

Monarfloor Acoustics - Pricelist 2017



Deliveries



Standard Delivery Days

- All deliveries are based on a Standard Day One (order placed before 14:00) for Day four delivery between 08:00am and 17:00pm on Day four of a normal working week. Subject to stock availability.
- Orders placed on a Thursday or Friday will be delivered on the following Monday & Tuesday respectively.
- We will endeavour to deliver all forward orders with a specific future delivery date as requested.

Standard Delivery Vehicle

- Standard Deliveries are based on a curtain-side Articulated Vehicle arriving at the destination point given on the Order and being offloaded by the customers own MHE.

Offloading Time

- Sixty minutes is allowed for offloading per delivery. Additional time taken which may cause delays to the following scheduled deliveries will be charged at £40 per hour or any part thereof.
- Fines incurred for RED Route offloading will be charged at £100.
- These are additional charges and any undercarriage charge applicable to your order would still apply.

Delivery Notes (POD)

- All copies of the delivery note (Proof of Delivery, POD) must be completed fully with the clearly printed name and the signature of the person accepting the goods, with the day and time sections completed. Icopal accept no liability or claims for late delivery if the delivery note has not been completed in full and correctly.
- Any damages or shortages, identified at the time of delivery, must be clearly noted on the POD before being returned to the driver. Icopal Sales Office must then be notified immediately to allow rapid resolution, return or replacement. Any errors, damages, shortages must be notified to Icopal Sales Office within 48hrs if not evident at the time of delivery.

Optional Delivery Enhancements on:



Standard Day One for Day four

- Specific Timed Delivery (i.e. 08:00am) £50 per delivery

Next Day Delivery (Orders confirmed before 12 noon)

- Next Day between 08:00am and 17:00pm £40 per pallet (1- 5 pallets)
£20 per pallet (6 + pallets)

Site Deliveries

- Site deliveries made on behalf of General Distributor Customers £75 per order.
- Site deliveries made on behalf of Specialist Distributor Customers £25 per order

Vehicle Type Enhancements



Standard Day One for Day four

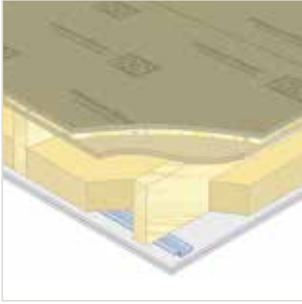
- Tail-Lift (to Ground level only) £50.00 per delivery.
- Flat-Bed Vehicles Rigid/Articulated £100.00 per delivery.
- Van/Small Vehicle, Height Specified £125.00 per delivery.
- Hi-Ab, Moffatt are available and will be priced individually.

Purchasing Packaging



Split & Mixed Pallets

- Monarfloor products can be purchased by individual boards, batten, strip or box.
- For orders less than £1000.00 there is a delivery charge of £90.00



Monarfloor Decks & Battens

Product Code	Description	Dimension	Weight (approx)	Unit of Sale	Price (£)
3003309	Monarfloor Acoustic Strip 45	21mm x 45mm x 2400mm	624g	Each	9,48
3003310	Monarfloor Acoustic Strip 75	21mm x 75mm x 2400mm	980g	Each	12,19
3003315	Monarfloor Batten 50	50mm x 45mm x 1800mm	1.2Kg	Per Batten	5,24
3003320	Monarfloor Batten 75	75mm x 45mm x 1800mm	1.9Kg	Per Batten	7,35
3100692	Monarfloor Batten 80	80mm x 45mm x 1800mm	2.1Kg	Per Batten	8,24
3003330	Monarfloor Tri-Batten 53	53mm x 45mm x 1800mm	1.4Kg	Per Batten	7,49
3004229	Monarfloor Tri-Batten 78	78mm x 45mm x 1800mm	2.2Kg	Per Batten	9,62
3003306	Monarfloor Deck 9	17mm x 600mm x 1200mm	5.1Kg	Per Sheet	26,40
3003305	Monarfloor Deck 18	26mm x 600mm x 2400mm	22.2Kg	Per Sheet	34,42
3100539	Monarfloor Deck 18 Decorative	26mm x 600mm x 2400mm	22.2Kg	Per Sheet	38,51
3003304	Monarfloor Deck 22	30mm x 600mm x 2400mm	29.9Kg	Per Sheet	38,96
3100541	Monarfloor Deck 22 Decorative	30mm x 600mm x 2400mm	29.9Kg	Per Sheet	42,28
3003307	Monarfloor Impact 18	26mm x 600mm x 2400mm	22.2Kg	Per Sheet	32,88
3003302	Monarfloor Structure Deck	37mm x 600mm x 2400mm	27.1Kg	Per Sheet	50,40
3003303	Monarfloor Tri-Deck	35mm x 600mm x 2400mm	30.5Kg	Per Sheet	70,50
3007070	Monarfloor Tri-Board	25mm x 600mm x 1200mm	18Kg	Per Sheet	54,34
3003337	Monarfloor Cradle	103mm x 103mm (Octagon)	73g	Each (boxed 100)	1,10
3003339	Monarfloor Cradle Packer 2mm	103mm x 103mm (Octagon)	8.5g	100	4,85
3003340	Monarfloor Cradle Packer 3mm	103mm x 103mm (Octagon)	10.2g	100	6,07

