

Property Ref	House Type	Property Type	Total Floor Area	Ground Floor Area	External Wall U Value	Plane Ceiling Insulation Thickness	Plane Ceiling U Value	Sloping Roof U Value	Window U Value	Window Solar Transmission	Front Door U Value	V Value	Design Air Pressure	Bolker Reference	Heating Controls	Cylinder Volume	Cylinder Measured Heat	Ventilation	MINIMUM PV Allocation per plot kWh/year	Total MINIMUM Site PV Requirement kWh/year	Secondary Heating System	Secondary Heating Efficiency	DER	TER	% Reduction	DPE	TREE	% Reduction	Heating Design correct (%)	Heating design comments
4007-0025-4334-351	16-Broth-Det (Det)	D	187.05	0.18	0.25	300mm	0.11	0.16	1.40	0.71	1.00	0.058	5.01	Ideal LOGIC HEAT HHS	Time and temperature zone control	210	1.48	5	875					12.40	15.38	19.26	58.39	57.11	11.27	
4007-0025-4334-352	4-Hall-Det (Det)	E	79.08	0.18	0.25	250mm	0.18		1.40	0.71	1.00	0.044	5.01	Ideal LOGIC COMB ESP1 35	Programmer, room thermostat and TRVs			3	500					14.44	17.84	19.53	48.03	49.57	7.15	
4007-0025-4334-353	4-Hall-Det (Det)	M	79.08	0.18	0.25	250mm	0.18		1.40	0.71	1.00	0.052	5.01	Ideal LOGIC COMB ESP1 35	Programmer, room thermostat and TRVs			3	400					13.30	16.52	19.30	37.82	41.28	8.59	
4007-0025-4334-354	4-Hall-Det (Det)	E	79.08	0.18	0.25	250mm	0.18		1.40	0.71	1.00	0.040	5.01	Ideal LOGIC COMB ESP1 35	Programmer, room thermostat and TRVs			3	500					14.42	17.89	19.41	45.52	48.47	6.75	
4007-0025-4334-355	8-Corner-Det (Det)	S	102.82	0.18	0.25	350mm	0.12		1.40	0.71	1.00	0.041	5.01	Ideal LOGIC COMB ESP1 35	Programmer, room thermostat and TRVs			4	875					13.45	16.74	19.86	44.76	50.18	10.81	
4007-0025-4334-356	12-Jumper-Det (Det)	S	103.18	0.18	0.25	350mm	0.12		1.40	0.71	1.00	0.048	5.01	Ideal LOGIC COMB ESP1 35	Programmer, room thermostat and TRVs			4	565					13.67	16.68	19.34	48.35	51.38	10.82	
4007-0025-4334-357	14A-Agave-Det (Det)	D	127.3	0.18	0.25	350mm	0.12		1.40	0.71	1.00	0.033	5.01	Ideal LOGIC COMB ESP1 35	Programmer, room thermostat and TRVs			5	785					13.75	17.10	19.58	52.78	58.79	10.24	
4007-0025-4334-358	16B-A-Magpie-Det (Det)	D	187.08	0.18	0.25	300mm	0.12		1.40	0.71	1.00	0.034	5.01	Ideal LOGIC HEAT HHS	Time and temperature zone control	210	1.48	5	975					12.80	16.02	19.47	53.78	60.96	11.19	
4007-0025-4334-359	12-Jumper-Det (Det)	D	113.1	0.18	0.25	300mm	0.14		1.40	0.71	1.00	0.035	5.01	Ideal LOGIC COMB ESP1 35	Programmer, room thermostat and TRVs			4	705					13.80	17.17	19.55	50.21	55.79	9.99	
4007-0025-4334-360	9-Beech-Det (Det)	S	105.81	0.18	0.25	250mm	0.18	0.20	1.40	0.71	1.00	0.044	5.01	Ideal LOGIC COMB ESP1 35	Programmer, room thermostat and TRVs			3	825					13.68	16.87	19.38	47.19	51.71	8.73	
4007-0025-4334-361	9-Beech-Det (Det)	S	105.81	0.18	0.25	300mm	0.18	0.20	1.40	0.71	1.00	0.044	5.01	Ideal LOGIC COMB ESP1 35	Programmer, room thermostat and TRVs			3	825					13.68	16.87	19.38	47.19	51.71	8.73	
4007-0025-4334-362	14AB-Agave-Det (Det)	D	128.52	0.18	0.25	350mm	0.12		1.40	0.71	1.00	0.037	5.01	Ideal LOGIC COMB ESP1 35	Programmer, room thermostat and TRVs			5	875					13.72	17.08	19.57	53.33	59.12	9.78	
4007-0025-4334-363	14-Agave-Det (Det)	D	127.3	0.18	0.25	350mm	0.12		1.40	0.71	1.00	0.034	5.01	Ideal LOGIC COMB ESP1 35	Programmer, room thermostat and TRVs			5	875					13.84	17.18	19.44	53.22	59.33	10.30	
4007-0025-4334-364	14-Agave-Det (Det)	D	127.3	0.18	0.25	350mm	0.12		1.40	0.71	1.00	0.034	5.01	Ideal LOGIC COMB ESP1 35	Programmer, room thermostat and TRVs			5	875					13.84	17.18	19.44	53.22	59.33	10.30	
4007-0025-4334-365	16-Broth-Det (Det)	D	187.03	0.18	0.25	300mm	0.11	0.16	1.40	0.71	1.00	0.035	5.01	Ideal LOGIC HEAT HHS	Time and temperature zone control	210	1.48	6	975					12.41	15.37	19.26	50.20	56.90	11.78	
4007-0025-4334-366	16-Broth-Det (Det)	D	187.03	0.18	0.25	300mm	0.11	0.16	1.40	0.71	1.00	0.035	5.01	Ideal LOGIC HEAT HHS	Time and temperature zone control	210	1.48	6	975					12.41	15.37	19.26	50.20	56.90	11.78	
4007-0025-4334-367	16A-Broth-Det (Det)	D	188.31	0.18	0.25	350mm	0.11	0.16	1.40	0.71	1.00	0.038	5.01	Ideal LOGIC HEAT HHS	Time and temperature zone control	210	1.48	6	975					12.78	15.78	19.04	52.94	59.82	11.71	
4007-0025-4334-368	14-Agave-Det (Det)	D	127.3	0.18	0.25	350mm	0.12		1.40	0.71	1.00	0.034	5.01	Ideal LOGIC COMB ESP1 35	Programmer, room thermostat and TRVs			5	875					13.84	17.18	19.44	53.22	59.33	10.30	
4007-0025-4334-369	12-Jumper-Det (Det)	D	113.1	0.18	0.25	300mm	0.14		1.40	0.71	1.00	0.035	5.01	Ideal LOGIC COMB ESP1 35	Programmer, room thermostat and TRVs			4	725					13.84	17.29	19.40	51.14	56.87	9.75	
