complete report of regulations compliance.

1a Target emission rate and dwelling emission rate			
Fuel for main heating system	Electricity		
Target carbon dioxide emission rate	11.19 kgCO ₂ /m ²		
Dwelling carbon dioxide emission rate	2.91 kgCO ₂ /m ²		OK
1b Target primary energy rate and dwelling primary energy			
Target primary energy	59.12 kWh _{PE} /m ²		
Dwelling primary energy	31.07 kWh _{PE} /m ²		OK
1c Target fabric energy efficiency and dwelling fabric energy efficiency			
Target fabric energy efficiency	19.6 kWh/m ²		
Dwelling fabric energy efficiency	14.9 kWh/m ²		OK

2a Fabric U-values				
Element	Maximum permitted average U-Value [W/m ² K]	Dwelling average U-Value [W/m ² K]	Element with highest individual U-Value	
External walls	0.26	0.19	Walls (1) (0.19)	OK
Party walls	0.2	0	Party Wall (1) (0)	N/A
Curtain walls	1.6	0	N/A	N/A
Floors	0.18	0.14	Heatloss Floor 1 (0.14)	OK
Roofs	0.16	N/A	N/A	N/A
Windows, doors, and roof windows	1.6	0.8	WT2 (0.8)	OK
Rooflights	2.2	N/A	N/A	N/A

2b Envelope elements (better than typically expected values are flagged with a subsequent (!))		
Name	Net area [m ²]	U-Value [W/m ² K]
Exposed wall: Walls (1)	8.3616	0.19
Party wall: Party Wall (1)	14.36	0 (!)
Party wall: Party Wall (2)	39.44	0 (!)
Upper floor: Heatloss Floor 1, Heatloss Floor 1	27.02	0.14

2c Openings (better than typically expected values are flagged with a subsequent (!))				
Name	Area [m ²]	Orientation	Frame factor	U-Value [W/m ² K]
WT2, Window	3.3549	South East	1.0	0.8 (!)
WT1, Window	2.6235	South East	1.0	0.8 (!)

2d Thermal bridging (better than typically expected values are flagged with a subsequent (!))				
Building part 1: Thermal bridging calculated from linear thermal transmittances for each junction				
Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E2: Other lintels (including other steel lintels)	Calculated by person with suitable expertise	0.034 (!)	Plasmor
External wall	E3: Sill	Calculated by person with suitable expertise	0.026 (!)	Plasmor
External wall	E4: Jamb	Calculated by person with suitable expertise	0.03 (!)	Plasmor

Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E18: Party wall between dwellings	Calculated by person with suitable expertise	0.029 (!)	Plasmor
Party wall	P3: Intermediate floor between dwellings (in blocks of flats)	SAP table default	0 (!)	
External wall	E20: Exposed floor (normal)	Calculated by person with suitable expertise	0.169	Plasmor
External wall	E7: Party floor between dwellings (in blocks of flats)	Calculated by person with suitable expertise	-0.018 (!)	Plasmor
Party wall	P8: Exposed floor (inverted)	Calculated by person with suitable expertise	0.24	Default
External wall	E21: Exposed floor (inverted)	Calculated by person with suitable expertise	0.075	Plasmor

3 Air permeability (better than typically expected values are flagged with a subsequent (!))

Maximum permitted air permeability at 50Pa	8 m ³ /hm ²	
Dwelling air permeability at 50Pa	3.94 m ³ /hm ² , Measured value (!)	OK
Air permeability test certificate reference		

4 Space heating

Main heating system 1: Room heaters - Electricity

Efficiency	100.0%
Emitter type	
Flow temperature	
System type	Panel, convector or radiant heaters
Manufacturer	
Model	
Commissioning	

Main heating system 2: Heat pump with radiators or underfloor heating - Electricity

Efficiency	0.0%
Emitter type	
Flow temperature	
System type	
Manufacturer	GDC Group Ltd
Model	EDL200UK-630
Commissioning	

Secondary heating system: N/A

Fuel	N/A
Efficiency	N/A
Commissioning	

5 Hot water

Cylinder/store - type: N/A

Capacity	N/A
Declared heat loss	N/A
Primary pipework insulated	N/A
Manufacturer	
Model	
Commissioning	

Waste water heat recovery system 1 - type: N/A

Efficiency	
Manufacturer	
Model	

6 Controls

Main heating 1 - type: Programmer and appliance thermostats

Function	
Ecodesign class	
Manufacturer	
Model	

Main heating 2 - type: Not applicable

Function	
Ecodesign class	
Manufacturer	
Model	

Water heating - type: N/A	
Manufacturer	
Model	

7 Lighting

Minimum permitted light source efficacy	75 lm/W	
Lowest light source efficacy	125.4 lm/W	OK
External lights control	N/A	

8 Mechanical ventilation

System type: Balanced whole-house mechanical ventilation with heat recovery

Maximum permitted specific fan power	1.5 W/(l/s)	
Specific fan power	0.6 W/(l/s)	OK
Minimum permitted heat recovery efficiency	73%	
Heat recovery efficiency	90%	OK
Manufacturer/Model	MRXBOXAB-ECO2, MRXBOXAB-ECO2C	
Commissioning		

9 Local generation

N/A

10 Heat networks

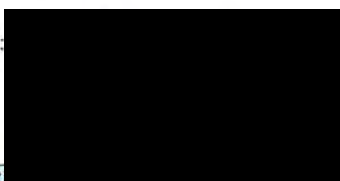
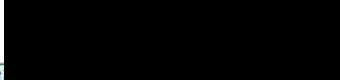
N/A

11 Supporting documentary evidence

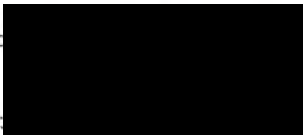
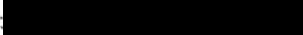
<p>Documentary evidence identified in 11.1 and 11.2 is needed to confirm the data values used for any calculations undertaken, manufacturer declarations made, and tests performed as reflected in this "As built" BREL Compliance Report are correct.</p> <p>11.1 SAP Conventions, Appendix 1 (documentary evidence) schedules the minimum documentary evidence required.</p> <p>11.2 Indicative photographic evidence of key stages during construction (guidance within Approved Document L, Volume 1 – Appendix B) that confirms the products identified in this BREL Compliance Report are used in this dwelling, and workmanship is of sufficient quality to support the calculated values claimed in 2a to 2d.</p>	
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12 Declarations

a. Assessor Declaration

This declaration by the assessor is confirmation that the contents of this BREL Compliance Report are a true and accurate reflection based upon the design and construction information submitted for this dwelling for the purpose of carrying out the assessment, and that the supporting documentary evidence (identified in 11.1 and 11.2) pursuant to Part L of the Building Regulations 2010 (as amended) has been reviewed in the course of preparing this BREL Compliance Report.	
Signed: 	Assessor ID: 
Name: 	Date: 27/08/2025

b. Client Declaration

This declaration by the client is confirmation that the dwelling has been constructed and completed according to the specifications set out in this BREL Compliance Report, and that photographic evidence of key stages, as described in 11.2, has been provided to the Assessor for this dwelling.	
Signed: 	Organisation: J Greenwood Builders LTD
Name: 	Date: 27.8.25

Building Regulations England Part L (BREL) Compliance Report

Approved Document L1 2021 Edition, England assessed by Array SAP 10 program, Array

Date: Tue 26 Aug 2025 15:47:22

Project Information			
Assessed By	Daniel Smith	Building Type	Flat, Mid-terrace
OCDEA Registration	EES/030198	Assessment Date	2025-08-26

Dwelling Details			
Assessment Type	As built	Total Floor Area	50 m ²
Site Reference	Plot 14	Plot Reference	Plot 14
Address	Flat 14, Makers Court, 2 Francis Road, MANCHESTER, M20 4DD		

Client Details	
Name	Steve Brown
Company	J Greenwood (Builders) Limited
Address	Unit B9 Greengate Industrial Estate, 2 Francis Road, Chadderton, M24 1SW

This report covers items included within the SAP calculations. It is not a complete report of regulations compliance.

1a Target emission rate and dwelling emission rate		
Fuel for main heating system	Electricity	
Target carbon dioxide emission rate	9.62 kgCO ₂ /m ²	OK
Dwelling carbon dioxide emission rate	2.56 kgCO ₂ /m ²	
1b Target primary energy rate and dwelling primary energy		
Target primary energy	50.65 kWh _{PE} /m ²	OK
Dwelling primary energy	27.53 kWh _{PE} /m ²	
1c Target fabric energy efficiency and dwelling fabric energy efficiency		
Target fabric energy efficiency	10.6 kWh/m ²	OK
Dwelling fabric energy efficiency	7.7 kWh/m ²	

2a Fabric U-values				
Element	Maximum permitted average U-Value [W/m ² K]	Dwelling average U-Value [W/m ² K]	Element with highest individual U-Value	
External walls	0.26	0.19	Walls (1) (0.19)	OK
Party walls	0.2	0	Party Wall (1) (0)	N/A
Curtain walls	1.6	0	N/A	N/A
Floors	0.18	N/A	N/A	N/A
Roofs	0.16	N/A	N/A	N/A
Windows, doors, and roof windows	1.6	0.8	WT2 (0.8)	OK
Rooflights	2.2	N/A	N/A	N/A

2b Envelope elements (better than typically expected values are flagged with a subsequent (!))		
Name	Net area [m ²]	U-Value [W/m ² K]
Exposed wall: Walls (1)	8.1716	0.19
Party wall: Party Wall (1)	33.89	0 (!)
Party wall: Party Wall (2)	19.72	0 (!)

2c Openings (better than typically expected values are flagged with a subsequent (!))				
Name	Area [m ²]	Orientation	Frame factor	U-Value [W/m ² K]
WT2, Window	3.3549	South East	1.0	0.8 (!)
WT1, Window	2.6235	South East	1.0	0.8 (!)

