

0	0	Materials or component	Material	Embodied Energy MJ/kg	Embodied Energy MJ/m ²	Embodied Energy MJ/item	Area m ²	Embodied Carbon kg CO ₂ /kg	Embodied Carbon kg CO ₂ /m ²	Embodied Carbon kg CO ₂ /item	Density kg/m ³	Weight kg/m ²	Min or Max	Source	CAWS	CAWS title
102	1	Materials	Aggregate	0.083				0.0048			2240			ICE2	E10	Concrete
103	1	Materials	Concrete (1:1.5:3 eg in-situ floor slabs, structure)	1.11				0.159			2400			ICE 1 & 2	E10	Concrete
104	1	Materials	Concrete (eg in-situ floor slabs) with 25% PFA RC40	0.97				0.132			2400			ICE1 & 2	E10	Concrete
105	1	Materials	Concrete (eg in-situ floor slabs) with 50% GGBS RC40	0.88				0.101			2400			ICE1 & 2	E10	Concrete
106	1	Materials	Bricks (common)	3				0.24			1700			ICE2	F10	Brick/block walling
107	1	Materials	Concrete block (Medium density 10 N/mm2))	0.67				0.073			1450			ICE2	F10	Brick/block walling
108	1	Materials	Aerated block	3.5				0.3			750			ICE 1 & 2	F10	Brick/block walling
109	1	Materials	Rammed earth (no cement content)	0.45				0.023			1460			ICE 1 & 2	E70	Rammed earth
110	1	Materials	Rammed earth (with cement content)								1460				E70	Rammed earth
111	1	Materials	Limestone block	0.85							2180			ICE 1 & 2	F20	Stone walls
112	1	Materials	Marble	2				0.116			2500			ICE2	M40	Stone floor/wall tile
113	1	Materials	Marble	2				0.116			2500			ICE2	H50	Stone Cladding
114	1	Materials	Cement mortar (1:3)	1.33				0.208						ICE2	Z21	Mortar
115	1	Materials	Steel (general - average recycled content)	20.1				1.37			7800			ICE2	G10	Steel Structures
116	1	Materials	Steel (section - average recycled content)	21.5				1.42			7800			ICE2	G10	Steel Structures
117	1	Materials	Steel (pipe - average recycled content)	19.8				1.37			7800			ICE2	G10	Steel Structures
118	1	Materials	Stainless steel	56.7				6.15						ICE2	Z11	Metal
119	1	Materials	Timber (general - excludes sequestration)	10				0.72			480		Min	ICE2	Z10	Timber
120	1	Materials	Timber (general - includes sequestration)	10							480		Min	ICE2	Z10	Timber
121	1	Materials	Timber (general - excludes sequestration)	10				0.72			720		Max	ICE2	Z10	Timber
122	1	Materials	Timber (general - includes sequestration)	10							720		Max	ICE2	Z10	Timber
123	1	Materials	Glue laminated timber	12				0.87						ICE2	G24	Glue laminated timber
124	1	Materials	Sawn hardwood	10.4				0.86			700		Min	ICE2	Z10	Timber
125	1	Materials	Sawn hardwood	10.4				0.86			800		Max	ICE2	Z10	Timber
126	1	Materials	Cellular glass insulation	27										ICE 1 & 2	P10	Proofing: Insulation
127	1	Materials	Cellulose insulation (loose fill)	0.94							43			ICE1 & 2	P10	Proofing: Insulation
128	1	Materials	Cellulose insulation (loose fill)	3.3							43			ICE2	P10	Proofing: Insulation
129	1	Materials	Cork insulation	26							160			ICE2	P10	Proofing: Insulation
130	1	Materials	Glass fibre insulation (glass wool)	28			1.35				12			ICE2	P10	Proofing: Insulation
131	1	Materials	Flax insulation	39.5			1.7				30			PD	P10	Proofing: Insulation
132	1	Materials	Rockwool (slab)	16.8			1.05				24			ICE 1 & 2	P10	Proofing: Insulation
133	1	Materials	Expanded Polystyrene insulation	88.6			2.55				15		Min	ICE2	P10	Proofing: Insulation
