

BRIRL Output Document

Compliance Assessment with the Building Regulations (Ireland) Part L

This report demonstrates compliance with specific aspects of Part L of the Building Regulations. Compliance with all aspects of Part L is a legal requirement. Demonstration of how compliance with every aspect is achieved may be sought from the Building Control Authority.

Office Building

Date: Fri May 22 15:56:31 2009

Administrative information

Building Details

Address: Co. Kildare

NEAP

Calculation engine: SBEM

Calculation engine version: v3.3.b

Interface to calculation engine: iSBEM

Interface to calculation engine version: v3.3.b

BRIRL compliance check version: v3.3.b

Occupier Details

Name: Mr Liam O'Connor

Telephone number: 987654321

Address: Information not provided by the user, Kildare

Energy Assessor Details

Name: D. O'Neill

Telephone number: 01 6016434

Address: 18 Beaufield Green, Kildare

Primary Energy Consumption and CO2 Emissions

The Energy Performance Coefficient (EPC) and Carbon Performance Coefficient (CPC) satisfy the values specified in the Building Regulations (Ireland) Part L

Calculated CO2 emission rate from reference building	164.5 kgCO2/m2.annum
Calculated CO2 emission rate from actual building	126.1 kgCO2/m2.annum
Carbon Performance Coefficient (CPC)	0.77
Maximum Permitted Carbon Performance Coefficient (MPCPC)	1
Calculated primary energy consumption rate from reference building	716.9 kWh/m2.annum
Calculated primary energy consumption rate from actual building	541.5 kWh/m2.annum
Energy Performance Coefficient (EPC)	0.76
Maximum Permitted Energy Performance Coefficient (MPEPC)	1

Heat Transmission through Building Fabric

The U values satisfy those specified in the overall heat loss method in the Building Regulations (Ireland) Part L

Element - (Overall heat loss method)	U _{Max}	U _{Calc}
Walls	0.37	0.24
Floors (ground and exposed)	0.37	0.15
Roofs	0.25	0.25
Windows, roof windows, and rooflights	-	2.1
Personnel doors	-	2
Vehicle access & similar large doors	-	0
High usage entrance doors	-	0
Area-weighted average of all elements	0.62	0.33
U _{Max} = Maximum area-weighted average U-values [W/(m2K)] U _{Calc} = This building's calculated area-weighted average U-values [W/(m2K)]		

Air Permeability	Maximum Allowed	This Building's value
m3/(h.m2) at 50 Pa	Maximum air permeability not specified	8

Building Services

1 - HVAC for the example building

Efficiency Check	Minimum Heat Source Seasonal Efficiency	This Building's Value
Heat source efficiency	Minimum heat source efficiency not specified	0.89
Oil and gas fired boilers should satisfy the efficiency requirements specified in S.I. No. 260 of 1994: European Communities (Efficiency Requirements for New Hot Water Boilers Fired with Liquid or Gaseous Fuels) Regulations, 1994.		
Efficiency Check	Minimum Cooling Nominal Efficiency	This Building's Value
Cooling efficiency	Minimum cooling efficiency not specified	3.12
Efficiency Check	Maximum Specific Fan Power	This Building's Value
Specific fan power	Maximum specific fan power not specified	2.2

No HWS in project, or hot water is provided by HVAC system

Technical Data Sheet (Actual vs. Reference Building)

Building Global Parameters

	Actual	Reference
Area (m2)	2900	2900
External area (m2)	4308	4308
Weather	DUB	DUB
Infiltration (m3/hm2 @ 50Pa)	8	10
Average conductance (W/K)	1423.93	2845.54
Average U-value (W/m2K)	0.33	0.66
Alpha value (%)	5.71	16

Building Use

% area	Building Type
53	Office
	Primary school
	Secondary school
	Further education universities
	Primary health care buildings
	Nursing residential homes and hostels
	Hospital
	Hotel
16	Restaurant/public house
	Sports centre/leisure centre
	Sports ground arena
31	Retail
	Warehouse and storage
	Theatres/cinemas/music halls and auditoria
	Social clubs
	Community/day centre
	Libraries/museums/galleries
	Prisons
	Emergency services
	Crown and county courts
	Airport terminals
	Bus station/train station/seaport terminal
	Workshops/maintenance depot
	Telephone exchanges
	Industrial process building
	Launderette
	Dwelling
	Retail warehouses
	Miscellaneous 24hr activities

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 SSEFF	Cool SSEER	Heat gen SEFF	Cool gen SEER
[ST] No Heating or Cooling, [HS] LTHW boiler, [HFT] Oil, [CFT] Grid Supplied Electricity									
Actual	0	0.5	0	0	4.6	0	0	0	0
Reference	0	139	0	0	1.5	0	0	----	----
[ST] Single-duct VAV, [HS] LTHW boiler, [HFT] Natural Gas, [CFT] Grid Supplied Electricity									
Actual	66.2	370.1	22.8	57.8	38.5	0.81	1.78	0.89	2.5
Reference	177.4	507.9	59.4	84.5	34.5	0.83	1.67	----	----

Key to terms

Alpha value (%)	= percentage of the building's average heat transfer coefficient which is due to thermal bridging
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
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