2d Thermal bridging (better than typically expected values are flagged with a subsequent (!))				
Building part 1: Thermal bridging calculated from linear thermal transmittances for each junction				
Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E2: Other lintels (including other steel lintels)	Calculated by person with suitable expertise	0.034 (!)	Plasmor
External wall	E3: Sill	Calculated by person with suitable expertise	0.026 (!)	Plasmor
External wall	E4: Jamb	Calculated by person with suitable expertise	0.03 (!)	Plasmor

Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E18: Party wall between dwellings	Calculated by person with suitable expertise	0.029 (!)	Plasmor
Party wall	P3: Intermediate floor between dwellings (in blocks of flats)	SAP table default	0 (!)	
External wall	E7: Party floor between dwellings (in blocks of flats)	Calculated by person with suitable expertise	-0.018 (!)	Plasmor

3 Air permeability (better than typically expected values are flagged with a subsequent (!))

Maximum permitted air permeability at 50Pa	8 m ³ /hm ²	
Dwelling air permeability at 50Pa	3.84 m ³ /hm ² , Measured value (!)	OK
Air permeability test certificate reference		

4 Space heating

Main heating system 1: Room heaters - Electricity

Efficiency	100.0%
Emitter type	
Flow temperature	
System type	Panel, convector or radiant heaters
Manufacturer	
Model	
Commissioning	

Main heating system 2: Heat pump with radiators or underfloor heating - Electricity

Efficiency	0.0%
Emitter type	
Flow temperature	
System type	
Manufacturer	GDC Group Ltd
Model	EDL200UK-630
Commissioning	

Secondary heating system: N/A

Fuel	N/A
Efficiency	N/A
Commissioning	

5 Hot water

Cylinder/store - type: N/A

Capacity	N/A
Declared heat loss	N/A
Primary pipework insulated	N/A
Manufacturer	
Model	
Commissioning	

Waste water heat recovery system 1 - type: N/A

Efficiency	
Manufacturer	
Model	

6 Controls

Main heating 1 - type: Programmer and appliance thermostats

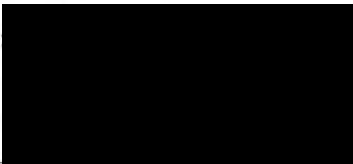
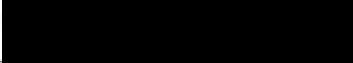
Function	
Ecodesign class	
Manufacturer	
Model	

Main heating 2 - type: Not applicable

Function	
Ecodesign class	
Manufacturer	
Model	

Water heating - type: N/A

Manufacturer	
Model	

7 Lighting		
Minimum permitted light source efficacy	75 lm/W	
Lowest light source efficacy	125.4 lm/W	OK
External lights control	N/A	
8 Mechanical ventilation		
System type: Balanced whole-house mechanical ventilation with heat recovery		
Maximum permitted specific fan power	1.5 W/(l/s)	
Specific fan power	0.6 W/(l/s)	OK
Minimum permitted heat recovery efficiency	73%	
Heat recovery efficiency	90%	OK
Manufacturer/Model	MRXBOXAB-ECO2, MRXBOXAB-ECO2C	
Commissioning		
9 Local generation		
N/A		
10 Heat networks		
N/A		
11 Supporting documentary evidence		
<p>Documentary evidence identified in 11.1 and 11.2 is needed to confirm the data values used for any calculations undertaken, manufacturer declarations made, and tests performed as reflected in this "As built" BREL Compliance Report are correct.</p> <p>11.1 SAP Conventions, Appendix 1 (documentary evidence) schedules the minimum documentary evidence required.</p> <p>11.2 Indicative photographic evidence of key stages during construction (guidance within Approved Document L, Volume 1 – Appendix B) that confirms the products identified in this BREL Compliance Report are used in this dwelling, and workmanship is of sufficient quality to support the calculated values claimed in 2a to 2d.</p>		
12 Declarations		
a. Assessor Declaration		
This declaration by the assessor is confirmation that the contents of this BREL Compliance Report are a true and accurate reflection based upon the design and construction information submitted for this dwelling for the purpose of carrying out the assessment, and that the supporting documentary evidence (identified in 11.1 and 11.2) pursuant to Part L of the Building Regulations 2010 (as amended) has been reviewed in the course of preparing this BREL Compliance Report.		
Signed: 	Assessor ID: 	
Name: 	Date: 27/08/2025	
b. Client Declaration		
This declaration by the client is confirmation that the dwelling has been constructed and completed according to the specifications set out in this BREL Compliance Report, and that photographic evidence of key stages, as described in 11.2, has been provided to the Assessor for this dwelling.		
Signed: 	Organisation: J Greenwood Builders LTD	
Name: 	Date: 27-8-25	

Building Regulations England Part L (BREL) Compliance Report

Approved Document L1 2021 Edition, England assessed by Array SAP 10 program, Array

Date: Tue 26 Aug 2025 15:47:23

Project Information			
Assessed By	Daniel Smith	Building Type	Flat, Mid-terrace
OCDEA Registration	EES/030198	Assessment Date	2025-08-26

Dwelling Details			
Assessment Type	As built	Total Floor Area	50 m ²
Site Reference	Plot 15	Plot Reference	Plot 15
Address	Flat 15, Makers Court, 2 Francis Road, MANCHESTER, M20 4DD		

Client Details	
Name	Steve Brown
Company	J Greenwood (Builders) Limited
Address	Unit B9 Greengate Industrial Estate, 2 Francis Road, Chadderton, M24 1SW

This report covers items included within the SAP calculations. It is not a complete report of regulations compliance.

1a Target emission rate and dwelling emission rate		
Fuel for main heating system	Electricity	
Target carbon dioxide emission rate	9.6 kgCO ₂ /m ²	
Dwelling carbon dioxide emission rate	2.56 kgCO ₂ /m ²	OK
1b Target primary energy rate and dwelling primary energy		
Target primary energy	50.53 kWh _{PE} /m ²	
Dwelling primary energy	27.53 kWh _{PE} /m ²	OK
1c Target fabric energy efficiency and dwelling fabric energy efficiency		
Target fabric energy efficiency	10.4 kWh/m ²	
Dwelling fabric energy efficiency	7.7 kWh/m ²	OK

2a Fabric U-values				
Element	Maximum permitted average U-Value [W/m ² K]	Dwelling average U-Value [W/m ² K]	Element with highest individual U-Value	
External walls	0.26	0.19	Walls (1) (0.19)	OK
Party walls	0.2	0	Party Wall (1) (0)	N/A
Curtain walls	1.6	0	N/A	N/A
Floors	0.18	N/A	N/A	N/A
Roofs	0.16	N/A	N/A	N/A
Windows, doors, and roof windows	1.6	0.8	WT2 (0.8)	OK
Rooflights	2.2	N/A	N/A	N/A

2b Envelope elements (better than typically expected values are flagged with a subsequent (!))			
Name	Net area [m ²]	U-Value [W/m ² K]	
Exposed wall: Walls (1)	7.6016	0.19	
Party wall: Party Wall (1)	34.18	0 (!)	
Party wall: Party Wall (2)	20.62	0 (!)	

2c Openings (better than typically expected values are flagged with a subsequent (!))				
Name	Area [m ²]	Orientation	Frame factor	U-Value [W/m ² K]
WT2, Window	3.3549	South East	1.0	0.8 (!)
WT1, Window	2.6235	South East	1.0	0.8 (!)

2d Thermal bridging (better than typically expected values are flagged with a subsequent (!))				
Building part 1: Thermal bridging calculated from linear thermal transmittances for each junction				
Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E2: Other lintels (including other steel lintels)	Calculated by person with suitable expertise	0.034 (!)	Plasmor
External wall	E3: Sill	Calculated by person with suitable expertise	0.026 (!)	Plasmor
External wall	E4: Jamb	Calculated by person with suitable expertise	0.03 (!)	Plasmor

Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E18: Party wall between dwellings	Calculated by person with suitable expertise	0.029 (!)	Plasmor
Party wall	P3: Intermediate floor between dwellings (in blocks of flats)	SAP table default	0 (!)	
External wall	E7: Party floor between dwellings (in blocks of flats)	Calculated by person with suitable expertise	-0.018 (!)	Plasmor
External wall	C25: Staggered party wall between dwellings	Calculated by person with suitable expertise	0.09	Plasmor

3 Air permeability (better than typically expected values are flagged with a subsequent (!))

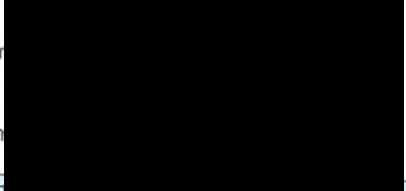
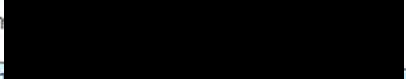
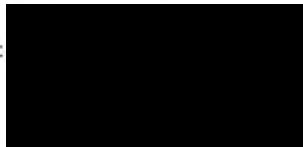
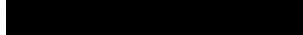
Maximum permitted air permeability at 50Pa	8 m ³ /hm ²	
Dwelling air permeability at 50Pa	3.83 m ³ /hm ² , Measured value (!)	OK
Air permeability test certificate reference		

4 Space heating

Main heating system 1: Room heaters - Electricity		
Efficiency	100.0%	
Emitter type		
Flow temperature		
System type	Panel, convector or radiant heaters	
Manufacturer		
Model		
Commissioning		
Main heating system 2: Heat pump with radiators or underfloor heating - Electricity		
Efficiency	0.0%	
Emitter type		
Flow temperature		
System type	Heat Pump	
Manufacturer	GDC Group Ltd	
Model	EDL200UK-630	
Commissioning		
Secondary heating system: N/A		
Fuel	N/A	
Efficiency	N/A	
Commissioning		

5 Hot water		
Cylinder/store - type: N/A		
Capacity	N/A	
Declared heat loss	N/A	
Primary pipework insulated	N/A	
Manufacturer		
Model		
Commissioning		
Waste water heat recovery system 1 - type: N/A		
Efficiency		
Manufacturer		
Model		

6 Controls		
Main heating 1 - type: Programmer and appliance thermostats		
Function		
Ecodesign class		
Manufacturer		
Model		
Main heating 2 - type: Not applicable		
Function		
Ecodesign class		
Manufacturer		
Model		
Water heating - type: N/A		
Manufacturer		
Model		

7 Lighting		
Minimum permitted light source efficacy	75 lm/W	
Lowest light source efficacy	125.4 lm/W	OK
External lights control	N/A	
8 Mechanical ventilation		
System type: Balanced whole-house mechanical ventilation with heat recovery		
Maximum permitted specific fan power	1.5 W/(l/s)	
Specific fan power	0.6 W/(l/s)	OK
Minimum permitted heat recovery efficiency	73%	
Heat recovery efficiency	90%	OK
Manufacturer/Model	MRXBOXAB-ECO2, MRXBOXAB-ECO2C	
Commissioning		
9 Local generation		
N/A		
10 Heat networks		
N/A		
11 Supporting documentary evidence		
<p>Documentary evidence identified in 11.1 and 11.2 is needed to confirm the data values used for any calculations undertaken, manufacturer declarations made, and tests performed as reflected in this "As built" BREL Compliance Report are correct.</p> <p>11.1 SAP Conventions, Appendix 1 (documentary evidence) schedules the minimum documentary evidence required.</p> <p>11.2 Indicative photographic evidence of key stages during construction (guidance within Approved Document L, Volume 1 – Appendix B) that confirms the products identified in this BREL Compliance Report are used in this dwelling, and workmanship is of sufficient quality to support the calculated values claimed in 2a to 2d.</p>		
12 Declarations		
a. Assessor Declaration		
<p>This declaration by the assessor is confirmation that the contents of this BREL Compliance Report are a true and accurate reflection based upon the design and construction information submitted for this dwelling for the purpose of carrying out the assessment, and that the supporting documentary evidence (identified in 11.1 and 11.2) pursuant to Part L of the Building Regulations 2010 (as amended) has been reviewed in the course of preparing this BREL Compliance Report.</p>		
<p>Signed: </p> <p>Name: </p>	<p>Assessor ID: </p> <p>Date: 27/08/2025</p>	
b. Client Declaration		
<p>This declaration by the client is confirmation that the dwelling has been constructed and completed according to the specifications set out in this BREL Compliance Report, and that photographic evidence of key stages, as described in 11.2, has been provided to the Assessor for this dwelling.</p>		
<p>Signed: </p> <p>Name: </p>	<p>Organisation: Greenwood Builders Ltd</p> <p>Date: 27.8.25</p>	

Building Regulations England Part L (BREL) Compliance Report

Approved Document L1 2021 Edition, England assessed by Array SAP 10 program, Array

Date: Tue 26 Aug 2025 15:47:23

Project Information			
Assessed By	Daniel Smith	Building Type	Flat, End-terrace
OCDEA Registration	EES/030198	Assessment Date	2025-08-26

Dwelling Details			
Assessment Type	As built	Total Floor Area	62 m ²
Site Reference	Plot 16	Plot Reference	Plot 16
Address	Flat 16, Makers Court, 2 Francis Road, MANCHESTER, M20 4DD		

Client Details	
Name	Steve Brown
Company	J Greenwood (Builders) Limited
Address	Unit B9 Greengate Industrial Estate, 2 Francis Road, Chadderton, M24 1SW

This report covers items included within the SAP calculations. It is not a complete report of regulations compliance.

