

Bruton Enterprise Centre, Bruton
As Built SBEM and Commercial EPC
Carbon Emissions Calculation – Part L2a

For

Wernick Buildings
29th April 2021

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Melin Consultants fully check all work prior to completion and a robust audit trail exists to demonstrate accountability.

All information within this document is based on evidence provided in the form of drawings and specifications.

CPD (Continual Professional Development) records are kept and all technical staff are required to complete a minimum 20 hours per year in training activities.

Low Carbon Consultants have the expertise and necessary qualifications to offer advice in a professional capacity on matters relating to Part L of the Building Regulations and sustainability within the construction sector.

This document contains the following information:

- As Built Building Regulations Reports, Commercial EPC

Project Ref: 606815

Report Date: 29th April 2021

Report author: Darren Baker

Function: Senior Consultant

Authorised by: Jamie Best

Function: Director

Energy performance certificate (EPC)

Bruton Enterprise Centre
Frome Road
Bruton
BA10 0FF

Energy rating

A

Valid until

28 April 2031

Certificate number

4309-0152-8579-7523-9307

Property type

B1 Offices and Workshop businesses

Total floor area

326 square metres

Rules on letting this property

Properties can be let if they have an energy rating from A+ to E.

If a property has an energy rating of F or G, the landlord cannot grant a tenancy to new or existing tenants, unless an exemption has been registered.

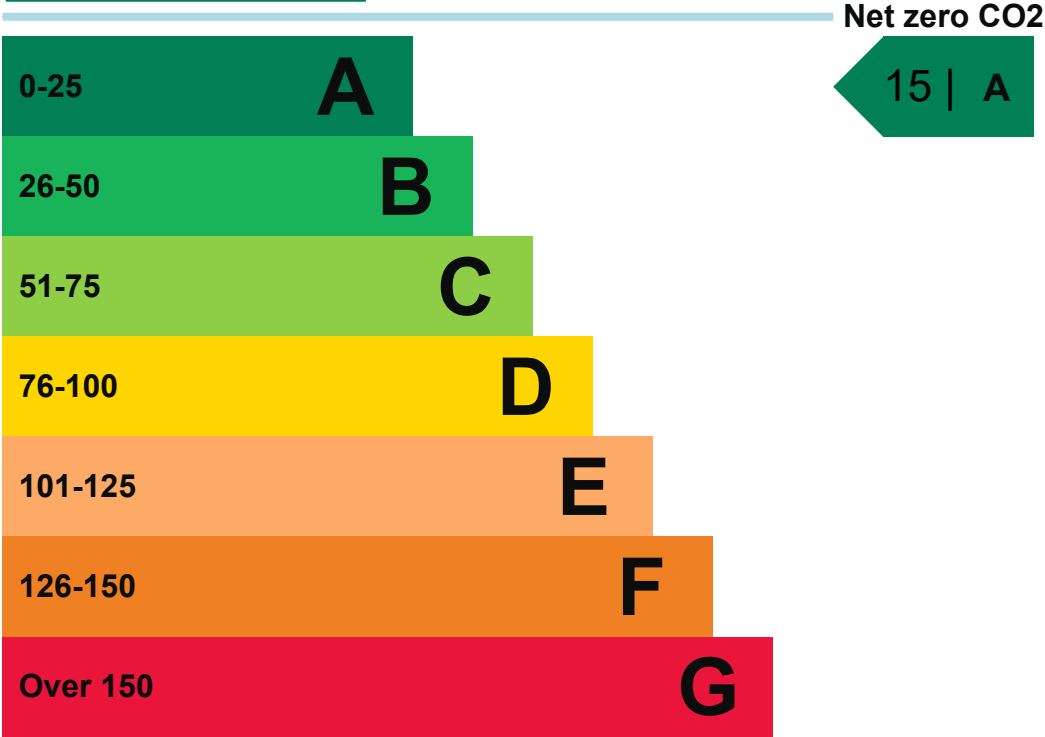
From 1 April 2023, landlords will not be allowed to continue letting a non-domestic property on an existing lease if that property has an energy rating of F or G.

You can read [guidance for landlords on the regulations and exemptions](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/824018/Non-Dom-Private-Rented-Property-Minimum-Standard-Landlord-Guidance.pdf) (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/824018/Non-Dom-Private-Rented-Property-Minimum-Standard-Landlord-Guidance.pdf).

Energy efficiency rating for this property

This property's current energy rating is A.

