3/2022/1158 6/2/2023

Accrington Road, Whalley - SAP Calculations Specification under Part L 2021.

Following the Design Stage SAP Calculations undertaken on behalf of Oakmere Homes for the proposed development at Accrington Road, Whalley. Below details the specification information as used within the SAP10 calculations.

Element	U-value	Construction
External Wall *(Houses)*	0.18w/m²k	102.5mm Brick, 50mm Cavity, 0.55mm Reflectashield TF 0.81, 9mm OSB, 140mm Timber joists filled with 120mm Celotex XR4000 (0.022W/m.K) between studs (38mm @ 560mm centres), 12.5mm Plasterboard
External Wall *(Apartments)*	0.18w/m²k	102.5mm Brick, 50mm Cavity, 0.55mm Reflectashield TF 0.81, 9mm OSB, 140mm Timber joists filled with 120mm Isover Timber Frame Roll 21 (0.032W/m.K) between studs (38mm @ 560mm centres), 2 layers of 15mm Plasterboard,
Wall to Garage *(Garage Attached)*	0.27w/m²k	12.5mm Plasterboard, 100mm Celotex XR4000 (0.022W/m.K) between studs (38mm @ 560mm centres), 12.5mm Plasterboard
Wall to Garage *(Integral Garage)*	0.27w/m²k *(Plus Shelter Factor)*	12.5mm Plasterboard, 100mm Celotex XR4000 (0.022W/m.K) between studs (38mm @ 560mm centres), 12.5mm Plasterboard
Wall to Corridor	0.25w/m²k *(Plus Shelter Factor)*	Timber Frame U value report/construction to be provided
Gable End Over Garage Roof *(Kirkstone)*	0.15w/m²k	20mm Render, 12.5mm Knauf Aquapanel Exterior Cement Board, 25mm Timber Battens, 2 layers of 48mm Timber Box Girders,

		18mm Timber Battens, Reflectashield TF 0.81, 140mm Timber Joists filled with 120mm Celotex XR4000 (0.022W/m.K) between joists (38mm @ 560 centres), 15mm Plasterboard
Party Wall	0.00w/m²k	Timber Frame
Ground Floor (Apartments, Grasmere)	0.15-0.16W/m²k	105mm Screed, 120mm Recticel Eurothane GP (0.022W/m.K), 150mm Beam & Blocks,
Ground Floor *(Bowfell, Brathay, Kirkstone,*	0.13W/m²k	105mm Screed, 150mm Recticel Eurothane GP (0.022W/m.K), 150mm Beam & Blocks,
Floor above Garage	0.15w/m²k *(Plus Shelter Factor)*	22mm Chipboard, 200mm Mineral Wool (0.040W/m.K) between joists (38mm @ 450mm centres), 40mm Kingspan Insulated Plasterboard (0.022W/m.K)
Insulated Plane	0.08w/m²k	2 layers of 150mm Rockwool Roll (0.044W/m.K), 200mm Rockwool Roll (0.044W/m.K) between joists (38mm@450mmcentres), 15mm Plasterboard
Entrance Door	1.20w/m²k	Solid/Half Glazed
Rear/Side Doors	1.20w/m²k	Solid/Half Glazed
Windows	1.20w/m²k	Double Glazed Windows
Patio Doors	1.20w/m²k	Double Glazed Doors
Main Heating	Combi	Worcester Greenstar 30i ERP Apartments
Main Heating	System	Worcester Greenstar 12i System ErP

		Brathay
Main Heating	System	Worcester Greenstar 15i System ErP Bowfell, Grasmere, Kirkstone, Wasdale
Heating Controls	-	Time, temperature & zone controls Delayed Start Stat & Boiler Interlock
Hot Water Cylinder	-	Kingspan Tribune HE 150 Volume: 150L Loss (Kwh/day): 1.23 Bowfell, Brathay
Hot Water Cylinder	-	Kingspan Tribune HE 180 Volume: 180L Loss (Kwh/day): 1.32 Grasmere, Kirkstone, Wasdale
Ventilation	-	Natural purge via windows, intermittent fans to kitchen and wet rooms
Shower	-	Shower Type: Combi boiler or unvented hot water system Flow Rate: 11 l/min
Heat Emitters	-	Radiators
Air pressure test	4.00	Site wide testing
Lighting	-	Power: 9W Efficacy: 40 lm/w
Thermal Bridging	-	Junctions to be calculated in accordance with construction but for now the below thermal bridging details have been used: -Timber Frame ACD -Ground Floor = 0.06 -Gable (Insulation at Ceiling Level) = 0.12

<table>
<tr><td></td><td></td><td>-Eaves (Insulation at Ceiling Level – Inverted) = 0.10
-Staggered Party Wall = 0.08
-Party Ground Floor = 0.08
-Party Roof (Insulated at Ceiling Level) = 0.06
-Exposed Floor = 0.06
-Exposed Floor (Inverted) = 0.06
-Intermediate Floor = 0.03</td></tr>
<tr><td>Renewables</td><td>PV</td><td>Overshading: None or Little
Orientation: East

<table><tr><th>Housetypes</th><th>Dwelling Type</th><th>Total kWp</th></tr><tr><td>Apartment</td><td>Ground Floor, End</td><td>4.42</td></tr><tr><td>Apartment</td><td>Ground Floor, Mid</td><td>4.42</td></tr><tr><td>Apartment</td><td>Mid Floor, End</td><td>4.76</td></tr><tr><td>Apartment</td><td>Mid Floor, Mid</td><td>4.42</td></tr><tr><td>Apartment</td><td>Top Floor, End</td><td>4.42</td></tr><tr><td>Apartment</td><td>Top Floor, Mid</td><td>4.42</td></tr><tr><td>Bowfell</td><td>Det</td><td>5.78</td></tr><tr><td>Brathay</td><td>Semi</td><td>5.78</td></tr><tr><td>Grasmere</td><td>Det</td><td>6.80</td></tr><tr><td>Kirkstone</td><td>Det</td><td>7.48</td></tr><tr><td>Wasdale</td><td>Det</td><td>6.46</td></tr></table></td></tr>
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