1a Target emission rate and dwelling emission rate			
Fuel for main heating system	Electricity		
Target carbon dioxide emission rate	9.2 kgCO ₂ /m ²		
Dwelling carbon dioxide emission rate	2.49 kgCO ₂ /m ²		OK
1b Target primary energy rate and dwelling primary energy			
Target primary energy	48.18 kWh _{PE} /m ²		
Dwelling primary energy	26.66 kWh _{PE} /m ²		OK
1c Target fabric energy efficiency and dwelling fabric energy efficiency			
Target fabric energy efficiency	15.4 kWh/m ²		
Dwelling fabric energy efficiency	11.2 kWh/m ²		OK

2a Fabric U-values				
Element	Maximum permitted average U-Value [W/m ² K]	Dwelling average U-Value [W/m ² K]	Element with highest individual U-Value	
External walls	0.26	0.19	Walls (1) (0.19)	OK
Party walls	0.2	0	Party Wall (1) (0)	N/A
Curtain walls	1.6	0	N/A	N/A
Floors	0.18	N/A	N/A	N/A
Roofs	0.16	N/A	N/A	N/A
Windows, doors, and roof windows	1.6	0.8	WT2 (0.8)	OK
Rooflights	2.2	N/A	N/A	N/A

2b Envelope elements (better than typically expected values are flagged with a subsequent (!))		
Name	Net area [m ²]	U-Value [W/m ² K]
Exposed wall: Walls (1)	28.0881	0.19
Party wall: Party Wall (1)	22.97	0 (!)
Party wall: Party Wall (2)	18.32	0 (!)

2c Openings (better than typically expected values are flagged with a subsequent (!))				
Name	Area [m ²]	Orientation	Frame factor	U-Value [W/m ² K]
WT2, Window	3.3549	South East	1.0	0.8 (!)
WT1, Window	2.6235	South East	1.0	0.8 (!)
WT1, Window	2.6235	South East	1.0	0.8 (!)

2d Thermal bridging (better than typically expected values are flagged with a subsequent (!))				
Building part 1: Thermal bridging calculated from linear thermal transmittances for each junction				
Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E2: Other lintels (including other steel lintels)	Calculated by person with suitable expertise	0.034 (!)	Plasmor
External wall	E3: Sill	Calculated by person with suitable expertise	0.026 (!)	Plasmor
External wall	E4: Jamb	Calculated by person with suitable expertise	0.03 (!)	Plasmor

Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E18: Party wall between dwellings	Calculated by person with suitable expertise	0.029 (!)	Plasmor
Party wall	P3: Intermediate floor between dwellings (in blocks of flats)	SAP table default	0 (!)	
External wall	E7: Party floor between dwellings (in blocks of flats)	Calculated by person with suitable expertise	-0.018 (!)	Plasmor
External wall	E16: Corner (normal)	Calculated by person with suitable expertise	0.049	Plasmor

3 Air permeability (better than typically expected values are flagged with a subsequent (!))

Maximum permitted air permeability at 50Pa	8 m ³ /hm ²	
Dwelling air permeability at 50Pa	3.78 m ³ /hm ² , Measured value (!)	OK
Air permeability test certificate reference		

4 Space heating

Main heating system 1: Room heaters - Electricity

Efficiency	100.0%
Emitter type	
Flow temperature	
System type	Panel, convector or radiant heaters
Manufacturer	
Model	
Commissioning	

Main heating system 2: Heat pump with radiators or underfloor heating - Electricity

Efficiency	0.0%
Emitter type	
Flow temperature	
System type	
Manufacturer	GDC Group Ltd
Model	EDL200UK-630
Commissioning	

Secondary heating system: N/A

Fuel	N/A
Efficiency	N/A
Commissioning	

5 Hot water

Cylinder/store - type: N/A

Capacity	N/A
Declared heat loss	N/A
Primary pipework insulated	N/A
Manufacturer	
Model	
Commissioning	

Waste water heat recovery system 1 - type: N/A

Efficiency	
Manufacturer	
Model	

6 Controls

Main heating 1 - type: Programmer and appliance thermostats

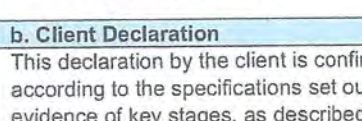
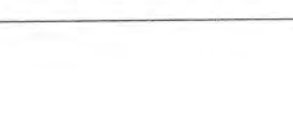
Function	
Ecodesign class	
Manufacturer	
Model	

Main heating 2 - type: Not applicable

Function	
Ecodesign class	
Manufacturer	
Model	

Water heating - type: N/A

Manufacturer	
Model	

7 Lighting	
Minimum permitted light source efficacy	75 lm/W
Lowest light source efficacy	127.33 lm/W OK
External lights control	N/A
8 Mechanical ventilation	
System type: Balanced whole-house mechanical ventilation with heat recovery	
Maximum permitted specific fan power	1.5 W/(l/s)
Specific fan power	0.6 W/(l/s) OK
Minimum permitted heat recovery efficiency	73%
Heat recovery efficiency	90% OK
Manufacturer/Model	MRXBOXAB-ECO2, MRXBOXAB-ECO2C
Commissioning	
9 Local generation	
N/A	
10 Heat networks	
N/A	
11 Supporting documentary evidence	
<p>Documentary evidence identified in 11.1 and 11.2 is needed to confirm the data values used for any calculations undertaken, manufacturer declarations made, and tests performed as reflected in this "As built" BREL Compliance Report are correct.</p> <p>11.1 SAP Conventions, Appendix 1 (documentary evidence) schedules the minimum documentary evidence required.</p> <p>11.2 Indicative photographic evidence of key stages during construction (guidance within Approved Document L, Volume 1 – Appendix B) that confirms the products identified in this BREL Compliance Report are used in this dwelling, and workmanship is of sufficient quality to support the calculated values claimed in 2a to 2d.</p>	
12 Declarations	
a. Assessor Declaration	
This declaration by the assessor is confirmation that the contents of this BREL Compliance Report are a true and accurate reflection based upon the design and construction information submitted for this dwelling for the purpose of carrying out the assessment, and that the supporting documentary evidence (identified in 11.1 and 11.2) pursuant to Part L of the Building Regulations 2010 (as amended) has been reviewed in the course of preparing this BREL Compliance Report.	
Signature:  Name: 	Assessor ID:  Date: 27/08/2025
b. Client Declaration	
This declaration by the client is confirmation that the dwelling has been constructed and completed according to the specifications set out in this BREL Compliance Report, and that photographic evidence of key stages, as described in 11.2, has been provided to the Assessor for this dwelling.	
Signed:  Name: 	Organisation: J Greenwood Builders LTD Date: 28.8.25

Building Regulations England Part L (BREL) Compliance Report

Approved Document L1 2021 Edition, England assessed by Array SAP 10 program, Array

Date: Tue 26 Aug 2025 15:47:23

Project Information			
Assessed By	Daniel Smith	Building Type	Flat, End-terrace
OCDEA Registration	EES/030198	Assessment Date	2025-08-26

Dwelling Details			
Assessment Type	As built	Total Floor Area	50 m ²
Site Reference	Plot 17	Plot Reference	Plot 17
Address	Flat 17, Makers Court, 2 Francis Road, MANCHESTER, M20 4DD		

Client Details	
Name	Steve Brown
Company	J Greenwood (Builders) Limited
Address	Unit B9 Greengate Industrial Estate, 2 Francis Road, Chadderton, M24 1SW

This report covers items included within the SAP calculations. It is not a complete report of regulations compliance.

1a Target emission rate and dwelling emission rate		
Fuel for main heating system	Electricity	
Target carbon dioxide emission rate	12.81 kgCO ₂ /m ²	
Dwelling carbon dioxide emission rate	4.06 kgCO ₂ /m ²	OK

1b Target primary energy rate and dwelling primary energy		
Target primary energy	67.84 kWh _{PE} /m ²	
Dwelling primary energy	42.67 kWh _{PE} /m ²	OK

1c Target fabric energy efficiency and dwelling fabric energy efficiency		
Target fabric energy efficiency	27.0 kWh/m ²	
Dwelling fabric energy efficiency	24.9 kWh/m ²	OK

2a Fabric U-values				
Element	Maximum permitted average U-Value [W/m ² K]	Dwelling average U-Value [W/m ² K]	Element with highest individual U-Value	
External walls	0.26	0.19	Walls (1) (0.19)	OK
Party walls	0.2	0	Party Wall (1) (0)	N/A
Curtain walls	1.6	0	N/A	N/A
Floors	0.18	N/A	N/A	N/A
Roofs	0.16	0.12	Roof (1) (0.12)	OK
Windows, doors, and roof windows	1.6	0.8	WT1 (0.8)	OK
Rooflights	2.2	N/A	N/A	N/A

2b Envelope elements (better than typically expected values are flagged with a subsequent (!))			
Name	Net area [m ²]	U-Value [W/m ² K]	
Exposed wall: Walls (1)	27.5116	0.19	
Party wall: Party Wall (1)	16.64	0 (!)	
Party wall: Party Wall (2)	16.83	0 (!)	
Exposed roof: Roof (1)	50	0.12	

2c Openings (better than typically expected values are flagged with a subsequent (!))				
Name	Area [m ²]	Orientation	Frame factor	U-Value [W/m ² K]
WT1, Window	2.6235	North West	1.0	0.8 (!)
WT2, Window	3.3549	North West	1.0	0.8 (!)

2d Thermal bridging (better than typically expected values are flagged with a subsequent (!))				
Building part 1: Thermal bridging calculated from linear thermal transmittances for each junction				
Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E2: Other lintels (including other steel lintels)	Calculated by person with suitable expertise	0.034 (!)	Plasmor
External wall	E3: Sill	Calculated by person with suitable expertise	0.026 (!)	Plasmor
External wall	E4: Jamb	Calculated by person with suitable expertise	0.03 (!)	Plasmor

Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E18: Party wall between dwellings	Calculated by person with suitable expertise	0.029 (!)	Plasmor
External wall	E7: Party floor between dwellings (in blocks of flats)	Calculated by person with suitable expertise	-0.018 (!)	Plasmor
External wall	E16: Corner (normal)	Calculated by person with suitable expertise	0.049	Plasmor
Party wall	P3: Intermediate floor between dwellings (in blocks of flats)	SAP table default	0 (!)	
External wall	E14: Flat roof	SAP table default	0.16	
Party wall	P4: Roof (insulation at ceiling level)	Calculated by person with suitable expertise	0.128	Plasmor

3 Air permeability (better than typically expected values are flagged with a subsequent (!))

Maximum permitted air permeability at 50Pa	8 m ³ /hm ²	
Dwelling air permeability at 50Pa	4 m ³ /hm ² , Measured value	OK
Air permeability test certificate reference		

4 Space heating

Main heating system 1: Room heaters - Electricity

Efficiency	100.0%
Emitter type	
Flow temperature	
System type	Panel, convector or radiant heaters
Manufacturer	
Model	
Commissioning	

Main heating system 2: Heat pump with radiators or underfloor heating - Electricity

Efficiency	0.0%
Emitter type	
Flow temperature	
System type	
Manufacturer	GDC Group Ltd
Model	EDL200UK-630
Commissioning	