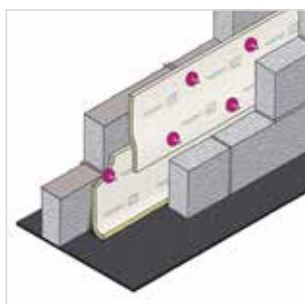




Monarfloor Accessories

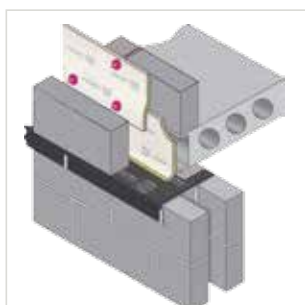
Product Code	Description	Dimension	Weight (approx)	Unit of Sale	Price (£)
3004547	Monarfloor Angled Flanking Band	6mm x 30mm x 25mm x 10m	78g	Per Roll	15,04
3003345	Monarfloor 75 Flat Flanking Band	6mm x 75mm x 10m	103g	Per Roll	15,04
3004524	Monarfloor 150 Flat Flanking Band	6mm x 150mm x 10m	-	Per Roll	25,42
3007315	Monarfloor 250 Flat Flanking Band	6mm x 250mm x 10m	-	Per Roll	42,00
3007390	Monarfloor 300 Flat Flanking Band	6mm x 300mm x 10m	-	Per Roll	50,86
3003346	Monarfloor Acoustic Adhesive	1 litre	-	Each	9,79
3003347	Monarfloor Acoustic Adhesive	5 litre	-	Each	20,12

Adhesive & Flanking Band is required with all Acoustic Decks & Battens



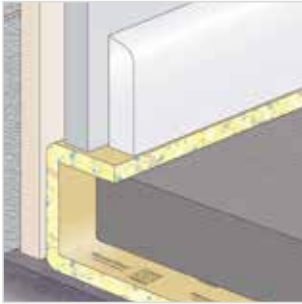
Monarfloor Bridgestop

Product Code	Description	Dimension	Weight (approx)	Unit of Sale	Price (£)
2003601	Monarfloor Bridgestop System	8 lin/m	19.7Kg	Per Box	195,18



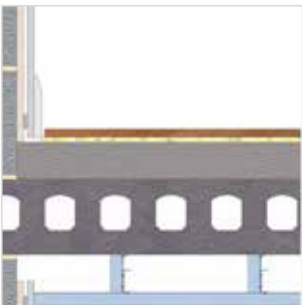
Monarfloor Wall Cap RDA2

Product Code	Description	Dimension	Weight (approx)	Unit of Sale	Price (£)
2004126	Monarfloor Wall Cap RDA2	400 x 3.8mm x 8 lin/m	23Kg	Per Box	199,18



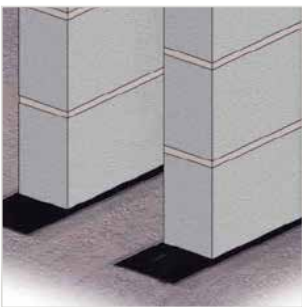
Monarfloor Tranquilt

Product Code	Description	Dimension	Weight (approx)	Unit of Sale	Price (£)
3006276	Monarfloor Tranquilt	10mm x 1500mm x 20m	17.5Kg	Per Roll	205,64



Monarfloor Tranquility

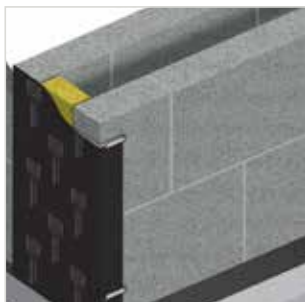
Product Code	Description	Dimension	Weight (approx)	Unit of Sale	Price (£)
3005999	Monarfloor Tranquility	8mm x 1500mm x 10m	20Kg	Per Roll	153,97



Monarfloor Isolation Strips

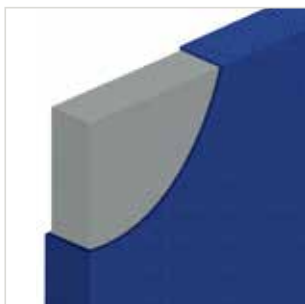
Product Code	Description	Dimension	Weight (approx)	Unit of Sale	Price (€)
2004248	Monarfloor Isolation Strip 200	3mm x 200mm x 8m	6.1Kg	Per Roll	25,54
2003668	Monarfloor Isolation Strip 150	3mm x 150mm x 8m	4.6Kg	Per Roll	22,83
2003670	Monarfloor Isolation Strip 100	3mm x 100mm x 8m	3.1Kg	Per Roll	20,12
2004553	Monarfloor Thin Joint Isolator	3mm x 500mm x 8m	15.2 Kg	Per Roll	97,19





Monarfloor Wall Cap

Product Code	Description	Dimension	Weight (approx)	Unit of Sale	Price (£)
2003747	Monarfloor Wall Cap 200	3.8mm x 200mm x 8mm	8Kg	Per Box	92,98
2003748	Monarfloor Wall Cap 400	3.8mm x 200mm x 8mm	16Kg	Per Box	153,13
3007363	Monarfloor Wall Cap 100 Timber	3.8mm x 100mm x 8mm	3.8Kg	Per Box	72,52
3007364	Monarfloor Wall Cap 250 Timber	3.8mm x 250mm x 8mm	9.5Kg	Per Box	105,86
2003860	Monarfloor Wall Cap Lamatherm 85	85mm x 13.8m	22Kg	Per Box	266,47
2004109	Monarfloor Wall Cap Lamatherm 90	90mm x 13.8m	23.5Kg	Per Box	279,04
2008361	Monarfloor Wall Cap Lamatherm 110	110mm x 13.8m	26Kg	Per Box	304,33