4007-0025-4334-370	14B-Agave-Det (Det)	D	128.52	0.18	0.25	350mm	0.12		1.40	0.71	1.00	0.037	5.01	Ideal LOGIC COMB ESP1 35	Programmer, room thermostat and TRVs			5	875					13.72	17.08	19.57	53.33	59.12	9.78	
4007-0025-4334-371	8-Corner-Det (Det)	S	102.82	0.18	0.25	300mm	0.12		1.40	0.71	1.00	0.040	5.01	Ideal LOGIC COMB ESP1 35	Programmer, room thermostat and TRVs			4	875					14.77	16.26	19.09	52.65	58.46	9.93	
4007-0025-4334-372	4-Hall-Det (Det)	S	79.08	0.18	0.25	250mm	0.18		1.40	0.71	1.00	0.044	5.01	Ideal LOGIC COMB ESP1 35	Programmer, room thermostat and TRVs			3	500					14.75	16.24	19.12	47.17	50.96	7.45	
4007-0025-4334-373	4-Hall-Det (Det)	S	79.08	0.18	0.25	250mm	0.18		1.40	0.71	1.00	0.044	5.01	Ideal LOGIC COMB ESP1 35	Programmer, room thermostat and TRVs			3	500					14.75	16.24	19.12	47.17	50.96	7.45	
4007-0025-4334-374	14-Agave-Det (Det)	D	127.3	0.18	0.25	350mm	0.12		1.40	0.71	1.00	0.034	5.01	Ideal LOGIC COMB ESP1 35	Programmer, room thermostat and TRVs			5	850					13.77	17.03	19.12	52.02	58.05	10.40	
4007-0025-4334-375	16A-Broth-Det (Det)	D	188.31	0.18	0.25	300mm	0.11	0.16	1.40	0.71	1.00	0.038	5.01	Ideal LOGIC HEAT HHS	Time and temperature zone control	210	1.48	6	975					12.73	15.76	19.01	52.02	59.10	11.89	
4007-0025-4334-376	16-Broth-Det (Det)	D	187.03	0.18	0.25	300mm	0.11	0.16	1.40	0.71	1.00	0.035	5.01	Ideal LOGIC HEAT HHS	Time and temperature zone control	210	1.48	6	975					12.68	15.66	19.04	51.83	58.76	11.79	
4007-0025-4334-377	16B-A-Magpie-Det (Det)	D	187.08	0.18	0.25	300mm	0.12		1.40	0.71	1.00	0.034	5.01	Ideal LOGIC HEAT HHS	Time and temperature zone control	210	1.48	6	975					13.07	16.18	19.24	54.37	61.45	11.19	
4007-0025-4334-378	16B-A-Magpie-Det (Det)	D	187.08	0.18	0.25	300mm	0.12		1.40	0.71	1.00	0.034	5.01	Ideal LOGIC HEAT HHS	Time and temperature zone control	210	1.48	6	975					13.02	16.15	19.20	54.11	61.36	11.37	
4007-0025-4334-379	12-Jumper-Det (Det)	D	113.1	0.18	0.25	300mm	0.14		1.40	0.71	1.00	0.035	5.01	Ideal LOGIC COMB ESP1 35	Programmer, room thermostat and TRVs			4	750					13.65	16.91	19.29	49.04	54.22	9.58	
4007-0025-4334-380	8-Corner-Det (Det)	S	102.82	0.18	0.25	300mm	0.12		1.40	0.71	1.00	0.041	5.01	Ideal LOGIC COMB ESP1 35	Programmer, room thermostat and TRVs			4	875					13.48	16.74	19.80	44.77	50.18	10.77	
4007-0025-4334-381	8-Corner-Det (Det)	S	102.82	0.18	0.25	350mm	0.12		1.40	0.71	1.00	0.041	5.01	Ideal LOGIC COMB ESP1 35	Programmer, room thermostat and TRVs			4	875					13.48	16.74	19.80	44.77	50.18	10.77	
4007-0025-4334-382	16A-Broth-Det (Det)	D	188.31	0.18	0.25	300mm	0.11	0.16	1.40	0.71	1.00	0.038	5.01	Ideal LOGIC HEAT HHS	Time and temperature zone control	210	1.48	6	975					12.78	15.76	19.04	52.04	59.02	11.89	
4007-0025-4334-383	14-Agave-Det (Det)	D	127.3	0.18	0.25	350mm	0.12		1.40	0.71	1.00	0.034	5.01	Ideal LOGIC COMB ESP1 35	Programmer, room thermostat and TRVs			5	875					13.75	17.10	19.59	52.81	58.94	10.24	
4007-0025-4334-384	16B-A-Magpie-Det (Det)	D	187.08	0.18	0.25	300mm	0.12		1.40	0.71	1.00	0.034	5.01	Ideal LOGIC HEAT HHS	Time and temperature zone control	210	1.48	6	975					12.86	16.06	19.44	53.83	60.32	11.09	
4007-0025-4334-385	16-Broth-Det (Det)	D	187.03	0.18	0.25	300mm	0.11	0.16	1.40	0.71	1.00	0.035	5.01	Ideal LOGIC HEAT HHS	Time and temperature zone control	210	1.48	6	975					12.71	15.71	19.08	51.84	58.41	12.88	
4007-0025-4334-386	20-Lime-Det (Det)	D	191.48	0.18	0.25	350mm	0.12		1.40	0.71	1.00	0.034	5.01	Ideal LOGIC HEAT HHS	Time and temperature zone control	260	1.78	9	825					12.13	15.03	19.28	51.43	57.57	10.67	
4007-0025-4334-387	16A-Broth-Det (Det)	D	188.31	0.18	0.25	300mm	0.11	0.16	1.40	0.71	1.00	0.038	5.01	Ideal LOGIC HEAT HHS	Time and temperature zone control	210	1.48	6	975					12.74	15.75	19.10	52.49	59.43	11.89	
4007-0025-4334-388	12-Jumper-Det (Det)	D	113.1	0.18	0.25	300mm	0.14		1.40	0.71	1.00	0.035	5.01	Ideal LOGIC COMB ESP1 35	Programmer, room thermostat and TRVs			4	725					13.84	17.29	19.40	51.14	56.87	9.75	
4007-0025-4334-389	14AB-Agave-Det (Det)	D	128.52	0.18	0.25	350mm	0.12		1.40	0.71	1.00	0.037	5.01	Ideal LOGIC COMB ESP1 35	Programmer, room thermostat and TRVs			5	875					13.86	17.23	19.46	53.51	59.71	10.39	
4007-0025-4334-390	14AB-Agave-Det (Det)	D	128.52	0.18	0.25	350mm	0.12		1.40	0.71	1.00	0.037	5.01	Ideal LOGIC COMB ESP1 35	Programmer, room thermostat and TRVs			5	875					14.05	17.38	19.57	54.59	60.81	9.92	
4007-0025-4334-391	12-Jumper-Det (Det)	D	113.1	0.18	0.25	300mm	0.14		1.40	0.71	1.00	0.035	5.01	Ideal LOGIC COMB ESP1 35	Programmer, room thermostat and TRVs			4	725					13.84	17.2					