Secondary heating system: N/A

Fuel	N/A
Efficiency	N/A
Commissioning	

5 Hot water

Cylinder/store - type: N/A

Capacity	N/A
Declared heat loss	N/A
Primary pipework insulated	N/A
Manufacturer	
Model	
Commissioning	

Waste water heat recovery system 1 - type: N/A

Efficiency	
Manufacturer	
Model	

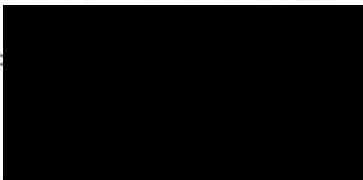
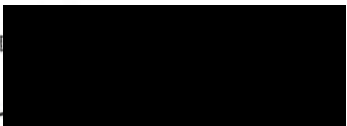
6 Controls

Main heating 1 - type: Programmer and appliance thermostats

Function	
Ecodesign class	
Manufacturer	
Model	

Main heating 2 - type: Not applicable

Function	
Ecodesign class	
Manufacturer	
Model	

Water heating - type: N/A		
Manufacturer		
Model		
7 Lighting		
Minimum permitted light source efficacy	75 lm/W	
Lowest light source efficacy	125.4 lm/W	OK
External lights control	N/A	
8 Mechanical ventilation		
System type: Balanced whole-house mechanical ventilation with heat recovery		
Maximum permitted specific fan power	1.5 W/(l/s)	
Specific fan power	0.6 W/(l/s)	OK
Minimum permitted heat recovery efficiency	73%	
Heat recovery efficiency	90%	OK
Manufacturer/Model	MRXBOXAB-ECO2, MRXBOXAB-ECO2C	
Commissioning		
9 Local generation		
N/A		
10 Heat networks		
N/A		
11 Supporting documentary evidence		
<p>Documentary evidence identified in 11.1 and 11.2 is needed to confirm the data values used for any calculations undertaken, manufacturer declarations made, and tests performed as reflected in this "As built" BREL Compliance Report are correct.</p> <p>11.1 SAP Conventions, Appendix 1 (documentary evidence) schedules the minimum documentary evidence required.</p> <p>11.2 Indicative photographic evidence of key stages during construction (guidance within Approved Document L, Volume 1 – Appendix B) that confirms the products identified in this BREL Compliance Report are used in this dwelling, and workmanship is of sufficient quality to support the calculated values claimed in 2a to 2d.</p>		
12 Declarations		
a. Assessor Declaration		
<p>This declaration by the assessor is confirmation that the contents of this BREL Compliance Report are a true and accurate reflection based upon the design and construction information submitted for this dwelling for the purpose of carrying out the assessment, and that the supporting documentary evidence (identified in 11.1 and 11.2) pursuant to Part L of the Building Regulations 2010 (as amended) has been reviewed in the course of preparing this BREL Compliance Report.</p>		
Signed:		Assessor ID: 
Name:		Date: 27/08/2025
b. Client Declaration		
<p>This declaration by the client is confirmation that the dwelling has been constructed and completed according to the specifications set out in this BREL Compliance Report, and that photographic evidence of key stages, as described in 11.2, has been provided to the Assessor for this dwelling.</p>		
Signed:		Organisation: J Greenwood Builders LTD
Name:		Date: 27-8-25

Building Regulations England Part L (BREL) Compliance Report

Approved Document L1 2021 Edition, England assessed by Array SAP 10 program, Array

Date: Tue 26 Aug 2025 15:47:23

Project Information			
Assessed By	Daniel Smith	Building Type	Flat, Mid-terrace
OCDEA Registration	EES/030198	Assessment Date	2025-08-26

Dwelling Details			
Assessment Type	As built	Total Floor Area	62 m ²
Site Reference	Plot 18	Plot Reference	Plot 18
Address	Flat 18, Makers Court, 2 Francis Road, MANCHESTER, M20 4DD		

Client Details	
Name	Steve Brown
Company	J Greenwood (Builders) Limited
Address	Unit B9 Greengate Industrial Estate, 2 Francis Road, Chadderton, M24 1SW

This report covers items included within the SAP calculations. It is not a complete report of regulations compliance.

1a Target emission rate and dwelling emission rate			
Fuel for main heating system	Electricity		
Target carbon dioxide emission rate	11.04 kgCO ₂ /m ²		
Dwelling carbon dioxide emission rate	3.45 kgCO ₂ /m ²	OK	
1b Target primary energy rate and dwelling primary energy			
Target primary energy	58.06 kWh _{PE} /m ²		
Dwelling primary energy	36.34 kWh _{PE} /m ²	OK	
1c Target fabric energy efficiency and dwelling fabric energy efficiency			
Target fabric energy efficiency	24.4 kWh/m ²		
Dwelling fabric energy efficiency	21.8 kWh/m ²	OK	

2a Fabric U-values				
Element	Maximum permitted average U-Value [W/m ² K]	Dwelling average U-Value [W/m ² K]	Element with highest individual U-Value	
External walls	0.26	0.19	Walls (1) (0.19)	OK
Party walls	0.2	0	Party Wall (1) (0)	N/A
Curtain walls	1.6	0	N/A	N/A
Floors	0.18	N/A	N/A	N/A
Roofs	0.16	0.12	Roof (1) (0.12)	OK
Windows, doors, and roof windows	1.6	0.8	WT1 (0.8)	OK
Rooflights	2.2	N/A	N/A	N/A

2b Envelope elements (better than typically expected values are flagged with a subsequent (!))		
Name	Net area [m ²]	U-Value [W/m ² K]
Exposed wall: Walls (1)	13.6081	0.19
Party wall: Party Wall (1)	32.45	0 (!)
Party wall: Party Wall (2)	23.42	0 (!)
Exposed roof: Roof (1)	62	0.12

2c Openings (better than typically expected values are flagged with a subsequent (!))				
Name	Area [m ²]	Orientation	Frame factor	U-Value [W/m ² K]
WT1, Window	2.6235	North West	1.0	0.8 (!)
WT1, Window	2.6235	North West	1.0	0.8 (!)
WT2, Window	3.3549	North West	1.0	0.8 (!)

2d Thermal bridging (better than typically expected values are flagged with a subsequent (!))				
Building part 1: Thermal bridging calculated from linear thermal transmittances for each junction				
Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E2: Other lintels (including other steel lintels)	Calculated by person with suitable expertise	0.034 (!)	Plasmor
External wall	E3: Sill	Calculated by person with suitable expertise	0.026 (!)	Plasmor

Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E4: Jamb	Calculated by person with suitable expertise	0.03 (!)	Plasmor
External wall	E18: Party wall between dwellings	Calculated by person with suitable expertise	0.029 (!)	Plasmor
External wall	E7: Party floor between dwellings (in blocks of flats)	Calculated by person with suitable expertise	-0.018 (!)	Plasmor
Party wall	P3: Intermediate floor between dwellings (in blocks of flats)	SAP table default	0 (!)	
Party wall	P4: Roof (insulation at ceiling level)	Calculated by person with suitable expertise	0.128	Plasmor
External wall	E14: Flat roof	SAP table default	0.16	

3 Air permeability (better than typically expected values are flagged with a subsequent (!))

Maximum permitted air permeability at 50Pa	8 m ³ /hm ²	
Dwelling air permeability at 50Pa	3.6 m ³ /hm ² , Measured value (!)	OK
Air permeability test certificate reference		

4 Space heating

Main heating system 1: Room heaters - Electricity	
Efficiency	100.0%
Emitter type	
Flow temperature	
System type	Panel, convector or radiant heaters
Manufacturer	
Model	
Commissioning	
Main heating system 2: Heat pump with radiators or underfloor heating - Electricity	
Efficiency	0.0%
Emitter type	
Flow temperature	
System type	
Manufacturer	GDC Group Ltd
Model	EDL200UK-630
Commissioning	
Secondary heating system: N/A	
Fuel	N/A
Efficiency	N/A
Commissioning	

5 Hot water

Cylinder/store - type: N/A	
Capacity	N/A
Declared heat loss	N/A
Primary pipework insulated	N/A
Manufacturer	
Model	
Commissioning	
Waste water heat recovery system 1 - type: N/A	
Efficiency	
Manufacturer	
Model	

6 Controls

Main heating 1 - type: Programmer and appliance thermostats	
Function	
Ecodesign class	
Manufacturer	
Model	
Main heating 2 - type: Not applicable	
Function	
Ecodesign class	
Manufacturer	
Model	

Water heating - type: N/A		
Manufacturer		
Model		

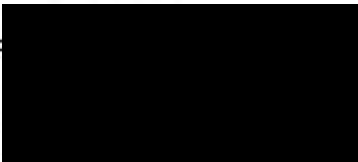
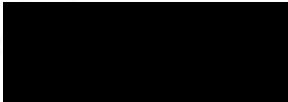
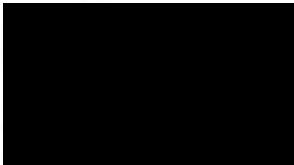
7 Lighting		
Minimum permitted light source efficacy	75 lm/W	
Lowest light source efficacy	127.33 lm/W	OK
External lights control	N/A	

8 Mechanical ventilation		
System type: Balanced whole-house mechanical ventilation with heat recovery		
Maximum permitted specific fan power	1.5 W/(l/s)	
Specific fan power	0.6 W/(l/s)	OK
Minimum permitted heat recovery efficiency	73%	
Heat recovery efficiency	90%	OK
Manufacturer/Model	MRXBOXAB-ECO2, MRXBOXAB-ECO2C	
Commissioning		

9 Local generation		
N/A		

10 Heat networks		
N/A		

11 Supporting documentary evidence		
<p>Documentary evidence identified in 11.1 and 11.2 is needed to confirm the data values used for any calculations undertaken, manufacturer declarations made, and tests performed as reflected in this "As built" BREL Compliance Report are correct.</p> <p>11.1 SAP Conventions, Appendix 1 (documentary evidence) schedules the minimum documentary evidence required.</p> <p>11.2 Indicative photographic evidence of key stages during construction (guidance within Approved Document L, Volume 1 – Appendix B) that confirms the products identified in this BREL Compliance Report are used in this dwelling, and workmanship is of sufficient quality to support the calculated values claimed in 2a to 2d.</p>		

12 Declarations		
a. Assessor Declaration		
<p>This declaration by the assessor is confirmation that the contents of this BREL Compliance Report are a true and accurate reflection based upon the design and construction information submitted for this dwelling for the purpose of carrying out the assessment, and that the supporting documentary evidence (identified in 11.1 and 11.2) pursuant to Part L of the Building Regulations 2010 (as amended) has been reviewed in the course of preparing this BREL Compliance Report.</p>		
Signed:		Assessor ID: 
Name:		Date: 27/08/2025
b. Client Declaration		
<p>This declaration by the client is confirmation that the dwelling has been constructed and completed according to the specifications set out in this BREL Compliance Report, and that photographic evidence of key stages, as described in 11.2, has been provided to the Assessor for this dwelling.</p>		
Signed:		Organisation: J Gilmour Builders Ltd
Name:		Date: 27-8 '25

Building Regulations England Part L (BREL) Compliance Report

Approved Document L1 2021 Edition, England assessed by Array SAP 10 program, Array

Date: Tue 26 Aug 2025 15:47:23

Project Information			
Assessed By	Daniel Smith	Building Type	Flat, Mid-terrace
OCDEA Registration	EES/030198	Assessment Date	2025-08-26

Dwelling Details			
Assessment Type	As built	Total Floor Area	50 m ²
Site Reference	Plot 19	Plot Reference	Plot 19
Address	Flat 19, Makers Court, 2 Francis Road, MANCHESTER, M20 4DD		

Client Details	
Name	Steve Brown
Company	J Greenwood (Builders) Limited
Address	Unit B9 Greengate Industrial Estate, 2 Francis Road, Chadderton, M24 1SW

This report covers items included within the SAP calculations. It is not a complete report of regulations compliance.