Monarfloor Absorption Panels

Product Code	Description	Dimension	Weight (approx) Kg	Unit of Sale	Price (£)
3006261	Flat Absorption Panel	50mm x 1250mm x 2500mm	1.76	Per Panel	POA
		50mm x 1250mm x 1250mm	0.88	Per Panel	
		50mm x 625mm x 1250mm	0.44	Per Panel	
		50mm x 625mm x 625mm	0.22	Per Panel	
		40mm x 1250mm x 2500mm	1.43	Per Panel	
		40mm x 1250mm x 1250mm	0.66	Per Panel	
		40mm x 625mm x 1250mm	0.33	Per Panel	
		40mm x 625mm x 625mm	0.22	Per Panel	



To work out acoustic Batten for a given m²

Multiply m² of room by 1.95 to give battens required.

This is based on 3.5 linear metres per M² of floor and average room area of 12m². Batten lengths are 1.8m.

Example – 400m² of battens required.

400m² x 1.95 = 790 battens required.

To work out acoustic STRIP for a given m²

Multiply m² of room by 1.15 to give strips required.

This is based on 12.5 linear metres for an average room size of 12m², joists at 400 centres and an extra 10% wastage margin. Strip lengths are 2.4m

Example – 55m² of strips required.

55m² x 1.15 = 64 strips required.

To work out acoustic BOARD quantity from m²

Deck 9 is 1200 x 600 = 0.72m²

All others are 2400 x 600mm = 1.44m².

To work out boards from m²

Example for DECK 9 ONLY.

500m² required.

500/0.72m² = 695 boards.

Example all other boards. Deck 18, 22, Structure Deck, Tri-Deck, Impact 18.

275m² required.

275/1.44m² = 191 boards

To work out acoustic CRADLE quantity per m²

Based on cradles at a maximum 450mm centers = 6 cradles per m²

Robust Detail Compliant Products



Monarfloor Product	Part E Robust Detail Reference	Section 5 Robust Detail Reference
Monarfloor Deck 9	FFT5	FFT5
Monarfloor Impact 18	FFT4	FFT4
Monarfloor Batten 50	FFT3	FFT3
Monarfloor Batten 75	FFT1	FFT1
Monarfloor Batten 80	FFT1	FFT1
Monarfloor Tri-Batten 78	FFT1	FFT1
Monarfloor Acoustic Cradle	FFT2	FFT2
Monarfloor Bridgestop System	E-WM-19 and Appendix A2	V-WM-19 and Appendix A2
Monarflex Wall Cap RDA2	Appendix A2	Appendix A2
Monarfloor Tranquilt	E-FC-11	E-FC-11
Monarfloor Tranquility	E-FC-8	E-FC-8
Monarfloor Wall Cap 200	Appendix A2	Appendix A2
Monarfloor Wall Cap 400	Appendix A2	Appendix A2
Monarfloor Wall Cap 150 Timber	Appendix A2	Appendix A2
Monarfloor Wall Cap 250 Timber	Appendix A2	Appendix A2
Monarfloor Wall Cap RDA2	Appendix A2	Appendix A2
Monarfloor Wall Cap Lamatherm 85	Appendix A2	Appendix A2
Monarfloor Wall Cap Lamatherm 90	Appendix A2	Appendix A2
Monarfloor Wall Cap Lamatherm 110	Appendix A2	Appendix A2

Measurement Conversion Factors



To convert	into	x = multiply / = divide
acres	hectares	x 0.4047
acres	sq. kilometres	/ 247
acres	sq. metres	x 4047
acres	sq. miles	/ 640
barrels (oil)	cu.metres	/ 6.29
barrels (oil)	gallons (GB)	x 34.97
barrels (oil)	gallons (USA)	x 42
barrels (oil)	litres/(ers)	x 159
centimetres	feet	/ 30.48
centimetres	inches	/ 2.54
centimetres	metres	/ 100
centimetres	millimetres	x 10
cubic cm	cubic inches	x 0.06102
cubic cm	litres/(ers)	/ 1000
cubic cm	millilitres/(ers)	x 1
cubic feet	cubic inches	x 1728
cubic feet	cubic metres	x 0.0283
cubic feet	cubic yards	/ 27
cubic feet	gallons (GB)	x 6.229
cubic feet	gallons (USA)	x 7.481
cubic feet	litres/(ers)	x 28.32
cubic inches	cubic cm	x 16.39
cubic inches	litres/(ers)	x 0.01639
cubic metres	cubic feet	x 35.31
feet	centimetres	x 30.48
feet	metres	x 0.3048
feet	yards	/ 3
fl.ounces (GB)	fl.ounces (USA)	x 0.961
fl.ounces (GB)	millilitres/(ers)	x 28.41
fl.ounces (USA)	fl.ounces (GB)	x 1.041
fl.ounces (USA)	millilitres/(ers)	x 29.57
gallons	pints	x 8
gallons (GB)	cubic feet	x 0.1605
gallons (GB)	gallons (USA)	x 1.2009
gallons (GB)	litres/(ers)	x 4.54609
gallons (USA)	cubic feet	x 0.1337
gallons (USA)	gallons (GB)	x 0.8327
gallons (USA)	litres/(ers)	x 3.785
grams	kilograms	/ 1000
grams	ounces	/ 28.35
hectares	acres	x 2.471
hectares	square	km / 100