Under 0 **A+**



Properties are given a rating from A+ (most efficient) to G (least efficient).

Properties are also given a score. The larger the number, the more carbon dioxide (CO2) your property is likely to emit.

How this property compares to others

Properties similar to this one could have ratings:

If newly built

24 | A

If typical of the existing stock

70 | C

Breakdown of this property's energy performance

Main heating fuel

Grid Supplied Electricity

Building environment

Heating and Natural Ventilation

Assessment level

4

Building emission rate (kgCO₂/m² per year)

13.27

Primary energy use (kWh/m² per year)

107

▶ [What is primary energy use?](#)

Recommendation report

Guidance on improving the energy performance of this property can be found in the [recommendation report \(/energy-certificate/0287-1942-7929-7946-3563\)](/energy-certificate/0287-1942-7929-7946-3563).

Contacting the assessor and accreditation scheme

This EPC was created by a qualified energy assessor.

If you are unhappy about your property's energy assessment or certificate, you can complain to the assessor directly.

If you are still unhappy after contacting the assessor, you should contact the assessor's accreditation scheme.

Accreditation schemes are appointed by the government to ensure that assessors are qualified to carry out EPC assessments.

Assessor contact details

Assessor's name

Darren Baker

Telephone

0845 094 1593

Email

darren@melinconsultants.co.uk

Accreditation scheme contact details

Accreditation scheme

CIBSE Certification Limited

Assessor ID

LCEA125299

Telephone

020 8772 3649

Email

epc@cibsecertification.org

Assessment details**Employer**

Melin Consultants

Employer address

The Beacon, Llanelli, SA14 8LQ

Assessor's declaration

The assessor is not related to the owner of the property.

Date of assessment

29 April 2021

Date of certificate

29 April 2021

Other certificates for this property

If you are aware of previous certificates for this property and they are not listed here, please contact us at mhclg.digital-services@communities.gov.uk, or call our helpdesk on 020 3829 0748.

There are no related certificates for this property.

Project name

Bruton Enterprise Centre

As built

Date: Thu Apr 29 15:45:30 2021

Administrative information

Building Details

Address: Bruton Enterprise Centre, Frome Road, Bruton,
BA10 0FF

Certification tool

Calculation engine: SBEM

Calculation engine version: v5.6.b.0

Interface to calculation engine: Virtual Environment

Interface to calculation engine version: v7.0.13

BRUKL compliance check version: v5.6.b.0

Certifier details

Name: Darren Baker

Telephone number: 08450941593

Address: Melin Consultants, The Beacon, Dafen Business
Park, Llanelli, SA14 8LQCriterion 1: The calculated CO₂ emission rate for the building must not exceed the target

CO ₂ emission rate from the notional building, kgCO ₂ /m ² .annum	21.6
Target CO ₂ emission rate (TER), kgCO ₂ /m ² .annum	21.6
Building CO ₂ emission rate (BER), kgCO ₂ /m ² .annum	13.3
Are emissions from the building less than or equal to the target?	BER =< TER
Are as built details the same as used in the BER calculations?	Separate submission

Criterion 2: The performance of the building fabric and fixed building services should achieve reasonable overall standards of energy efficiency

Values which do not achieve the standards in the Non-Domestic Building Services Compliance Guide and Part L are displayed in red.

Building fabric

Element	U _a -Limit	U _a -Calc	U _i -Calc	Surface where the maximum value occurs*
Wall**	0.35	0.33	0.33	"BR000000_W-1"
Floor	0.25	0.25	0.25	"BR000000_F"
Roof	0.25	0.25	0.25	"BR000000_C"
Windows***, roof windows, and rooflights	2.2	1.6	1.6	"BR000000_W-1_O0"
Personnel doors	2.2	-	-	"No external personnel doors"
Vehicle access & similar large doors	1.5	-	-	"No external vehicle access doors"
High usage entrance doors	3.5	-	-	"No external high usage entrance doors"
U _a -Limit = Limiting area-weighted average U-values [W/(m ² K)] U _a -Calc = Calculated area-weighted average U-values [W/(m ² K)] U _i -Calc = Calculated maximum individual element U-values [W/(m ² K)]				
* There might be more than one surface where the maximum U-value occurs.				
** Automatic U-value check by the tool does not apply to curtain walls whose limiting standard is similar to that for windows.				
*** Display windows and similar glazing are excluded from the U-value check.				
N.B.: Neither roof ventilators (inc. smoke vents) nor swimming pool basins are modelled or checked against the limiting standards by the tool.				