134	1	Materials	Expanded Polystyrene insulation	88.6			2.55				30		Max	PD	P10	Proofing: Insulation
135	1	Materials	Polyurethane insulation (rigid foam)	101.5			3.48				30			ICE2	P10	Proofing: Insulation
136	1	Materials	Woodwool board insulation	20			0.98							ICE 1 & 2	P10	Proofing: Insulation
137	1	Materials	Wool (recycled) insulation	20.9							25			PD	P10	Proofing: Insulation
138	1	Materials	Straw bale	0.91							100		Min	PD	E80	Straw bale walling
139	1	Materials	Straw bale	0.91							110		Max	PD	E80	Straw bale walling
140	1	Materials	Mineral fibre roofing tile	37			2.7				1850			PD	H6_	Tiles/Slates
141	1	Materials	Slate (UK)	0.1			0.006				1600			ICE 1 & 2	H6_	Tiles/Slates
142	1	Materials	Slate (imported)	1			0.058				1600			ICE2	H6_	Tiles/Slates
143	1	Materials	Slate (UK)	0.1			0.006				1600			ICE 1 & 2	M40	Tiles/Slates floor/wall
144	1	Materials	Slate (imported)	1			0.058				1600			ICE2	M40	Tiles/Slates floor/wall
145	1	Materials	Clay tile	6.5			0.45				1900			ICE2	H6_	Tiles/Slates
146	1	Materials	Aluminium (general & incl 33% recycled)	155			8.24				2700			ICE 1 & 2	Z11	Metals
147	1	Materials	Bitumen (general) min.	51			0.38							ICE2	J41	Built up felt roofing
148	1	Materials	Bitumen (general) max.	51			0.43							ICE2	J41	Built up felt roofing
149	1	Materials	Hardboard	16			1.05				600		Min	ICE2	Z10	Timber
150	1	Materials	Hardboard	16			1.05				1000		Max	ICE2	Z10	Timber
151	1	Materials	Hardboard	16			1.05				600		Min	ICE2	K11	Timber
152	1	Materials	Hardboard	16			1.05				1000		Max	ICE2	K11	Timber
153	1	Materials	MDF	11			0.72				680		Min	ICE2	K11	Timber
154	1	Materials	MDF	11			0.72				760		Max	PD	K11	Timber
155	1	Materials	OSB	15			0.96				640			PD	K11	Timber
156	1	Materials	Plywood	15			1.07				540		Min	ICE2	K11	Timber
157	1	Materials	Plywood	15			1.07				700		Max	ICE2	K11	Timber
158	1	Materials	Plasterboard	6.75			0.38				800			ICE 1 & 2	K10	Plasterboard drylining
159	1	Materials	Gypsum plaster	1.8			0.12				1120			ICE 1 & 2	M20	Plaster/Render
160	1	Materials	Glass	15			0.85				2500			ICE 1 & 2	L40	Glazing
161	1	Materials	PVC (general)	77.2			28.1				1380			ICE2	Z50	Plastics
162	1	Materials	PVC pipe	67.50			24.40				1400			PD	R11	Above ground drainage
163	1	Materials	Linoleum	25			1.21				1200			ICE 1 & 2	M50	Flexible floor coverings
164	1	Materials	PVC Vinyl flooring	65.64			2.92				1200			ICE 1 & 2	M50	Flexible floor coverings
165	1	Materials	Terrazzo tiles	1.4			0.12				1750			PD	M40	Tiles wall/floor coverings
166	1	Materials	Ceramic tiles	12			0.74				2000			ICE2	M40	Tiles wall/floor coverings
167	1	Materials	Carpet tiles, nylon (Polyamide), pile weight 770g/m2		279				13.7			4.6		ICE2	M50	Flexible floor coverings
168	1	Materials	Wool carpet	106			5.53							ICE2	M50	Flexible floor coverings
169	1	Materials	Wallpaper	36.4			1.93							ICE 1 & 2	M52	Wall papers/linings
170	1	Materials	Wood stain / varnish	50			5.35							ICE2	M60	Paints/Stains
171	1	Materials	Vitrified clay pipe (DN 500)	7.9			0.52							ICE2	R12	Below Ground Drainage
172	1	Materials	Iron (general & average)	25			1.91				7870			ICE 1 & 2	G10	Structural steel
