

Zone	Solar gain limit exceeded? (%)	Internal blinds used?
2.53-02_Radio Studio	N/A	N/A
2.45-02_Meeting Rm	N/A	N/A
2.57-02_Mac Suite	N/A	N/A
2.49-02_Meeting Rm	N/A	N/A
2.55-02_TV & Film	N/A	N/A
2.50-02_HE LRC & Social	N/A	N/A
2.51-02_Meeting Rm	N/A	N/A
2.59-02_3D Games	N/A	N/A
3.29-03_Fashion & Pattern Cutting	NO (-31.6%)	NO
3.38-03_IT Hub	N/A	N/A
3.55-03_Staff	NO (-29.7%)	NO
3.64-03_Photo	NO (-48.6%)	NO
3.65-03_Studio	NO (-67.3%)	NO
3.01-03_Special Effects Studio	NO (-5.3%)	NO
3.05-03_Spray Booth	N/A	N/A
3.08-03_Photography Studio	N/A	N/A
3.10-03_Darkrm - Wet	NO (-7.8%)	NO
3.09-03_Darkrm - Processing	N/A	N/A
3.11-03_Photography Studio	NO (-4.9%)	NO
3.13-03_Photography St	N/A	N/A
3.18-03_Textile Print Studio	NO (-31.7%)	NO
3.20-03_Print Making Studio	NO (-35.3%)	NO
3.26-03_Kiln Room	NO (-47.2%)	NO
3.24-03_Ceramics Studio	NO (-32.2%)	NO
3.30-03_3D Workshop	N/A	N/A
4.27-04_IT Hub	N/A	N/A
4.32-04_Rehearsal Rm - Flexible	NO (-17.4%)	NO
4.31-04_General Teaching	NO (-31.6%)	NO
4.30-04_General Teaching	NO (-8.9%)	NO
4.29-04_General Teaching	NO (-32.6%)	NO
4.28-04_Computer Suite	NO (-12.3%)	NO
4.40-04_Ensemble Singing	NO (-29.6%)	NO
4.51-04_1-2-1	N/A	N/A
4.54-04_Audio Live	NO (-6.5%)	NO
4.53-04_Audio Control	YES (+5.9%)	NO
4.03-04_Rehearsal Rm - Flexible	YES (+14.3%)	NO
4.04-04_Rehearsal Rm - Flexible	YES (+14.2%)	NO
4.06-04_Rehearsal Rm - Flexible	YES (+15.4%)	NO
4.17-04_Stu Ex.	N/A	N/A
4.18-04_Singing	N/A	N/A
4.20-04_Ensemble Singing	N/A	N/A
4.48-04_Staff	N/A	N/A
1.39-01_Wardrobe Store	NO (-75.5%)	NO
1.58-01_HE Union	NO (-25.7%)	NO
1.59-01_Future-U	NO (-36.8%)	NO
2.06-02_Software Development	NO (-43%)	NO
4.16-04_Staff	NO (-67.2%)	NO
3.03-03_Fibre Glass Workshop Specialist	N/A	N/A
3.03-03_Fibre Glass Workshop	NO (-18.7%)	NO

Zone	Solar gain limit exceeded? (%)	Internal blinds used?
3.02-03_Encapsulation Specialist	N/A	N/A
3.02-03_Encapsulation	NO (-51.2%)	NO
0.65-00_01_Film Studio	N/A	N/A
1.57-01_HE Social	NO (-88.5%)	NO
3.35-03_Art Studios & Drawing Room	NO (-78.4%)	NO
1.15-01_Quiet Study	NO (-21.6%)	NO
1.06-01_Social Dining	YES (+56.4%)	NO
3.46-03_HE Art studios & Digi	NO (-80.2%)	NO
0.67-00_01_Teaching Studio	N/A	N/A
0.27-00_Social	NO (-93.9%)	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?	NO
Is evidence of such assessment available as a separate submission?	NO
Are any such measures included in the proposed design?	NO

Technical Data Sheet (Actual vs. Notional Building)