1a Target emission rate and dwelling emission rate			
Fuel for main heating system	Electricity		
Target carbon dioxide emission rate	11.85 kgCO ₂ /m ²		
Dwelling carbon dioxide emission rate	3.43 kgCO ₂ /m ²		OK
1b Target primary energy rate and dwelling primary energy			
Target primary energy	62.68 kWh _{PE} /m ²		
Dwelling primary energy	36.27 kWh _{PE} /m ²		OK
1c Target fabric energy efficiency and dwelling fabric energy efficiency			
Target fabric energy efficiency	22.5 kWh/m ²		
Dwelling fabric energy efficiency	20.2 kWh/m ²		OK

2a Fabric U-values				
Element	Maximum permitted average U-Value [W/m ² K]	Dwelling average U-Value [W/m ² K]	Element with highest individual U-Value	
External walls	0.26	0.19	Walls (1) (0.19)	OK
Party walls	0.2	0	Party Wall (1) (0)	N/A
Curtain walls	1.6	0	N/A	N/A
Floors	0.18	N/A	N/A	N/A
Roofs	0.16	0.12	Roof (1) (0.12)	OK
Windows, doors, and roof windows	1.6	0.8	WT1 (0.8)	OK
Rooflights	2.2	N/A	N/A	N/A

2b Envelope elements (better than typically expected values are flagged with a subsequent (!))		
Name	Net area [m ²]	U-Value [W/m ² K]
Exposed wall: Walls (1)	8.1716	0.19
Party wall: Party Wall (1)	22.14	0 (!)
Party wall: Party Wall (2)	31.43	0 (!)
Exposed roof: Roof (1)	50	0.12

2c Openings (better than typically expected values are flagged with a subsequent (!))				
Name	Area [m ²]	Orientation	Frame factor	U-Value [W/m ² K]
WT1, Window	2.6235	North West	1.0	0.8 (!)
WT2, Window	3.3549	North West	1.0	0.8 (!)

2d Thermal bridging (better than typically expected values are flagged with a subsequent (!))				
Building part 1: Thermal bridging calculated from linear thermal transmittances for each junction				
Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E2: Other lintels (including other steel lintels)	Calculated by person with suitable expertise	0.034 (!)	Plasmor
External wall	E3: Sill	Calculated by person with suitable expertise	0.026 (!)	Plasmor
External wall	E4: Jamb	Calculated by person with suitable expertise	0.03 (!)	Plasmor

Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E18: Party wall between dwellings	Calculated by person with suitable expertise	0.029 (I)	Plasmor
External wall	E7: Party floor between dwellings (in blocks of flats)	Calculated by person with suitable expertise	-0.018 (I)	Plasmor
Party wall	P3: Intermediate floor between dwellings (in blocks of flats)	SAP table default	0 (I)	
External wall	E14: Flat roof	SAP table default	0.16	
Party wall	P4: Roof (insulation at ceiling level)	Calculated by person with suitable expertise	0.128	Plasmor

3 Air permeability (better than typically expected values are flagged with a subsequent (I))				
Maximum permitted air permeability at 50Pa		8 m ³ /hm ²		
Dwelling air permeability at 50Pa		3.92 m ³ /hm ² , Measured value (I)		OK
Air permeability test certificate reference				

4 Space heating	
Main heating system 1: Room heaters - Electricity	
Efficiency	100.0%
Emitter type	
Flow temperature	
System type	Panel, convector or radiant heaters
Manufacturer	
Model	
Commissioning	
Main heating system 2: Heat pump with radiators or underfloor heating - Electricity	
Efficiency	0.0%
Emitter type	
Flow temperature	
System type	
Manufacturer	GDC Group Ltd
Model	EDL200UK-630
Commissioning	
Secondary heating system: N/A	
Fuel	N/A
Efficiency	N/A
Commissioning	

5 Hot water	
Cylinder/store - type: N/A	
Capacity	N/A
Declared heat loss	N/A
Primary pipework insulated	N/A
Manufacturer	
Model	
Commissioning	
Waste water heat recovery system 1 - type: N/A	
Efficiency	
Manufacturer	
Model	

6 Controls	
Main heating 1 - type: Programmer and appliance thermostats	
Function	
Ecodesign class	
Manufacturer	
Model	
Main heating 2 - type: Not applicable	
Function	
Ecodesign class	
Manufacturer	
Model	
Water heating - type: N/A	
Manufacturer	
Model	

7 Lighting		
Minimum permitted light source efficacy	75 lm/W	
Lowest light source efficacy	125.4 lm/W	OK
External lights control	N/A	

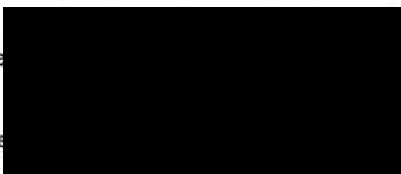
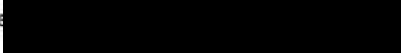
8 Mechanical ventilation		
System type: Balanced whole-house mechanical ventilation with heat recovery		
Maximum permitted specific fan power	1.5 W/(l/s)	
Specific fan power	0.6 W/(l/s)	OK
Minimum permitted heat recovery efficiency	73%	
Heat recovery efficiency	90%	OK
Manufacturer/Model	MRXBOXAB-ECO2, MRXBOXAB-ECO2C	
Commissioning		

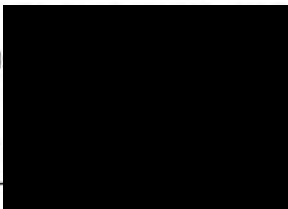
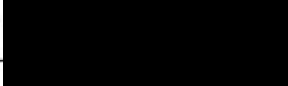
9 Local generation		
N/A		

10 Heat networks		
N/A		

11 Supporting documentary evidence		
Documentary evidence identified in 11.1 and 11.2 is needed to confirm the data values used for any calculations undertaken, manufacturer declarations made, and tests performed as reflected in this "As built" BREL Compliance Report are correct.		
11.1 SAP Conventions, Appendix 1 (documentary evidence) schedules the minimum documentary evidence required.		
11.2 Indicative photographic evidence of key stages during construction (guidance within Approved Document L, Volume 1 – Appendix B) that confirms the products identified in this BREL Compliance Report are used in this dwelling, and workmanship is of sufficient quality to support the calculated values claimed in 2a to 2d.		

12 Declarations

a. Assessor Declaration		
This declaration by the assessor is confirmation that the contents of this BREL Compliance Report are a true and accurate reflection based upon the design and construction information submitted for this dwelling for the purpose of carrying out the assessment, and that the supporting documentary evidence (identified in 11.1 and 11.2) pursuant to Part L of the Building Regulations 2010 (as amended) has been reviewed in the course of preparing this BREL Compliance Report.		
Signed: 	Assessor ID: 	
Name: 	Date: 27/08/2025	

b. Client Declaration		
This declaration by the client is confirmation that the dwelling has been constructed and completed according to the specifications set out in this BREL Compliance Report, and that photographic evidence of key stages, as described in 11.2, has been provided to the Assessor for this dwelling.		
Signed: 	Organisation: J Edwards Builders Ltd	
Name: 	Date: 27.8.25	

Building Regulations England Part L (BREL) Compliance Report

Approved Document L1 2021 Edition, England assessed by Array SAP 10 program, Array

Date: Tue 26 Aug 2025 15:47:23

Project Information			
Assessed By	Daniel Smith	Building Type	Flat, End-terrace
OCDEA Registration	EES/030198	Assessment Date	2025-08-26

Dwelling Details			
Assessment Type	As built	Total Floor Area	51 m ²
Site Reference	Plot 20	Plot Reference	Plot 20
Address	Flat 20, Makers Court, 2 Francis Road, MANCHESTER, M20 4DD		

Client Details	
Name	Steve Brown
Company	J Greenwood (Builders) Limited
Address	Unit B9 Greengate Industrial Estate, 2 Francis Road, Chadderton, M24 1SW

This report covers items included within the SAP calculations. It is not a complete report of regulations compliance.

1a Target emission rate and dwelling emission rate			
Fuel for main heating system	Electricity		
Target carbon dioxide emission rate	12.66 kgCO ₂ /m ²		
Dwelling carbon dioxide emission rate	4.01 kgCO ₂ /m ²	OK	
1b Target primary energy rate and dwelling primary energy			
Target primary energy	66.99 kWh _{PE} /m ²		
Dwelling primary energy	42.12 kWh _{PE} /m ²	OK	
1c Target fabric energy efficiency and dwelling fabric energy efficiency			
Target fabric energy efficiency	26.8 kWh/m ²		
Dwelling fabric energy efficiency	24.7 kWh/m ²	OK	

2a Fabric U-values				
Element	Maximum permitted average U-Value [W/m ² K]	Dwelling average U-Value [W/m ² K]	Element with highest individual U-Value	
External walls	0.26	0.19	Walls (1) (0.19)	OK
Party walls	0.2	0	Party Wall (1) (0)	N/A
Curtain walls	1.6	0	N/A	N/A
Floors	0.18	N/A	N/A	N/A
Roofs	0.16	0.12	Roof (1) (0.12)	OK
Windows, doors, and roof windows	1.6	0.8	WT1 (0.8)	OK
Rooflights	2.2	N/A	N/A	N/A

2b Envelope elements (better than typically expected values are flagged with a subsequent (!))			
Name	Net area [m ²]	U-Value [W/m ² K]	
Exposed wall: Walls (1)	28.0816	0.19	
Party wall: Party Wall (1)	14.39	0 (!)	
Party wall: Party Wall (2)	19.69	0 (!)	
Exposed roof: Roof (1)	51	0.12	

2c Openings (better than typically expected values are flagged with a subsequent (!))				
Name	Area [m ²]	Orientation	Frame factor	U-Value [W/m ² K]
WT1, Window	2.6235	North West	1.0	0.8 (!)
WT2, Window	3.3549	North West	1.0	0.8 (!)