U VALUES		
Element	Description	U Value Achieved
External Wall - Full Fill	12.5mm plasterboard on dabs, 100mm Celcon Standard ($\lambda = 0.15$), 100mm Knauf Supafil 34, brick or dense block and render outer	0.25 W/m ² K
External Wall - Dormer Cheek	Pre-Fabricated GRP dormers supplied by Exallot or Stormking	0.25 W/m ² K
Ground Floor - Beamshield/Supreme Concret	Beamshield with Supreme Concrete Beams. 150mm White Infill + 75mm White Top Sheet.	0.18 W/m ² K (P/A)
External Roof - Plane 400mm	2.5mm Plasterboard, 100mm Knauf Earthwool Loft Roll 44 ($\lambda = 0.044$) between rafters, 300mm Knauf Earthwool Loft Roll 44 cross la	0.11 W/m ² K
External Roof - Plane 350mm	2.5mm Plasterboard, 100mm Knauf Earthwool Loft Roll 44 ($\lambda = 0.044$) between rafters, 250mm Knauf Earthwool Loft Roll 44 cross la	0.12 W/m ² K
External Roof - Plane 300mm	2.5mm Plasterboard, 100mm Knauf Earthwool Loft Roll 44 ($\lambda = 0.044$) between rafters, 200mm Knauf Earthwool Loft Roll 44 cross la	0.14 W/m ² K
External Roof - Plane 250mm	2.5mm Plasterboard, 100mm Knauf Earthwool Loft Roll 44 ($\lambda = 0.044$) between rafters, 150mm Knauf Earthwool Loft Roll 44 cross la	0.18 W/m ² K
External Roof - Sloping Ceiling	15mm BG Gyproc Wallboard Duplex, 40mm Kingspan Thermapitch TP10 ($\lambda = 0.022$) to underside of rafters, 100mm Thermapitch TP10 between rafters	0.16 W/m ² K
External Roof - Sloping Ceiling (Smartroof)	Smartroof	0.20 W/m ² K
External Roof - Dormer Roof	Pre Fabricated GRP Dormers by Exallot or Stormking	0.25 W/m ² K
Porch/Bay Roof	Pre-Fabricated GRP porch canopies/bay roofs supplied by Exallot or Stormking, to achieve the same U-Value as Plane Ceiling	0.12 W/m ² K