173	1	Materials	Copper (average incl. 37% recycled)	42			2.6				8600			ICE2	H73	Copper cladding/roofing
174	1	Materials	Lead (incl 61% recycled)	25.21			1.57				11340			ICE2	H71	Lead cladding/roofing
175	1	Materials	Ceramic sanitary ware	29			1.51							ICE2	N13	Sanitaryware
177	1	Windows	Aluminium frame 1200 x 1200 2x glazed, air or argon filled			5470	1.44			279				ICE1 & 2	L10	Windows
178	1	Windows	Aluminium frame 1200 x 1200 2x glazed, krypton filled			5980	1.44			305				ICE2	L10	Windows
179	1	Windows	Aluminium frame 1200 x 1200 2x glazed, xenon filled			9970	1.44			508				ICE2	L10	Windows

180	1	Windows	PVC frame 1200 x 1200 2x glazed, air or argon filled			2150	1.44			110	Min		ICE2	L10	Windows
181	1	Windows	PVC frame 1200 x 1200 2x glazed, air or argon filled			2470	1.44			126	Min		ICE2	L10	Windows
182	1	Windows	PVC frame 1200 x 1200 2x glazed, krypton filled			2660	1.44			136	Min		ICE2	L10	Windows
183	1	Windows	PVC frame 1200 x 1200 2x glazed, krypton filled			2980	1.44			152	Max		ICE2	L10	Windows
184	1	Windows	PVC frame 1200 x 1200 2x glazed, xeon filled			6650	1.44			339	Max		ICE2	L10	Windows
185	1	Windows	PVC frame 1200 x 1200 2x glazed, xeon filled			6970	1.44			355	Max		ICE2	L10	Windows
186	1	Windows	Aluminium clad timber frame 1200 x 1200 2x glazed, air or argon filled			950	1.44			48			ICE2	L10	Windows
187	1	Windows	Aluminium / timber frame double casement 1200 x 1200 2x glazed, air or argon filled			1460	1.44			75			ICE2	L10	Windows
188	1	Windows	Aluminium clad timber frame 1200 x 1200 2x glazed, krypton filled			1460	1.44			74			ICE2	L10	Windows
189	1	Windows	Aluminium / timber frame double casement 1200 x 1200 2x glazed, krypton filled			1970	1.44			101			ICE2	L10	Windows
190	1	Windows	Aluminium clad timber frame 1200 x 1200 2x glazed, xeon filled			5450	1.44			277			ICE2	L10	Windows
191	1	Windows	Aluminium / timber frame double casement 1200 x 1200 2x glazed, xeon filled			5960	1.44			304			ICE2	L10	Windows
192	1	Windows	Timber frame 1200 x 1200 2x glazed, air or argon filled			230	1.44			12	Min		ICE2	L10	Windows
193	1	Windows	Timber frame 1200 x 1200 2x glazed, krypton filled			740	1.44			38	Min		ICE2	L10	Windows
194	1	Windows	Timber frame 1200 x 1200 2x glazed, xeon filled			4730	1.44			241	Min		ICE2	L10	Windows
195	1	Windows	Timber frame 1200 x 1200 2x glazed, air or argon filled			490	1.44			25	Max		ICE2	L10	Windows
196	1	Windows	Timber frame 1200 x 1200 2x glazed, krypton filled			1000	1.44			51	Max		ICE2	L10	Windows
197	1	Windows	Timber frame 1200 x 1200 2x glazed, xeon filled			4990	1.44			254	Max		ICE2	L10	Windows
201	1	Paint	Water-borne paint		59				2.12				ICE2	M60	Paints/Stains
202	1	Paint	Solvent-borne paint		97				3.13				ICE2	M60	Paints/Stains
204	1	Photovoltaic (PV) panels	PV Cells Monocrystalline (average)			4750				242			ICE 1 & 2	V10	Electical Generation
205	1	Photovoltaic (PV) panels	PV cells Polycrystalline (average)			4070				208			ICE 1 & 2	V10	Electical Generation
206	1	Photovoltaic (PV) panels	Thin film (average) PV cells			1305				67			ICE 1 & 2	V10	Electical Generation