2d Thermal bridging (better than typically expected values are flagged with a subsequent (!))				
Building part 1: Thermal bridging calculated from linear thermal transmittances for each junction				
Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E2: Other lintels (including other steel lintels)	Calculated by person with suitable expertise	0.034 (!)	Plasmor
External wall	E3: Sill	Calculated by person with suitable expertise	0.026 (!)	Plasmor
External wall	E4: Jamb	Calculated by person with suitable expertise	0.03 (!)	Plasmor

Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E18: Party wall between dwellings	Calculated by person with suitable expertise	0.029 (I)	Plasmor
External wall	E7: Party floor between dwellings (in blocks of flats)	Calculated by person with suitable expertise	-0.018 (I)	Plasmor
Party wall	P3: Intermediate floor between dwellings (in blocks of flats)	SAP table default	0 (I)	
External wall	E14: Flat roof	SAP table default	0.16	
Party wall	P4: Roof (insulation at ceiling level)	Calculated by person with suitable expertise	0.128	Plasmor
External wall	E16: Corner (normal)	Calculated by person with suitable expertise	0.049	Plasmor

3 Air permeability (better than typically expected values are flagged with a subsequent (I))

Maximum permitted air permeability at 50Pa

8 m³/hm²

Dwelling air permeability at 50Pa

3.9 m³/hm², Measured value (I)

OK

Air permeability test certificate reference

4 Space heating

Main heating system 1: Room heaters - Electricity

Efficiency 100.0%

Emitter type

Flow temperature

System type Panel, convector or radiant heaters

Manufacturer

Model

Commissioning

Main heating system 2: Heat pump with radiators or underfloor heating - Electricity

Efficiency 0.0%

Emitter type

Flow temperature

System type

Manufacturer GDC Group Ltd

Model EDL200UK-630

Commissioning

Secondary heating system: N/A

Fuel N/A

Efficiency N/A

Commissioning

5 Hot water

Cylinder/store - type: N/A

Capacity N/A

Declared heat loss N/A

Primary pipework insulated N/A

Manufacturer

Model

Commissioning

Waste water heat recovery system 1 - type: N/A

Efficiency

Manufacturer

Model

6 Controls

Main heating 1 - type: Programmer and appliance thermostats

Function

Ecodesign class

Manufacturer

Model

Main heating 2 - type: Not applicable

Function

Ecodesign class

Manufacturer

Model

Water heating - type: N/A		
Manufacturer		
Model		
7 Lighting		
Minimum permitted light source efficacy		75 lm/W
Lowest light source efficacy		125.4 lm/W
External lights control		N/A
8 Mechanical ventilation		
System type: Balanced whole-house mechanical ventilation with heat recovery		
Maximum permitted specific fan power		1.5 W/(l/s)
Specific fan power		0.6 W/(l/s)
Minimum permitted heat recovery efficiency		73%
Heat recovery efficiency		90%
Manufacturer/Model		MRXBOXAB-ECO2, MRXBOXAB-ECO2C
Commissioning		
9 Local generation		
N/A		
10 Heat networks		
N/A		
11 Supporting documentary evidence		
Documentary evidence identified in 11.1 and 11.2 is needed to confirm the data values used for any calculations undertaken, manufacturer declarations made, and tests performed as reflected in this "As built" BREL Compliance Report are correct.		
11.1 SAP Conventions, Appendix 1 (documentary evidence) schedules the minimum documentary evidence required.		
11.2 Indicative photographic evidence of key stages during construction (guidance within Approved Document L, Volume 1 – Appendix B) that confirms the products identified in this BREL Compliance Report are used in this dwelling, and workmanship is of sufficient quality to support the calculated values claimed in 2a to 2d.		
12 Declarations		
a. Assessor Declaration		
This declaration by the assessor is confirmation that the contents of this BREL Compliance Report are a true and accurate reflection based upon the design and construction information submitted for this dwelling for the purpose of carrying out the assessment, and that the supporting documentary evidence (identified in 11.1 and 11.2) pursuant to Part L of the Building Regulations 2010 (as amended) has been reviewed in the course of preparing this BREL Compliance Report.		
Sign:  Name: 		Assessor ID: C206-0001 Date: 27/08/2025
b. Client Declaration		
This declaration by the client is confirmation that the dwelling has been constructed and completed according to the specifications set out in this BREL Compliance Report, and that photographic evidence of key stages, as described in 11.2, has been provided to the Assessor for this dwelling.		
Signed:  Name: 		Organisation: J Greenwood Builders LTD Date: 27-8-25

Building Regulations England Part L (BREL) Compliance Report

Approved Document L1 2021 Edition, England assessed by Array SAP 10 program, Array

Date: Tue 26 Aug 2025 15:47:24

Project Information			
Assessed By	Daniel Smith	Building Type	Flat, End-terrace
OCDEA Registration	EES/030198	Assessment Date	2025-08-26

Dwelling Details			
Assessment Type	As built	Total Floor Area	51 m ²
Site Reference	Plot 21	Plot Reference	Plot 21
Address	Flat 21, Makers Court, 2 Francis Road, MANCHESTER, M20 4DD		

Client Details	
Name	Steve Brown
Company	J Greenwood (Builders) Limited
Address	Unit B9 Greengate Industrial Estate, 2 Francis Road, Chadderton, M24 1SW

This report covers items included within the SAP calculations. It is not a complete report of regulations compliance.

1a Target emission rate and dwelling emission rate		
Fuel for main heating system	Electricity	
Target carbon dioxide emission rate	12.66 kgCO ₂ /m ²	
Dwelling carbon dioxide emission rate	4.26 kgCO ₂ /m ²	OK
1b Target primary energy rate and dwelling primary energy		
Target primary energy	67.0 kWh _{PE} /m ²	
Dwelling primary energy	44.64 kWh _{PE} /m ²	OK
1c Target fabric energy efficiency and dwelling fabric energy efficiency		
Target fabric energy efficiency	26.5 kWh/m ²	
Dwelling fabric energy efficiency	26.0 kWh/m ²	OK

2a Fabric U-values				
Element	Maximum permitted average U-Value [W/m ² K]	Dwelling average U-Value [W/m ² K]	Element with highest individual U-Value	
External walls	0.26	0.19	Walls (1) (0.19)	OK
Party walls	0.2	0	Party Wall (1) (0)	N/A
Curtain walls	1.6	0	N/A	N/A
Floors	0.18	0.11	Heatloss Floor 1 (0.11)	OK
Roofs	0.16	0.12	Roof (1) (0.12)	OK
Windows, doors, and roof windows	1.6	0.89	WT2 (0.89)	OK
Rooflights	2.2	N/A	N/A	N/A

2b Envelope elements (better than typically expected values are flagged with a subsequent (!))		
Name	Net area [m ²]	U-Value [W/m ² K]
Exposed wall: Walls (1)	28.0816	0.19
Party wall: Party Wall (1)	14.36	0 (!)
Party wall: Party Wall (2)	19.72	0 (!)
Upper floor: Heatloss Floor 1, Heatloss Floor 1	27.02	0.11
Exposed roof: Roof (1)	51	0.12

2c Openings (better than typically expected values are flagged with a subsequent (!))				
Name	Area [m ²]	Orientation	Frame factor	U-Value [W/m ² K]
WT2, Window	3.3549	South East	0.7	0.89 (!)
WT1, Window	2.6235	South East	0.7	0.89 (!)

2d Thermal bridging (better than typically expected values are flagged with a subsequent (!))				
Building part 1: Thermal bridging calculated from linear thermal transmittances for each junction				
Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E2: Other lintels (including other steel lintels)	Calculated by person with suitable expertise	0.034 (!)	Plasmor
External wall	E3: Sill	Calculated by person with suitable expertise	0.026 (!)	Plasmor

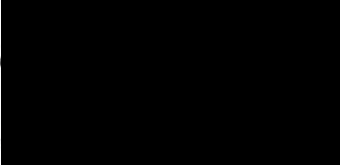
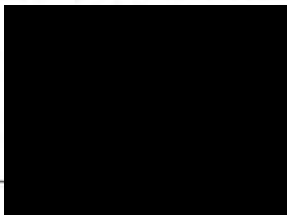
Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E4: Jamb	Calculated by person with suitable expertise	0.03 (!)	Plasmor
External wall	E18: Party wall between dwellings	Calculated by person with suitable expertise	0.029 (!)	Plasmor
External wall	E9: Balcony between dwellings - wall insulation continuous	SAP table default	0.15	
Party wall	P3: Intermediate floor between dwellings (in blocks of flats)	SAP table default	0 (!)	
External wall	E7: Party floor between dwellings (in blocks of flats)	Calculated by person with suitable expertise	-0.018 (!)	Plasmor
External wall	E14: Flat roof	SAP table default	0.16	
Party wall	P4: Roof (insulation at ceiling level)	Calculated by person with suitable expertise	0.128	Plasmor
External wall	E16: Corner (normal)	Calculated by person with suitable expertise	0.049	Plasmor

3 Air permeability (better than typically expected values are flagged with a subsequent (!))			
Maximum permitted air permeability at 50Pa	8 m ³ /hm ²		
Dwelling air permeability at 50Pa	3.92 m ³ /hm ² , Measured value (!)		OK
Air permeability test certificate reference			

4 Space heating	
Main heating system 1: Room heaters - Electricity	
Efficiency	100.0%
Emitter type	
Flow temperature	
System type	Panel, convector or radiant heaters
Manufacturer	
Model	
Commissioning	
Main heating system 2: Heat pump with radiators or underfloor heating - Electricity	
Efficiency	0.0%
Emitter type	
Flow temperature	
System type	
Manufacturer	GDC Group Ltd
Model	EDL200UK-630
Commissioning	
Secondary heating system: N/A	
Fuel	N/A
Efficiency	N/A
Commissioning	

5 Hot water	
Cylinder/store - type: N/A	
Capacity	N/A
Declared heat loss	N/A
Primary pipework insulated	N/A
Manufacturer	
Model	
Commissioning	
Waste water heat recovery system 1 - type: N/A	
Efficiency	
Manufacturer	
Model	

6 Controls	
Main heating 1 - type: Programmer and appliance thermostats	
Function	
Ecodesign class	
Manufacturer	
Model	

Main heating 2 - type: Not applicable		
Function		
Ecodesign class		
Manufacturer		
Model		
Water heating - type: N/A		
Manufacturer		
Model		
7 Lighting		
Minimum permitted light source efficacy	75 lm/W	
Lowest light source efficacy	125.4 lm/W	OK
External lights control	N/A	
8 Mechanical ventilation		
System type: Balanced whole-house mechanical ventilation with heat recovery		
Maximum permitted specific fan power	1.5 W/(l/s)	
Specific fan power	0.6 W/(l/s)	OK
Minimum permitted heat recovery efficiency	73%	
Heat recovery efficiency	90%	OK
Manufacturer/Model	MRXBOXAB-ECO2, MRXBOXAB-ECO2C	
Commissioning		
9 Local generation		
N/A		
10 Heat networks		
N/A		
11 Supporting documentary evidence		
<p>Documentary evidence identified in 11.1 and 11.2 is needed to confirm the data values used for any calculations undertaken, manufacturer declarations made, and tests performed as reflected in this "As built" BREL Compliance Report are correct.</p> <p>11.1 SAP Conventions, Appendix 1 (documentary evidence) schedules the minimum documentary evidence required.</p> <p>11.2 Indicative photographic evidence of key stages during construction (guidance within Approved Document L, Volume 1 – Appendix B) that confirms the products identified in this BREL Compliance Report are used in this dwelling, and workmanship is of sufficient quality to support the calculated values claimed in 2a to 2d.</p>		
12 Declarations		
a. Assessor Declaration		
<p>This declaration by the assessor is confirmation that the contents of this BREL Compliance Report are a true and accurate reflection based upon the design and construction information submitted for this dwelling for the purpose of carrying out the assessment, and that the supporting documentary evidence (identified in 11.1 and 11.2) pursuant to Part L of the Building Regulations 2010 (as amended) has been reviewed in the course of preparing this BREL Compliance Report.</p>		
<p>Signe</p> <p>Name</p>		<p>Assessor ID: CJO6-0001</p> <p>Date: 27/08/2025</p>
b. Client Declaration		
<p>This declaration by the client is confirmation that the dwelling has been constructed and completed according to the specifications set out in this BREL Compliance Report, and that photographic evidence of key stages, as described in 11.2, has been provided to the Assessor for this dwelling.</p>		
<p>Signed:</p> <p>Name:</p>		<p>Organisation: J Gonswood Builders Ltd</p> <p>Date: 27-8-25</p>

Building Regulations England Part L (BREL) Compliance Report

Approved Document L1 2021 Edition, England assessed by Array SAP 10 program, Array

Date: Tue 26 Aug 2025 15:47:24

Project Information			
Assessed By	Daniel Smith	Building Type	Flat, Mid-terrace
OCDEA Registration	EES/030198	Assessment Date	2025-08-26

Dwelling Details			
Assessment Type	As built	Total Floor Area	50 m ²
Site Reference	Plot 22	Plot Reference	Plot 22
Address	Flat 22, Makers Court, 2 Francis Road, MANCHESTER, M20 4DD		

Client Details	
Name	Steve Brown
Company	J Greenwood (Builders) Limited
Address	Unit B9 Greengate Industrial Estate, 2 Francis Road, Chadderton, M24 1SW

This report covers items included within the SAP calculations. It is not a complete report of regulations compliance.