To convert	into	x = multiply / = divide
hectares	square metres	x 10000
hectares	square miles	/ 259
hectares	square yards	x 11 960
inches	centimetres	x 2.54
inches	feet	/ 12
kilograms	ounces	x 35.3
kilograms	pounds	x 2.2046
kilograms	tonnes	/ 1000
kilograms	tons (GB)	/ 1016
kilograms	tons (USA)	/ 907
kilometres	metres	x 1000
kilometres	miles	x 0.6214
litres/(ers)	cu.inches	x 61.02
litres/(ers)	gallons (GB)	x 0.2200
litres/(ers)	gallons (USA)	x 0.2642
litres/(ers)	pints (GB)	x 1.760
litres/(ers)	pints (US liquid)	x 2.113
litres/(ers)/100km	MPG (GB)	282.5 / 1/100km
litres/(ers)/100km	MPG (USA)	235.2 / 1/100km
metres	yards	/ 0.9144
metres	centimetres	x 100
miles	kilometres	x 1.609
miles per gallon (GB)	litres/(ers)/100km	282.5 / MPG
miles per gallon (USA)	litres/(ers)/100km	235.2 / MPG
millimetres	inches	/ 25.4
ounces	grams	x 28.35
pints (GB)	litres/(ers)	x 0.5683
pints (GB)	pints (US liquid)	x 1.201
pints (US liquid)	litres/(ers)	x 0.4732
pints (US liquid)	pints (GB)	x 0.8327
pounds	kilograms	x 0.4536
pounds	ounces	x 16
square cm	sq. inches	x 0.1550
square feet	sq. inches	x 144
square feet	sq. metres	x 0.0929
square inches	square cm	x 6.4516
square inches	square feet	/ 144
square km	acres	x 247
square km	hectares	x 100
square km	square miles	x 0.3861
square metres	acres	/ 4047
square metres	hectares	/ 10 000

Measurement Conversion Factors



To convert	into	x = multiply / = divide
square metres	square feet	x 10.76
square metres	square yards	x 1.196
square miles	acres	x 640
square miles	hectares	x 259
square miles	square km	x 2.590
square yard	square metres	/ 1.196
tonnes	kilograms	x 1000

To convert	into	x = multiply / = divide
tonnes	tons (GB)	x 0.9842
tonnes	tons (USA)	x 1.1023
tons (GB)	kilograms	x 1016
tons (GB)	tonnes	x 1.016
tons (USA)	kilograms	x 907.2
tons (USA)	tonnes	x 0.9072
yards	metres	x 0.9144

* = multiply / = divide

Note:

While many of the conversion factors above are exact, some involve rounding. The table is intended for domestic rather than scientific use.

Temperatures

Fahrenheit (F) to Celsius (C)

Start with (F); subtract 32; multiply by 5; divide by 9; the answer is (C)

Celsius (C) to Fahrenheit (F)

Start with (C); multiply by 9; divide by 5; add on 32; the answer is (F)

Approximate Equivalents:

30 C	86 F
20 C	68 F
10 C	50 F
0 C	32 F

Plasterboard weights



Plasterboard Kg/m² Target Weights Ceiling Mass Requirements - Min 20Kg/m² Timber Frame - Min 23Kg/m²

Manufacturer	Product	Thickness / mm	Kg/m ²	
British Gypsum	Gyproc Wallboard	9.5	6.3	
		12.5	8	
		15	9.8	
	Plank	19	15	
		Moisture Resistant	12.5	8.6
			15	10.1
	Wallboard Ten	12.5	10	
		Duraline	13	11.7
			15	13.9
	Coreboard	19	16	
		Soundbloc	12.5	10.6
			15	12.6
	Soundbloc Rapid	15	12.6	
		Fireline	12.5	9.8
			15	11.7
	Fireline Duplex*	12.5	9.8	
		Fireline MR**	12.5	9.8
			15	11.7
	Lafarge	Standard	9.5	6.3 (min.)
12.5			8.4 (min.)	
15			10.2 (min.)	
19			13.6 (min.)	
Sound Resistant Wallboard		12.5	10.2 (min.)	
		15	12.5 (min.)	
Firecheck		12.5	10 (min.)	
		15	12 (min.)	
Fermacell	Fermacell	12.5	15	
		15	18	
		18	21.5	

Integration with underfloor heating



Product	Application	Subfloor	System	Application	Effect on heating performance
Deck 9	Floating Floor	Timber Deck	Electric Mat	Lay over chipboard deck, then apply floor finish	None
Deck 18	Floating Floor	Timber Deck	Electric Mat	Lay over chipboard deck, then apply floor finish	None
Deck 22	Floating Floor	Timber Deck	Electric Mat	Lay over chipboard deck, then apply floor finish	None
Impact 18	Floating Floor	Concrete Deck	Electric Mat	Lay over chipboard deck, then apply floor finish	None
Structure Deck	Floating Floor	Timber Direct to Joist	Electric Mat	Lay over chipboard deck, then apply floor finish	None
Tri Deck	Floating Floor	Timber Direct to Joist	Electric Mat	Lay over chipboard deck, then apply floor finish	None
Acoustic Batten	Floating Floor	Timber / Concrete Deck	Electric Mat / or Wet System	Lay over chipboard deck, then apply floor finish Wet System can be installed between the battens	None
Tri Batten	Floating Floor	Timber Deck	Electric Mat / or Wet System	Lay over chipboard deck, then apply floor finish Wet System can be installed between the battens	None
Acoustic Strip	Joist Cap with Floating Floor	Timber Direct to Joist	Electric Mat	Lay over chipboard deck, then apply floor finish	None
Tranquilt	Isolation with Floating Screed	Concrete Deck	Electric Mat / Piped Water	Lay within / or under the Screed	None
Tranquility	Bonded Overlay	Concrete Deck	Electric Mat / Piped Water	Lay within the Screed	Acoustic element will give thermal insulation