PSI VALUES			
Junction with External Wall	Junction Detail	Specification	Junction reference
E2	Other Lintels (including other steel Lintels)	Bovis Calculated	EW02 - LN01
E3	Sill	Knauf	Knauf E3
E4	Jamb	Knauf	Knauf E4
E5	Beam & Block floor. Insulation above slab - Springvale Floor White	Springvale	E05-Springvale Top Sheet
E6	Intermediate floor within a dwelling	Constructive Details	CD0029
E21	Exposed Upper Floors (Inverted) - Over Garage	Bovis Calculated	GW01 - IF02
E10	Eaves (Insulation at Ceiling Level) - 300mm	Bovis Calculated	EW02 - RE01
E11	Eaves (Insulation at Rafter Level)	Accredited Details	ACD
E12	Gable (Insulation at Ceiling Level)	Constructive Details	CD0031
E13	Gable (Insulation at Rafter Level)	Accredited Details	MCH-RG-02
E16	Corner (Normal)	Bovis Calculated	EW02 - CN01
E17	Corner (Inverted - Internal area greater than External area)	Bovis Calculated	EW02 - C101
E18	Party Wall between dwellings - Aircrete	Bovis Calculated	EW02 - PW02
E24	Eaves (insulation at ceiling level - inverted)	Default	Default
E25	Staggered Party Wall between dwellings - Aircrete	Bovis Calculated	EW02 - PW02s
Junction with Party Wall	Junction Detail	Specification	Junction reference
P1	Party Wall Ground Floor - Springvale Floor White - Aircrete	Springvale	P01-Springvale
P2	Party Wall Intermediate Floor Within a Dwelling	Default	Default
P4	Party Wall Roof (Insulation at Ceiling Level) - 400mm - Aircrete	Bovis Calculated	PW02 - RG01
P5	Party Wall Roof (Insulation at Rafter Level)	ACD	ACD
Junctions within Room in Roof	Junction Detail	Specification	Junction reference
R1	Head of Roof window	Default	Default
R2	Sill of Roof Window	Default	Default
R3	Jamb of Roof Window	Default	Default
R6	Flat Ceiling - 400mm Plane Ceiling	Bovis Calculated	RE04 - RE02
R7	Flat Ceiling - Inverted	Default	Default
R8	Roof to Wall (Rafter)	Default	Default
R9	Roof to Wall (Flat Ceiling)	Default	Default
PARTY WALLS			
Party Wall Detail		Plots specified	
E-WM-30		All with Party Wall	
All Party Wall thermal bypasses have been assumed to be fully filled and sealed.			
'Where outside air is able to flow into the party wall cavity a cold zone is created which results in heat flux through the wall sections on either side.'			
'The air movements involved can be significant and, if no steps are taken to restrict flows, the resulting heat losses can be large.'			
'Fully filling the cavity may have implications for the sound transmission through party walls. Developers who follow this route must satisfy the BCB that the requirements of Part E will be satisfied, either by adopting a full fill detail under the Robust Details Scheme, or through specific site testing.'			