Air Permeability	Worst acceptable standard	This building
m ³ /(h.m ²) at 50 Pa	10	5

Building services

The standard values listed below are minimum values for efficiencies and maximum values for SFPs. Refer to the Non-Domestic Building Services Compliance Guide for details.

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

1- Main system

	Heating efficiency	Cooling efficiency	Radiant efficiency	SFP [W/(l/s)]	HR efficiency
This system	3.2	-	-	-	-
Standard value	2.5*	N/A	N/A	N/A	N/A
Automatic monitoring & targeting with alarms for out-of-range values for this HVAC system					NO
* Standard shown is for all types >12 kW output, except absorption and gas engine heat pumps. For types <=12 kW output, refer to EN 14825 for limiting standards.					

1- SYST0000-DHW

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

Local mechanical ventilation, exhaust, and terminal units

ID	System type in Non-domestic Building Services Compliance Guide
A	Local supply or extract ventilation units serving a single area
B	Zonal supply system where the fan is remote from the zone
C	Zonal extract system where the fan is remote from the zone
D	Zonal supply and extract ventilation units serving a single room or zone with heating and heat recovery
E	Local supply and extract ventilation system serving a single area with heating and heat recovery
F	Other local ventilation units
G	Fan-assisted terminal VAV unit
H	Fan coil units
I	Zonal extract system where the fan is remote from the zone with grease filter

Zone name	SFP [W/(l/s)]										HR efficiency	
	ID of system type	A	B	C	D	E	F	G	H	I	Zone	Standard
	Standard value	0.3	1.1	0.5	1.9	1.6	0.5	1.1	0.5	1		
WC		0.3	-	-	-	-	-	-	-	-	-	N/A
WC		0.3	-	-	-	-	-	-	-	-	-	N/A
Shower		0.3	-	-	-	-	-	-	-	-	-	N/A
WC - Accessible		0.3	-	-	-	-	-	-	-	-	-	N/A
Kitchen		0.3	-	-	-	-	-	-	-	-	-	N/A

General lighting and display lighting

Zone name	Luminous efficacy [lm/W]			General lighting [W]
	Luminaire	Lamp	Display lamp	
	Standard value	60	60	22
Studio	95	-	-	502
Meeting Room	95	-	-	135
Office Meeting	95	-	-	135
Office 001	95	-	-	97
Office 002	95	-	-	93
Office 003	95	-	-	93

General lighting and display lighting		Luminous efficacy [lm/W]			General lighting [W]
Zone name	Standard value	Luminaire	Lamp	Display lamp	
	Standard value	60	60	22	
Office 004		95	-	-	93
Office 005		95	-	-	93
Office 006		95	-	-	105
Office 007		95	-	-	101
Office 008		95	-	-	101
Office 009		95	-	-	101
Office 010		95	-	-	101
WC		-	95	-	28
WC		-	95	-	28
Shower		-	95	-	31
WC - Accessible		-	95	-	33
Store		95	-	-	8
Electric Switch		95	-	-	32
Kitchen		-	95	-	91
Entrance		-	95	95	132
Corridor		-	95	-	56

Criterion 3: The spaces in the building should have appropriate passive control measures to limit solar gains

Zone	Solar gain limit exceeded? (%)	Internal blinds used?
Studio	NO (-66.7%)	NO
Meeting Room	NO (-33.7%)	NO
Office Meeting	NO (-33.9%)	NO
Office 001	NO (-85.9%)	NO
Office 002	NO (-68.4%)	NO
Office 003	NO (-68.4%)	NO
Office 004	NO (-68.4%)	NO
Office 005	NO (-68.4%)	NO
Office 006	NO (-77.9%)	NO
Office 007	NO (-50.5%)	NO
Office 008	NO (-50.5%)	NO
Office 009	NO (-50.5%)	NO
Office 010	NO (-50.5%)	NO
Entrance	NO (-40.4%)	NO

Criterion 4: The performance of the building, as built, should be consistent with the calculated BER

Separate submission

Criterion 5: The necessary provisions for enabling energy-efficient operation of the building should be in place

Separate submission

EPBD (Recast): Consideration of alternative energy systems

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

Technical Data Sheet (Actual vs. Notional Building)