For Monarfloor Floating Floor Treatments, Underfloor Heating Systems should be laid over the Acoustic Floating Floor.

Monarfloor LRAC foam's for most densities has a thermal conductivity of 0.034 W/mK.

Any Electric Underfloor Heating System must comply with the BSI 17th Edition IEE Wiring Regulations.

All Underfloor Heating Systems must be installed in accordance with the manufacturers details.

Any Underfloor Heating System detail must follow Monarfloor's guidance.

Particleboard



As used in Monarfloor Deck 18,22, Tri-Deck, Structure-Deck, Deck 18 & 22 decorative.

Load bearing flooring grade particleboard for use in humid conditions (characterised by a relative humidity of the surrounding area only exceeding 85% for a few weeks per year). Boards of this type are only suitable for use in biological hazard classes 1 & 2 of EN 335-3.

Construction

Egger P5 particleboard is manufactured to EN 312-5:2003 under an ISO9001:2000 Quality Management System OQS Certificate Number 184/0.

The Wilhelm-Klauditz-Institut (WKI) of Germany has granted Egger a Certificate of Compliance 0765-CPD-366 with the marking requirements of the Construction Products Directive.

Egger P5 chipboard is FSC certified and carries the BM Trada Chain of Custody Certificate number TT-COC-1519.

Technical Specifications

Testing and conditioned in accordance with EN 312:2003

General properties and tolerances (ex factory)

Thickness within and between boards	EN 324-1	+/- 0.2mm
Length and width	EN 324-1	+/- 3mm
Edge straightness	EN 324-2	1.5mm per m
Squareness	EN 324-2	2mm per m
Moisture content	EN 322	5% to 13%
Mean density within a board	EN 323	+/- 10%
Formaldehyde (perforator value)	EN 120 C C	Class E1 (<8mg/100g)

Labelling for T&G panels

EGGER FSC E1 P5	0765-CPD-366 08 EN 13986
18mm	WWW.EGGER.CO.UK THIS SIDE DOWN 14:55 01.02.08
EGGER:	Manufacturers Tradename
FSC:	FSC Chain of Custody identification
E1:	Formaldehyde Emission class
P5:	Product type
CE:	CE mark symbol
0765-CPD-366:	Identification of the notified body (WKI)
08:	Two digits of the year when the marking was affixed
www.egger.co.uk	Website for further product information
14:55 01.02.08	Date and Time of profiling

Labelling for Eurospan

E EGGER CC	CE 0765-CPD-367 08 EN 13986 136 270802011122
EUROSPAN E1 P6	13:45
30 mm	
E EGGER:	Manufacturers
CC:	FSC Chain of Custody identification
EUROSPAN	Tradename
E1:	Formaldehyde Emission class
P5:	Product type
CE:	CE mark symbol
0765-CPD-366:	Identification of the notified body (WKI)
08:	Two digits of the year when the marking was affixed
EN 13986:	Number of EC certificate of conformity
225:	SA Recipe number
270802011122	Twelve digit code for traceability
14:55	Time board was produced

Particleboard



Mechanical properties (>13 to 20 mm P5)

Property	Test Method	Unit	Mean	L5% or U5%	Requirement
Bending strength	EN 310	N/mm ²	17.7	16.4	>16.0
Modulus of elasticity	EN 310	N/mm ²	2710	2580	>2400
Density	EN 323	kg/m ³	642		
Internal bond	EN 319	N/mm ²	0.58	0.50	>0.45
Thickness swelling	EN 317	%	7.5	9.3	<10.0
Internal bond after cyclic	EN 321	N/mm ²	0.35	0.25	>0.22
Cyclic thickness swelling	EN 321	%	9.9	11.6	<12.0

Mechanical properties (>20 to 25 mm P5)

Property	Test Method	Unit	Mean	L5% or U5%	Requirement
Bending strength	EN 310	N/mm ²	16.8	15.0	>14.0
Modulus of elasticity	EN 310	N/mm ²	2630	2440	>2150
Density	EN 323	kg/m ³	632		
Internal bond	EN 319	N/mm ²	0.58	0.53	>0.40
Thickness swelling	EN 317	%	7.3	8.9	<10.0
Internal bond after cyclic	EN 321	N/mm ²	0.31	0.22	>0.20
Cyclic thickness swelling	EN 321	%	9.4	10.9	<11.0

Mechanical properties (>32 to 40 mm P5)

Property	Test Method	Unit	Mean	L5% or U5%	Requirement
Bending strength	EN 310	N/mm ²	16.8	15.0	>14.0
Modulus of elasticity	EN 310	N/mm ²	2630	2440	>2150
Density	EN 323	kg/m ³	632		
Internal bond	EN 319	N/mm ²	0.58	0.53	>0.40
Thickness swelling	EN 317	%	7.3	8.9	<10.0
Internal bond after cyclic	EN 321	N/mm ²	0.31	0.22	>0.20
Cyclic thickness swelling	EN 321	%	9.4	10.9	<11.0

Percentile values shown are based on mean values for unconditioned individual boards tested in accordance with EN 312-5:2003 and calculated in accordance with EN 326-1 all results verified by WKI Factory Production Control Audit 23.10.08.