Additional Aspects
• Standard Electricity Tariff assumed • Rigid Ducting to dMEV System • 100% Low Energy Lighting • Water usage <125 L pp/day • Primary pipework to be fully insulated

If construction deviates from the specification above in any way whatsoever, please check with AES Sustainability Consultants immediately to ensure compliance is still achieved. AES Sustainability Consultants cannot be held responsible for non compliance if the specification that the calculation is based upon is not followed

Part L1A 2010 regulations: Relevant to Air Testing new residential dwellings whose Building Regulation applications were approved after October 1st 2010.

A dwelling type is defined as a group of dwellings on a site having the same generic form
A detached, semi-detached, end terrace or mid terrace house
A ground-floor (inc. ground floor maisonette), mid-floor or top-floor flat (inc. top floor maisonette)
Where the same construction methods are used for each of the main elements (walls, floors, roofs etc)
Be of the same number of storeys
Be of the same design air permeability
Have similar adjacency to unheated spaces such as stairwells, integral garages etc
Have a similar (i.e. ± 1) number of significant penetrations, i.e. for windows, doors, flues/chimneys, supply/exhaust terminals, waste water pipes
Have envelope areas that do not differ by more than 10%

Air Test Regime from 2010 Regulations

On each development air testing should be carried out on three units of each dwelling type or 50 per cent of all instances of that dwelling type, whichever is the less.
A block of flats should be treated as a separate development.
The dwellings to be tested should be taken from the first completed batch of units of each dwelling type.
Those dwellings selected for air testing should be selected so that about half of the scheduled tests, for each dwelling type, are carried out during construction of the first 25 per cent of each dwelling type.
All air tests on dwellings in the sample should be reported including any test failure.
In the event of an air test fail that dwelling must undergo remedial works so that it passes and another of the same dwelling type air tested.
Where a dwelling of a type has not been air tested, the assessed air permeability is the average test result obtained from other dwellings of the same dwelling type on the development increased by a margin of +2.0m ³ /h/m ² at 50pa.
In the event that the average of those air tested does not permit those not air tested to pass, then more must be air tested in an attempt to reduce the average.
Conclusion, the number of dwellings requiring air testing will increase on each site.

If construction deviates from the specification above in any way whatsoever, please check with AES Sustainability Consultants immediately to ensure compliance is still achieved. AES Sustainability Consultants cannot be held responsible for non compliance if the specification that the calculation is based upon is not followed.