Building Global Parameters

	Actual	Notional
Area [m ²]	325.8	325.8
External area [m ²]	992.7	992.7
Weather	SWI	SWI
Infiltration [m ³ /hm ² @ 50Pa]	5	3
Average conductance [W/K]	328.16	371.76
Average U-value [W/m ² K]	0.33	0.37
Alpha value* [%]	9.22	16.15

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

Building Use

% Area Building Type

	A1/A2 Retail/Financial and Professional services
	A3/A4/A5 Restaurants and Cafes/Drinking Est./Takeaways
100	B1 Offices and Workshop businesses
	B2 to B7 General Industrial and Special Industrial Groups
	B8 Storage or Distribution
	C1 Hotels
	C2 Residential Institutions: Hospitals and Care Homes
	C2 Residential Institutions: Residential schools
	C2 Residential Institutions: Universities and colleges
	C2A Secure Residential Institutions
	Residential spaces
	D1 Non-residential Institutions: Community/Day Centre
	D1 Non-residential Institutions: Libraries, Museums, and Galleries
	D1 Non-residential Institutions: Education
	D1 Non-residential Institutions: Primary Health Care Building
	D1 Non-residential Institutions: Crown and County Courts
	D2 General Assembly and Leisure, Night Clubs, and Theatres
	Others: Passenger terminals
	Others: Emergency services
	Others: Miscellaneous 24hr activities
	Others: Car Parks 24 hrs
	Others: Stand alone utility block

Energy Consumption by End Use [kWh/m²]

	Actual	Notional
Heating	18.8	18.46
Cooling	0	0
Auxiliary	1.1	1.06
Lighting	14.38	22.33
Hot water	0.73	0.87
Equipment*	38.78	38.78
TOTAL**	35.01	42.72

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

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

Energy Production by Technology [kWh/m²]

	Actual	Notional
Photovoltaic systems	9.45	0
Wind turbines	0	0
CHP generators	0	0
Solar thermal systems	0	0

Energy & CO₂ Emissions Summary

	Actual	Notional
Heating + cooling demand [MJ/m ²]	258.92	267.1
Primary energy* [kWh/m ²]	107.48	127.86
Total emissions [kg/m ²]	13.3	21.6

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

HVAC Systems Performance

System Type	Heat dem MJ/m ²	Cool dem MJ/m ²	Heat con kWh/m ²	Cool con kWh/m ²	Aux con kWh/m ²	Heat SSEFF	Cool SSEER	Heat gen SEFF	Cool gen SEER
[ST] Central heating using water: floor heating, [HS] Heat pump (electric): air source, [HFT] Electricity, [CFT] Electricity									
Actual	193.3	65.7	18.8	0	1.1	2.86	0	3.2	0
Notional	161.5	105.6	18.5	0	1.1	2.43	0	----	----

Key to terms

Heat dem [MJ/m ²]	= Heating energy demand
Cool dem [MJ/m ²]	= Cooling energy demand
Heat con [kWh/m ²]	= Heating energy consumption
Cool con [kWh/m ²]	= Cooling energy consumption
Aux con [kWh/m ²]	= Auxiliary energy consumption
Heat SSEFF	= Heating system seasonal efficiency (for notional building, value depends on activity glazing class)
Cool SSEER	= Cooling system seasonal energy efficiency ratio
Heat gen SSEFF	= Heating generator seasonal efficiency
Cool gen SSEER	= Cooling generator seasonal energy efficiency ratio
ST	= System type
HS	= Heat source
HFT	= Heating fuel type
CFT	= Cooling fuel type

Key Features

The Building Control Body is advised to give particular attention to items whose specifications are better than typically expected.

Building fabric

Element	U _{i-Typ}	U _{i-Min}	Surface where the minimum value occurs*
Wall	0.23	0.33	"BR000000_W-1"
Floor	0.2	0.25	"BR000000_F"
Roof	0.15	0.25	"BR000000_C"
Windows, roof windows, and rooflights	1.5	1.6	"BR000000_W-1_O0"
Personnel doors	1.5	-	"No external personnel doors"
Vehicle access & similar large doors	1.5	-	"No external vehicle access doors"
High usage entrance doors	1.5	-	"No external high usage entrance doors"
U _{i-Typ} = Typical individual element U-values [W/(m ² K)]		U _{i-Min} = Minimum individual element U-values [W/(m ² K)]	
* There might be more than one surface where the minimum U-value occurs.			

Air Permeability	Typical value	This building
m ³ /(h.m ²) at 50 Pa	5	5