Part E Compliance



Acoustic performance of multi-storey and attached dwellings has never been higher on the agenda. With revisions to Part E for England & Wales, achieving compliance with the regulations is an even more complex challenge than before, particularly when dealing with low frequencies.

Performance Standards

Table 1a: Dwelling-houses and flats – performance standards for separating walls, separating floors, and stairs that have a separating function.

	Airborne sound insulation DnT,w+Ctr dB (mimimum values)	Impact sound insulation L1nT,w dB (mimimum values)
Purpose built rooms for residential purposes		
Walls	45	62
Floors and stairs	45	
Dwelling-houses and flats formed by material change of use		
Walls	45	62
Floors and stairs	45	

Table 1b: Rooms for residential purposes – performance standards for separating walls, separating floors, and stairs that have a separating function.

	Airborne sound insulation DnT,w+Ctr dB (mimimum values)	Impact sound insulation L1nT,w dB (mimimum values)
Rooms built for residential purposes		
Walls	43	62
Floors and stairs	45	
Rooms for residential purposes formed by material change of use		
Walls	43	64
Floors and stairs	43	

What is Part E?

The revisions to Part E of the Building Regulations 2003 address the noise levels suffered by occupants within multi-storey and attached dwellings, which result from inadequate sound insulation.

Why was Part E revised?

The problem of noise levels has increased in recent years through a combination of heightened expectations on the part of occupiers, more sound producing equipment and above all the poor success rate in achieving the sound insulation standards already in place.

What does Part E address?

Part E of the Building Regulations was revised to address those issues by:

- Extending the types of constructions covered by the regulations.
- Setting new acoustic performance levels for new-build and conversion / renovation projects.
- Dealing with reverberation in the common internal parts of buildings containing flats or rooms for residential purposes.
- Introducing pre-completion acoustic testing for separating walls and floors.
- Setting standards for acoustic conditions in schools (also see BB93).

All Monarfloor® products and systems surpass the performance requirements of Approved Document E of the Building Regulations.



Scottish Standards



Section 5.1 of the Scottish Building Standards states "Every building must be designed and constructed in such a way that each wall and floor separating one dwelling from another, or one dwelling from another part of the building, or one dwelling from a building other than a dwelling, will limit the transmission of noise to the dwelling to a level that will not threaten the health of the occupants or inconvenience them in the course of normal domestic activities."

Performance Standards

Recommended performance values for separating walls and separating floors are given below. Tests should be performed after construction, using the procedures given in annex 5.C. of the Scottish Standards.

	Individual Value
Airborne Sound Minimum Values of weighted standardised level difference ($D_{nT,w}$), as defined in BS EN ISO 717-1: 1997	
Walls	56dB
Floors	56dB
Impact Sound Maximum values of weighted standardised impact sound pressure level ($L'_{nT,w}$) as defined in BS EN ISO 717-2: 1997	
Floors	56dB

Standard 5.1 does not apply to: fully detached houses or roofs or walkways with access solely for maintenance, or solely for the use of the residents of the dwelling below.

Acoustic Parameters

Performance values are given in terms of two acoustic parameters, one related to airborne sound, the other related to impact sound.

▪ Airborne Sound Insulation

The airborne sound insulation characteristics of a wall or floor are identified by measuring the sound pressure level difference between the source room (the room with the noise source) and the receiving room (to which the noise is transmitted). The larger the difference, the higher the level of airborne sound insulation.

▪ Impact sound insulation

Impact sound insulation is quantified by measuring the sound pressure level in the receiving room, rather than a difference in levels between rooms. Thus, a lower weighted sound pressure level represents a higher level of impact sound insulation.

Section 5 Robust Details

The use of Robust Details to demonstrate compliance with the relevant parts of Section 5 of the Building (Scotland) Regulations is enabled by approvals given under the Scottish Type Approval Scheme. The Scottish Association of Building Standards Managers (SABSM) Scottish Type Approval Scheme (STAS) provides a fast track route to approval through the regulatory procedures for standard buildings, modular buildings or building systems.

Most of Monarfloor's solutions will meet the requirements of Section 5 and can be found within Section 5 Example Constructions. For Section 5 Robust Details please see guidance within this document

Robust Details (England & Wales)



Robust Details Limited (RDL) provides a route to compliance for Part E of the Building Regulations (England and Wales). It may be used as an alternative to on-site pre-completion sound testing and is recognised in the Code for Sustainable Homes.

Performance Standards

	Airborne sound insulation of separating walls and floors	Impact sound transmission of separating floors
Individual values must be	47dB DnT.W+CTR	60dB DnT.W+CTR
Mean values must be	50dB DnT.W+CTR	57dB DnT.W+CTR

Note: The mean value is calculated from the arithmetic mean of the 30 individual values, where the rounding is based on a single decimal place.