Building Global Parameters

	Actual	Notional
Area [m ²]	18394.6	18394.6
External area [m ²]	17698.1	17698.1
Weather	MAN	MAN
Infiltration [m ³ /hm ² @ 50Pa]	5	3
Average conductance [W/K]	6163.22	7039.94
Average U-value [W/m ² K]	0.35	0.4
Alpha value* [%]	9.52	10

* 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
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
100 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	3.85	4.49
Cooling	2.85	6.09
Auxiliary	11.55	7.79
Lighting	11.15	23.39
Hot water	13.87	12.48
Equipment*	44.88	44.88
TOTAL **	43.26	54.25

* 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	3.78	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]	86.5	101.41
Primary energy* [kWh/m ²]	99.86	135.66
Total emissions [kg/m ²]	14.9	22.7

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

HVAC Systems Performance										
System Type	Heat dem MJ/m2	Cool dem MJ/m2	Heat con kWh/m2	Cool con kWh/m2	Aux con kWh/m2	Heat SSEEF	Cool SSEER	Heat gen SEFF	Cool gen SEER	
[ST] Central heating using water: radiators, [HS] LTHW boiler, [HFT] Natural Gas, [CFT] Electricity										
Actual	19.6	0	6.4	0	13.5	0.85	0	0.91	0	
Notional	0	0	0	0	0	0	0	----	----	
[ST] Central heating using water: radiators, [HS] LTHW boiler, [HFT] Natural Gas, [CFT] Electricity										
Actual	50.3	0	16.3	0	14.2	0.85	0	0.91	0	
Notional	26.4	0	8.5	0	9.5	0.86	0	----	----	
[ST] Split or multi-split system, [HS] LTHW boiler, [HFT] Natural Gas, [CFT] Electricity										
Actual	98.7	166.8	6.4	9.5	1.4	4.32	4.86	4.4	6.5	
Notional	17.2	0	5.6	0	8.5	0.86	0	----	----	
[ST] Chilled ceilings or passive chilled beams and displacement ventilation, [HS] Heat pump (electric): air source, [HFT] Electricity										
Actual	6.2	15.7	0.5	1	15.7	3.29	4.34	3.75	4.75	
Notional	90.1	206.1	29	15.1	1.1	0.86	3.79	----	----	
[ST] Central heating using water: radiators, [HS] LTHW boiler, [HFT] Natural Gas, [CFT] Electricity										
Actual	0.1	0	0	0	11.2	0.85	0	0.91	0	
Notional	3.7	43.6	0.4	3.2	13.1	2.56	3.79	----	----	
[ST] Split or multi-split system, [HS] Heat pump (electric): air source, [HFT] Electricity, [CFT] Electricity										
Actual	13.6	118.3	0.7	4.7	7.3	5.59	7.06	5.7	9.45	
Notional	0.1	0	0	0	6.3	0.86	0	----	----	
[ST] Single-duct VAV, [HS] LTHW boiler, [HFT] Natural Gas, [CFT] Electricity										
Actual	24.6	45	10.2	4	37.1	0.67	3.13	0.91	5.04	
Notional	12	141.1	1.3	10.3	5.5	2.56	3.79	----	----	
[ST] No Heating or Cooling										
Actual	0	0	0	0	0	0	0	0	0	
Notional	37.7	76.3	12.1	5.6	18.4	0.86	3.79	----	----	

Key to terms

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

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	0.15	FN000000:Surf[4]
Floor	0.2	0.15	FN000000:Surf[0]
Roof	0.15	0.15	FN000021:Surf[1]
Windows, roof windows, and rooflights	1.5	1.27	FN000000:Surf[1]
Personnel doors	1.5	0.66	FN000000:Surf[3]
Vehicle access & similar large doors	1.5	-	No Vehicle access doors in building
High usage entrance doors	1.5	-	No High usage entrance doors in building
U _{i-Typ} = Typical individual element U-values [W/(m²K)]		U _{i-Min} = Minimum individual element U-values [W/(m²K)]	
* There might be more than one surface where the minimum U-value occurs.			

Air Permeability	Typical value	This building
m³/(h.m²) at 50 Pa	5	5