1a Target emission rate and dwelling emission rate			
Fuel for main heating system	Electricity		
Target carbon dioxide emission rate	11.12 kgCO ₂ /m ²		
Dwelling carbon dioxide emission rate	3.16 kgCO ₂ /m ²		OK
1b Target primary energy rate and dwelling primary energy			
Target primary energy	58.73 kWh _{PE} /m ²		
Dwelling primary energy	33.57 kWh _{PE} /m ²		OK
1c Target fabric energy efficiency and dwelling fabric energy efficiency			
Target fabric energy efficiency	18.6 kWh/m ²		
Dwelling fabric energy efficiency	17.5 kWh/m ²		OK

2a Fabric U-values				
Element	Maximum permitted average U-Value [W/m ² K]	Dwelling average U-Value [W/m ² K]	Element with highest individual U-Value	
External walls	0.26	0.19	Walls (1) (0.19)	OK
Party walls	0.2	0	Party Wall (1) (0)	N/A
Curtain walls	1.6	0	N/A	N/A
Floors	0.18	N/A	N/A	N/A
Roofs	0.16	0.12	Roof (1) (0.12)	OK
Windows, doors, and roof windows	1.6	0.8	WT2 (0.8)	OK
Rooflights	2.2	N/A	N/A	N/A

2b Envelope elements (better than typically expected values are flagged with a subsequent (!))		
Name	Net area [m ²]	U-Value [W/m ² K]
Exposed wall: Walls (1)	8.1716	0.19
Party wall: Party Wall (1)	33.89	0 (!)
Party wall: Party Wall (2)	19.72	0 (!)
Exposed roof: Roof (1)	50	0.12

2c Openings (better than typically expected values are flagged with a subsequent (!))				
Name	Area [m ²]	Orientation	Frame factor	U-Value [W/m ² K]
WT2, Window	3.3549	South East	1.0	0.8 (!)
WT1, Window	2.6235	South East	1.0	0.8 (!)

2d Thermal bridging (better than typically expected values are flagged with a subsequent (!))				
Building part 1: Thermal bridging calculated from linear thermal transmittances for each junction				
Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E2: Other lintels (including other steel lintels)	Calculated by person with suitable expertise	0.034 (!)	Plasmor
External wall	E3: Sill	Calculated by person with suitable expertise	0.026 (!)	Plasmor
External wall	E4: Jamb	Calculated by person with suitable expertise	0.03 (!)	Plasmor

Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E18: Party wall between dwellings	Calculated by person with suitable expertise	0.029 (!)	Plasmor
Party wall	P3: Intermediate floor between dwellings (in blocks of flats)	SAP table default	0 (!)	
External wall	E7: Party floor between dwellings (in blocks of flats)	Calculated by person with suitable expertise	-0.018 (!)	Plasmor
External wall	E14: Flat roof	SAP table default	0.16	
Party wall	P4: Roof (insulation at ceiling level)	Calculated by person with suitable expertise	0.128	Plasmor

3 Air permeability (better than typically expected values are flagged with a subsequent (!))				
Maximum permitted air permeability at 50Pa		8 m ³ /hm ²		
Dwelling air permeability at 50Pa		3.76 m ³ /hm ² , Measured value (!)		OK
Air permeability test certificate reference				

4 Space heating	
Main heating system 1: Room heaters - Electricity	
Efficiency	100.0%
Emitter type	
Flow temperature	
System type	Panel, convector or radiant heaters
Manufacturer	
Model	
Commissioning	
Main heating system 2: Heat pump with radiators or underfloor heating - Electricity	
Efficiency	0.0%
Emitter type	
Flow temperature	
System type	
Manufacturer	GDC Group Ltd
Model	EDL200UK-630
Commissioning	
Secondary heating system: N/A	
Fuel	N/A
Efficiency	N/A
Commissioning	

5 Hot water	
Cylinder/store - type: N/A	
Capacity	N/A
Declared heat loss	N/A
Primary pipework insulated	N/A
Manufacturer	
Model	
Commissioning	
Waste water heat recovery system 1 - type: N/A	
Efficiency	
Manufacturer	
Model	

6 Controls	
Main heating 1 - type: Programmer and appliance thermostats	
Function	
Ecodesign class	
Manufacturer	
Model	
Main heating 2 - type: Not applicable	
Function	
Ecodesign class	
Manufacturer	
Model	
Water heating - type: N/A	
Manufacturer	
Model	

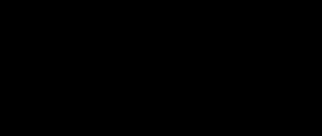
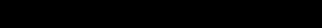
7 Lighting		
Minimum permitted light source efficacy	75 lm/W	
Lowest light source efficacy	125.4 lm/W	OK
External lights control	N/A	

8 Mechanical ventilation		
System type: Balanced whole-house mechanical ventilation with heat recovery		
Maximum permitted specific fan power	1.5 W/(l/s)	
Specific fan power	0.6 W/(l/s)	OK
Minimum permitted heat recovery efficiency	73%	
Heat recovery efficiency	90%	OK
Manufacturer/Model	MRXBOXAB-ECO2, MRXBOXAB-ECO2C	
Commissioning		

9 Local generation		
N/A		

10 Heat networks		
N/A		

11 Supporting documentary evidence	
Documentary evidence identified in 11.1 and 11.2 is needed to confirm the data values used for any calculations undertaken, manufacturer declarations made, and tests performed as reflected in this "As built" BREL Compliance Report are correct.	
11.1 SAP Conventions, Appendix 1 (documentary evidence) schedules the minimum documentary evidence required.	
11.2 Indicative photographic evidence of key stages during construction (guidance within Approved Document L, Volume 1 – Appendix B) that confirms the products identified in this BREL Compliance Report are used in this dwelling, and workmanship is of sufficient quality to support the calculated values claimed in 2a to 2d.	

12 Declarations	
a. Assessor Declaration	
This declaration by the assessor is confirmation that the contents of this BREL Compliance Report are a true and accurate reflection based upon the design and construction information submitted for this dwelling for the purpose of carrying out the assessment, and that the supporting documentary evidence (identified in 11.1 and 11.2) pursuant to Part L of the Building Regulations 2010 (as amended) has been reviewed in the course of preparing this BREL Compliance Report.	
Signed: 	Assessor ID: 
Name: 	Date: 27/08/2025
b. Client Declaration	
This declaration by the client is confirmation that the dwelling has been constructed and completed according to the specifications set out in this BREL Compliance Report, and that photographic evidence of key stages, as described in 11.2, has been provided to the Assessor for this dwelling.	
Signed: 	Organisation: J Knaxwood Builders LTD
Name: 	Date: 28-8-25

Building Regulations England Part L (BREL) Compliance Report

Approved Document L1 2021 Edition, England assessed by Array SAP 10 program, Array

Date: Tue 26 Aug 2025 15:47:24

Project Information			
Assessed By	Daniel Smith	Building Type	Flat, Mid-terrace
OCDEA Registration	EES/030198	Assessment Date	2025-08-26

Dwelling Details			
Assessment Type	As built	Total Floor Area	50 m ²
Site Reference	Plot 23	Plot Reference	Plot 23
Address	Flat 23, Makers Court, 2 Francis Road, MANCHESTER, M20 4DD		

Client Details	
Name	Steve Brown
Company	J Greenwood (Builders) Limited
Address	Unit B9 Greengate Industrial Estate, 2 Francis Road, Chadderton, M24 1SW

This report covers items included within the SAP calculations. It is not a complete report of regulations compliance.

1a Target emission rate and dwelling emission rate		
Fuel for main heating system	Electricity	
Target carbon dioxide emission rate	11.1 kgCO ₂ /m ²	
Dwelling carbon dioxide emission rate	3.19 kgCO ₂ /m ²	OK
1b Target primary energy rate and dwelling primary energy		
Target primary energy	58.63 kWh _{PE} /m ²	
Dwelling primary energy	33.86 kWh _{PE} /m ²	OK
1c Target fabric energy efficiency and dwelling fabric energy efficiency		
Target fabric energy efficiency	18.5 kWh/m ²	
Dwelling fabric energy efficiency	17.7 kWh/m ²	OK

2a Fabric U-values				
Element	Maximum permitted average U-Value [W/m ² K]	Dwelling average U-Value [W/m ² K]	Element with highest individual U-Value	
External walls	0.26	0.19	Walls (1) (0.19)	OK
Party walls	0.2	0	Party Wall (1) (0)	N/A
Curtain walls	1.6	0	N/A	N/A
Floors	0.18	N/A	N/A	N/A
Roofs	0.16	0.12	Roof (1) (0.12)	OK
Windows, doors, and roof windows	1.6	0.8	WT2 (0.8)	OK
Rooflights	2.2	N/A	N/A	N/A

2b Envelope elements (better than typically expected values are flagged with a subsequent (!))			
Name	Net area [m ²]	U-Value [W/m ² K]	
Exposed wall: Walls (1)	7.6016	0.19	
Party wall: Party Wall (1)	34.18	0 (!)	
Party wall: Party Wall (2)	20.62	0 (!)	
Exposed roof: Roof (1)	50	0.12	

2c Openings (better than typically expected values are flagged with a subsequent (!))				
Name	Area [m ²]	Orientation	Frame factor	U-Value [W/m ² K]
WT2, Window	3.3549	South East	1.0	0.8 (!)
WT1, Window	2.6235	South East	1.0	0.8 (!)