All Monarfloor® floating floor treatments (FFT's) comply with the performance criteria set out within Robust Details: Appendix A, C and D and can be used with all Robust Details floating floor solutions.

Monarfloor® Bridgestop® is accepted for use within most Robust Detail Party Walls: Appendix A – August 2008 as an additional flanking detail where walls are to be built off a continual raft or slab.

A number of Monarfloor's 'second generation' products are currently undergoing the Robust Details CRD assessment for approval as Proprietary Robust Details.

Who are Robust Details?

Robust Details Ltd assess and approve new Part E Robust Details and provide a registration service that enables builders to use them in the construction of their new homes and avoid the delays and uncertainties of pre-completion sound testing. Registering and building in accordance with Robust Details avoids the risk and uncertainty of remedial action being required on completed floor or wall constructions, with the potential delays in completing the property. Robust Details may only be used for new build residential dwellings.

What is their Role?

- Approve new Robust Details as a method of satisfying Building Regulations
- Manage the use of Robust Details in the house-building industry by enabling builders or their representatives to use them in new, attached homes
- Monitor the performance of Robust Details and withdraw any that consistently fail to meet the required standards
- Promote the use of Robust Details and publish information to help the industry improve the sound insulation performance of separating walls and floors in new homes
- RDL is the only authority able to undertake this role.

The Code For Sustainable Homes



The Code for Sustainable Homes has been introduced to drive a stepchange in sustainable home building practice. It is a standard for key elements of design and construction which affect the sustainability of a new home. It will become the single national standard for sustainable homes, used by home designers and builders as a guide to development and by home-buyers to assist in their choice of home.

The Sustainability Rating System

The Code uses a sustainability rating system, indicated by stars, to communicate the overall sustainability performance of a home. A home can achieve a sustainability rating from one to six stars depending on the extent to which it has achieved Code standards. One star is the entry level, above the level of the Building Regulations, and six stars is the highest level, reflecting exemplar development in sustainability terms. The sustainability rating which a home achieves represents its overall performance across the nine Code design categories.

Achieving a Sustainability Rating

Section 7 Health & Wellbeing 7.02: Sound

Between one and four stars are awarded for achieving higher standard of sound insulation than required by Part E of the Building Regulations and demonstrating it by either using post-completion testing (PCT) or Robust Details (RD).

What will the Code provide?

It will form the basis for future developments of the Building Regulations in relation to carbon emissions from, and energy use in homes, therefore offering greater regulatory certainty to developers. If all the homes we need are built by 2050, as much as one-third of the total housing stock will have been built between now and then. Current house building plans therefore offer an important opportunity to build high standards of sustainability into the homes we will use in the future. The Code for Sustainable Homes will play a key role in enabling us to seize this opportunity, and to build a future housing stock which both meets our needs and protects the environment.

What are the benefits?

- **For housing providers – improved comfort and satisfaction.**
Homes built to the Code will enhance the comfort and satisfaction of tenants. Costs may be saved in dealing with noise complaints.
- **For consumers – improved well being.**
Homes built to Code standard will provide a more pleasant and healthy place to live, for example with more isolation of the passage of sound within the building from dwelling to dwelling.

Monarfloor® Acoustic Systems can give you a quick and easy route to either three or four credits that are not only cost-neutral but also provide opportunities for further savings by, for example, allowing you to specify continuous raft foundation between dwellings.





Ecohomes aims to ensure that the performance standards for sound insulation in Approved Document E (2003 edition) are achieved through a commitment to pre-completion testing using, or checked by, test bodies with UKAS accreditation. It also aims to reward developments that make a commitment to achieve higher levels of sound insulation than the minimum performance standards in Approved Document E (2003 edition).

Performance Standards

Whilst the sound insulation components of the Building Regulations in Scotland and Northern Ireland differ from the English Part E (2003) credits are not affected by those differences. The sound insulation levels set out in the English Regulations, Part E 2003, provide the highest standards throughout the UK and are therefore used as a basis for Ecohomes.

Credit Summary - Improvement on Part E Regulations (dB)

Credits	Airborne Sound DnT,w+Ctr	Impact Sound L'nT,w
1	0	0
2	0	0
3	+3	-3
4	+5	-5

The above table is a simplified form of the credit requirements for reference only.

What Ecohomes Provides

Ecohomes is a version of BREEAM for homes. It provides an authoritative rating for converted or renovated homes, and covers houses, flats and apartments.

Ecohomes balances environmental performance with the need for a high quality of life and a safe and healthy internal environment. Many of the issues are optional, ensuring Ecohomes is flexible enough to be tailored to a particular development or market.

Ecohomes assessments can be carried out at both the design stage or post construction for major refurbishment and conversion projects.

In April 2007 the Code for Sustainable Homes replaced Ecohomes for the assessment of new housing in England. Ecohomes 2006 will continue to be used for refurbished housing in England, for all housing in Scotland and new built housing not built by Registered Social Landlords in Wales.

Applicability

All dwellings, throughout the development, must meet the requirements of the relevant Ecohomes performance standards.

Monarfloor® Acoustic Systems can give you a quick and easy route to either three or four credits that are not only cost-neutral but also provide opportunities for further savings within the specification and build.

My Home - Comfort : Sound Insulation



The Home Quality Mark (HQM) has been created to serve the UK's house builders and the householders who buy and rent new homes.

HQM will help house builders to demonstrate the high quality of their homes and to differentiate them in the marketplace. At the same time, it will give householders the confidence that the new homes they are choosing to buy or rent are well designed and built, and cost effective to run.

The Home Quality Mark will do this by providing impartial information from independent experts on a new home's quality. It clearly indicates to householders the overall expected costs, health and wellbeing benefits, and environmental footprint associated with living in the home. In short, HQM helps everyone to fully understand the quality, performance and attributes of a new-build home.

Developed by BRE, the UK's leading building science centre, the Home Quality Mark is based on years of building standards experience, and is part of the successful BREEAM family of quality and sustainability standards.

Criteria

01 Sound insulation between homes

up to 4 credits

crit 1 It must be demonstrated that the homes achieves the targets set out in Table 14 on page 70 for airborne and impact sound insulation taking into account both separating walls and floors between homes either through:

- A programme of pre-completion testing by a Complaint Test Body (see CN1 on the facing page) in accordance with the Methodology section.

OR

- Where all relevant building elements have been registered with Robust Details Limited; please see www.robustdetails.com for relevant constructions capable of achieving the performance targets given in Table 14 on page 70.

02. Sound insulations between rooms

up to 4 credits

crit 2 The targets set out in Table 15 on page 70 for airborne sound insulation are met, and this is demonstrated through testing with an acoustics laboratory in accordance with the methodology section.

crit 3 Suitably Qualified Acoustician (SQA) must pass on critical information to relevant construction professionals outlining key issues that have the potential to reduce sound insulation during the construction process, including as a minimum:

crit 3a Information on the means to ensure that sockets, switches, down lights and other services or other perforations maintain the acoustic performance where otherwise it may be compromised.

crit 3b Guidance relating to appropriate junction details at the head, foot and perimeter of the partition or floor.



Sound insulation between homes

Where pre-completion acoustic testing is the preferred route for achieving the credits, as a minimum, one set of tests for every 10 homes in a group (houses, apartments or bungalows are defined as the groups) and each sub-group (typically these are different

construction type groups) is required. In the event of less than 10 properties, one set of tests is carried out. Usually one unit should be "selected" to determine the number of tests required as follows:

Table Number of tests forming a set of tests

Group Type	Airborne tests, separating walls	Airborne tests, separating floors	Impact tests, separating floors	Total
Houses or bungalows	2	0	0	2
Apartments	2	2	2	6

The actual number of tests possible may be limited by the layout, where this is the case then the compliant test body should clearly identify why the full number of tests was not feasible within the test report or covering correspondence.

Tests should be carried out in accordance with the test standards referenced by the relevant national regulations.

Checklists, Tables & Illustrations

Table Sound insulation levels for separating walls and floors

Credits*	Airborne sound insulation $D_{nT,w}+C_{tr}$ (dB)(minimum values) separating walls and floors	Impact sound insulation $L'_{nT,w}$ (dB)(maximum values) Separating floors only
1	48	59
3	50	57
4	53	54

Table Sound insulation levels for internal walls and floors

Credits*	Airborne sound insulation R_w (dB)(minimum values)
2	43
3	45
4	48

*Credits should be awarded based on the worst performing wall or floor

Monarfloor® Acoustic Systems can give you a quick and easy route to either three or four credits that are not only cost-neutral but also provide opportunities for further savings within the specification and build.

Northern Ireland Regulations



Technical Booklet G of the Northern Irish Building Regulations 2012 requires that all dwellings be designed and constructed in such a way that the transmission of both airborne and impact sound noise between separating walls and floors be limited to a level that will not threaten the health of the occupants or inconvenience them in the course of normal domestic activities.

Performance Standards

Tests of performance values of individual and 4 and 8 pairs of rooms.

Performance Standards

Table: Dwelling-houses and flats – performance standards for separating walls, separating floors, and stairs that have a separating function.

	Airborne sound insulation DnT,w+Ctr dB (mimimum values)	Impact sound insulation L1nT,w dB (mimimum values)
Purpose built rooms for residential purposes		
Walls	45	62
Floors and stairs	45	
Dwelling-houses and flats formed by material change of use		
Walls	45	62
Floors and stairs	45	

Airborne sound –

weighted standardised level difference (DnT,w)

Impact sound –

weighted standardised sound pressure level (L'nT,w)

Acoustic Parameters

Performance values are given in terms of two acoustic parameters, one related to airborne sound, the other related to impact sound.

General Application

When determining how the guidance for resistance to transmission of sound applies to types of dwelling configurations, recognition should be given to the following:

Airborne Sound

- **Walls** – a wall which separates a dwelling from another dwelling or from another building, or separates a habitable room within a dwelling from another part of the same building which is not used exclusively with the dwelling, shall have reasonable resistance to airborne sound.
- **Floors** – a floor which separates a dwelling from another dwelling, or from another part of the same building which is not used exclusively with the dwelling, shall have reasonable resistance to airborne sound.

Impact Sound

- **Floors** – a floor above a dwelling which separates it from another dwelling or from another part of the same building which is not used exclusively with the dwelling, shall have reasonable resistance to impact sound.

Both the above do not apply to a wall or floor which separates a dwelling from another part of the same building if such part is used only occasionally for the inspection, maintenance or repair of the building, or of its services, fixed plant or machinery.

All Monarfloor® products and systems comply with Part G (Sound) of the Northern Ireland Building Regulations.



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