2d Thermal bridging (better than typically expected values are flagged with a subsequent (!))				
Building part 1: Thermal bridging calculated from linear thermal transmittances for each junction				
Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E2: Other lintels (including other steel lintels)	Calculated by person with suitable expertise	0.034 (!)	Plasmor
External wall	E3: Sill	Calculated by person with suitable expertise	0.026 (!)	Plasmor
External wall	E4: Jamb	Calculated by person with suitable expertise	0.03 (!)	Plasmor

Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E18: Party wall between dwellings	Calculated by person with suitable expertise	0.029 (!)	Plasmor
Party wall	P3: Intermediate floor between dwellings (in blocks of flats)	SAP table default	0 (!)	
External wall	E7: Party floor between dwellings (in blocks of flats)	Calculated by person with suitable expertise	-0.018 (!)	Plasmor
Party wall	P4: Roof (insulation at ceiling level)	Calculated by person with suitable expertise	0.128	Plasmor
External wall	E14: Flat roof	SAP table default	0.16	
External wall	E25: Staggered party wall between dwellings	Calculated by person with suitable expertise	0.09	Plasmor

3 Air permeability (better than typically expected values are flagged with a subsequent (!))

Maximum permitted air permeability at 50Pa	8 m ³ /hm ²	
Dwelling air permeability at 50Pa	3.87 m ³ /hm ² , Measured value (!)	OK
Air permeability test certificate reference		

4 Space heating

Main heating system 1: Room heaters - Electricity

Efficiency	100.0%
Emitter type	
Flow temperature	
System type	Panel, convector or radiant heaters
Manufacturer	
Model	
Commissioning	

Main heating system 2: Heat pump with radiators or underfloor heating - Electricity

Efficiency	0.0%
Emitter type	
Flow temperature	
System type	
Manufacturer	GDC Group Ltd
Model	EDL200UK-630
Commissioning	

Secondary heating system: N/A

Fuel	N/A
Efficiency	N/A
Commissioning	

5 Hot water

Cylinder/store - type: N/A

Capacity	N/A
Declared heat loss	N/A
Primary pipework insulated	N/A
Manufacturer	
Model	
Commissioning	

Waste water heat recovery system 1 - type: N/A

Efficiency	
Manufacturer	
Model	

6 Controls

Main heating 1 - type: Programmer and appliance thermostats

Function	
Ecodesign class	
Manufacturer	
Model	

Main heating 2 - type: Not applicable

Function	
Ecodesign class	
Manufacturer	
Model	

Water heating - type: N/A	
Manufacturer	
Model	

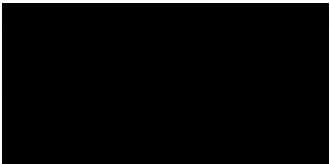
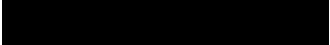
7 Lighting	
Minimum permitted light source efficacy	75 lm/W
Lowest light source efficacy	125.4 lm/W OK
External lights control	N/A

8 Mechanical ventilation	
System type: Balanced whole-house mechanical ventilation with heat recovery	
Maximum permitted specific fan power	1.5 W/(l/s) OK
Specific fan power	0.6 W/(l/s)
Minimum permitted heat recovery efficiency	73%
Heat recovery efficiency	90% OK
Manufacturer/Model	MRXBOXAB-ECO2, MRXBOXAB-ECO2C
Commissioning	

9 Local generation	
N/A	

10 Heat networks	
N/A	

11 Supporting documentary evidence	
<p>Documentary evidence identified in 11.1 and 11.2 is needed to confirm the data values used for any calculations undertaken, manufacturer declarations made, and tests performed as reflected in this "As built" BREL Compliance Report are correct.</p> <p>11.1 SAP Conventions, Appendix 1 (documentary evidence) schedules the minimum documentary evidence required.</p> <p>11.2 Indicative photographic evidence of key stages during construction (guidance within Approved Document L, Volume 1 – Appendix B) that confirms the products identified in this BREL Compliance Report are used in this dwelling, and workmanship is of sufficient quality to support the calculated values claimed in 2a to 2d.</p>	

12 Declarations	
a. Assessor Declaration	
This declaration by the assessor is confirmation that the contents of this BREL Compliance Report are a true and accurate reflection based upon the design and construction information submitted for this dwelling for the purpose of carrying out the assessment, and that the supporting documentary evidence (identified in 11.1 and 11.2) pursuant to Part L of the Building Regulations 2010 (as amended) has been reviewed in the course of preparing this BREL Compliance Report.	
Signed: 	Assessor ID: 
Name: 	Date: 27/08/2025
b. Client Declaration	
This declaration by the client is confirmation that the dwelling has been constructed and completed according to the specifications set out in this BREL Compliance Report, and that photographic evidence of key stages, as described in 11.2, has been provided to the Assessor for this dwelling.	
Signed: 	Organisation: J Greenwood Builders
Name: 	Date: 28-8-25

Building Regulations England Part L (BREL) Compliance Report

Approved Document L1 2021 Edition, England assessed by Array SAP 10 program, Array

Date: Tue 26 Aug 2025 15:47:24

Project Information			
Assessed By	Daniel Smith	Building Type	Flat, End-terrace
OCDEA Registration	EES/030198	Assessment Date	2025-08-26

Dwelling Details			
Assessment Type	As built	Total Floor Area	62 m ²
Site Reference	Plot 24	Plot Reference	Plot 24
Address	Flat 24, Makers Court, 2 Francis Road, MANCHESTER, M20 4DD		

Client Details	
Name	Steve Brown
Company	J Greenwood (Builders) Limited
Address	Unit B9 Greengate Industrial Estate, 2 Francis Road, Chadderton, M24 1SW

This report covers items included within the SAP calculations. It is not a complete report of regulations compliance.

1a Target emission rate and dwelling emission rate	
Fuel for main heating system	Electricity
Target carbon dioxide emission rate	10.76 kgCO ₂ /m ²
Dwelling carbon dioxide emission rate	3.59 kgCO ₂ /m ² OK

1b Target primary energy rate and dwelling primary energy	
Target primary energy	56.57 kWh _{PE} /m ²
Dwelling primary energy	37.76 kWh _{PE} /m ² OK

1c Target fabric energy efficiency and dwelling fabric energy efficiency	
Target fabric energy efficiency	22.9 kWh/m ²
Dwelling fabric energy efficiency	21.8 kWh/m ² OK

2a Fabric U-values				
Element	Maximum permitted average U-Value [W/m ² K]	Dwelling average U-Value [W/m ² K]	Element with highest individual U-Value	
External walls	0.26	0.19	Walls (1) (0.19)	OK
Party walls	0.2	0	Party Wall (1) (0)	N/A
Curtain walls	1.6	0	N/A	N/A
Floors	0.18	N/A	N/A	N/A
Roofs	0.16	0.12	Roof (1) (0.12)	OK
Windows, doors, and roof windows	1.6	0.8	WT2 (0.8)	OK
Rooflights	2.2	N/A	N/A	N/A

2b Envelope elements (better than typically expected values are flagged with a subsequent (!))			
Name	Net area [m ²]	U-Value [W/m ² K]	
Exposed wall: Walls (1)	28.0881	0.19	
Party wall: Party Wall (1)	22.97	0 (!)	
Party wall: Party Wall (2)	18.32	0 (!)	
Exposed roof: Roof (1)	62	0.12	

2c Openings (better than typically expected values are flagged with a subsequent (!))				
Name	Area [m ²]	Orientation	Frame factor	U-Value [W/m ² K]
WT2, Window	3.3549	South East	1.0	0.8 (!)
WT1, Window	2.6235	South East	1.0	0.8 (!)
WT1, Window	2.6235	South East	1.0	0.8 (!)

2d Thermal bridging (better than typically expected values are flagged with a subsequent (!))				
Building part 1: Thermal bridging calculated from linear thermal transmittances for each junction				
Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E2: Other lintels (including other steel lintels)	Calculated by person with suitable expertise	0.034 (!)	Plasmor
External wall	E3: Sill	Calculated by person with suitable expertise	0.026 (!)	Plasmor

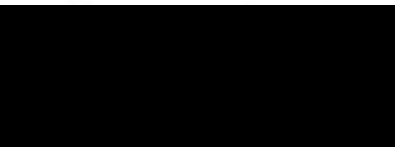
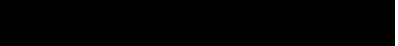
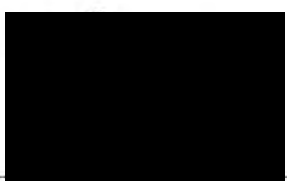
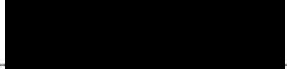
Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E4: Jamb	Calculated by person with suitable expertise	0.03 (!)	Plasmor
External wall	E18: Party wall between dwellings	Calculated by person with suitable expertise	0.029 (!)	Plasmor
Party wall	P3: Intermediate floor between dwellings (in blocks of flats)	SAP table default	0 (!)	
External wall	E7: Party floor between dwellings (in blocks of flats)	Calculated by person with suitable expertise	-0.018 (!)	Plasmor
External wall	E14: Flat roof	SAP table default	0.16	
Party wall	P4: Roof (insulation at ceiling level)	Calculated by person with suitable expertise	0.128	Plasmor
External wall	E16: Corner (normal)	Calculated by person with suitable expertise	0.049	Plasmor

3 Air permeability (better than typically expected values are flagged with a subsequent (!))			
Maximum permitted air permeability at 50Pa	8 m ³ /hm ²		
Dwelling air permeability at 50Pa	3.7 m ³ /hm ² , Measured value (!)		OK
Air permeability test certificate reference			

4 Space heating	
Main heating system 1: Room heaters - Electricity	
Efficiency	100.0%
Emitter type	
Flow temperature	
System type	Panel, convector or radiant heaters
Manufacturer	
Model	
Commissioning	
Main heating system 2: Heat pump with radiators or underfloor heating - Electricity	
Efficiency	0.0%
Emitter type	
Flow temperature	
System type	
Manufacturer	GDC Group Ltd
Model	EDL200UK-630
Commissioning	
Secondary heating system: N/A	
Fuel	N/A
Efficiency	N/A
Commissioning	

5 Hot water	
Cylinder/store - type: N/A	
Capacity	N/A
Declared heat loss	N/A
Primary pipework insulated	N/A
Manufacturer	
Model	
Commissioning	
Waste water heat recovery system 1 - type: N/A	
Efficiency	
Manufacturer	
Model	

6 Controls	
Main heating 1 - type: Programmer and appliance thermostats	
Function	
Ecodesign class	
Manufacturer	
Model	

Main heating 2 - type: Not applicable		
Function		
Ecodesign class		
Manufacturer		
Model		
Water heating - type: N/A		
Manufacturer		
Model		
7 Lighting		
Minimum permitted light source efficacy	75 lm/W	
Lowest light source efficacy	127.33 lm/W	OK
External lights control	N/A	
8 Mechanical ventilation		
System type: Balanced whole-house mechanical ventilation with heat recovery		
Maximum permitted specific fan power	1.5 W/(l/s)	
Specific fan power	0.6 W/(l/s)	OK
Minimum permitted heat recovery efficiency	73%	
Heat recovery efficiency	90%	OK
Manufacturer/Model	MRXBOXAB-ECO2, MRXBOXAB-ECO2C	
Commissioning		
9 Local generation		
N/A		
10 Heat networks		
N/A		
11 Supporting documentary evidence		
<p>Documentary evidence identified in 11.1 and 11.2 is needed to confirm the data values used for any calculations undertaken, manufacturer declarations made, and tests performed as reflected in this "As built" BREL Compliance Report are correct.</p> <p>11.1 SAP Conventions, Appendix 1 (documentary evidence) schedules the minimum documentary evidence required.</p> <p>11.2 Indicative photographic evidence of key stages during construction (guidance within Approved Document L, Volume 1 – Appendix B) that confirms the products identified in this BREL Compliance Report are used in this dwelling, and workmanship is of sufficient quality to support the calculated values claimed in 2a to 2d.</p>		
12 Declarations		
a. Assessor Declaration		
This declaration by the assessor is confirmation that the contents of this BREL Compliance Report are a true and accurate reflection based upon the design and construction information submitted for this dwelling for the purpose of carrying out the assessment, and that the supporting documentary evidence (identified in 11.1 and 11.2) pursuant to Part L of the Building Regulations 2010 (as amended) has been reviewed in the course of preparing this BREL Compliance Report.		
Signe		Assessor 
Name		Date: 27/08/2025
b. Client Declaration		
This declaration by the client is confirmation that the dwelling has been constructed and completed according to the specifications set out in this BREL Compliance Report, and that photographic evidence of key stages, as described in 11.2, has been provided to the Assessor for this dwelling.		
Signed:		Organisation: JGR
Name:		Date: 27-8-25