

Technical data sheet

Gutex Multitherm



Gutex Multitherm is the moisture-resistant wood fibre insulation board for rainscreen façades, as additional above-rafter insulation, or as under-rafter insulation.

Ingredients

- Untreated fir and spruce
- 4.0 % PUR resin
- 1.0 % paraffin

Disposal

- Waste code numbers as per AVV 030105, 170201

Bulk density ρ [kg/m ³]	~ 140
Nominal thermal conductivity λ_D [W/mK]	0.040
Vapour diffusion μ	4
Compressive stress/strength [kPa]	≥ 100
Tensile strength perpendicular to the surface [kPa]	≥ 7.5
Short-term water absorption [kg/m ²]	≤ 1
Air flow resistivity [kPa s/m ²]	≥ 60
Specific heat capacity [J/kgK]	2100
Maximum working temperature [°C]	110
Fire reaction Euro Class as per EN 13501-1	E
Product standard	EN 13171
Board designation	WF-EN 13171-T4-WS1,0-DS(70,-)2-CS(10/Y)100-TR7,5-MU4-AF,100

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Joint type	Tongue and groove				
Thickness [mm]	40	60	80	100	120
Length × width [mm × mm]	1760 × 600				
Actual coverage: Length × width [mm × mm]	1740 × 580				
Actual coverage: Square metres per board [m ²]	1.01				
m ² /Piece(s)	1.06				
Weight per board [kg]	5.91	8.87	11.83	14.78	17.74
Weight per m ² [kg]	5.60	8.40	11.20	14.00	16.80
Piece(s)/Pallet	54	36	26	22	18
Square metres per pallet [m ²]	57.02	38.02	27.46	23.23	19.01
Weight per pallet [kg]	350		330	350	
Nominal thermal resistance R _D [m ² K/W]	1.00	1.50	2.00	2.50	3.00
sd value [m]	0.16	0.24	0.32	0.40	0.48

Joint type	Tongue and groove				Flush-mount
Thickness [mm]	140	160	180	200	60
Length × width [mm × mm]	1760 × 600				3000 × 1250
Actual coverage: Length × width [mm × mm]	1740 × 580				
Actual coverage: Square metres per board [m ²]	1.01				
m ² /Piece(s)	1.06				3.75
Weight per board [kg]	20.70	23.65	26.61	29.57	31.50
Weight per m ² [kg]	19.60	22.40	25.20	28.00	8.40
Piece(s)/Pallet	16	14	12	10	15
Square metres per pallet [m ²]	16.90	14.78	12.67	10.56	56.25
Weight per pallet [kg]	350			320	520
Nominal thermal resistance R _D [m ² K/W]	3.50	4.00	4.50	5.00	1.50
sd value [m]	0.56	0.64	0.72	0.80	0.24



Product information

Gutex Multitherm

Areas of use

- for external cladding directly on stud constructions, on solid wood elements, and on masonry behind the facing shell with rain-screen façades.
- As full-surface under-rafter insulation
- From 60 mm, also as additional above-rafter insulation directly on the rafters

Advantages

- Can be installed on both sides
- High dimensional accuracy for time-saving and simple installation
- Single-layer, homogeneous bulk density profile
- Windproof
- Hydrophobic and thus insensitive to moisture
- Additional thermal insulation
- Minimisation of thermal bridges
- Outstanding heat storage capacity
- Impressive summer heat protection
- Improvement of sound insulation
- Moisture-regulating
- Vapour-permeable
- Wood as the sustainable raw material → recyclable
- Recyclable
- Manufactured in Germany (Black Forest)
- Ecologically safe (natureplus® certified)

Installation instructions

General

- Store and work with the boards in a dry place
- Recommended board thickness for blowing in with Gutex Thermofibre ≥ 60 mm
- Install the boards crosswise to the supporting structure; they must fit accurately and be joint-tight
- Cross joints are not permitted – do not install damaged boards
- Joints and penetrations must be resistant to wind and driving rain
- Cut to size with standard woodworking machines
- The board must not be statically supported
- Increased levels of moisture inside must be avoided
- Note the legal requirements for handling wood dust

For the wall

- Note on-centre spacing:
 - Board thickness 40 mm → max. on-centre 62.5 cm
 - Board thickness 60 – 100 mm → max. on-centre 83.5 cm
 - Board thickness 120 – 200 mm → max. on-centre 93.5 cm
- Fasten immediately with rainscreen battens
- Joint offset min. 30 cm
- See the following pages for fastening when used for rainscreen façades
- Can be exposed to the elements for 4 months



For the roof

- Only Gutex Multitherm ≥ 60 mm
- The maximum on-centre spacing for the rafter level is 90 cm
- Joint offset on the roof from row to row by at least 1 rafter unit spacing
- Gaps between rafters are not accessible
- After installation, the board must be fastened and immediately protected with sarking (e.g. Gutex Multiplex-top or suitable membrane). Finally, the insulation board and the sarking must be fastened in the rafter with the counterlathing according to the static requirements. The 'Screw dimensioning' form can be found at www.gutex.de.
- Gutex Multitherm is not a load-bearing component (e.g. snow loads)

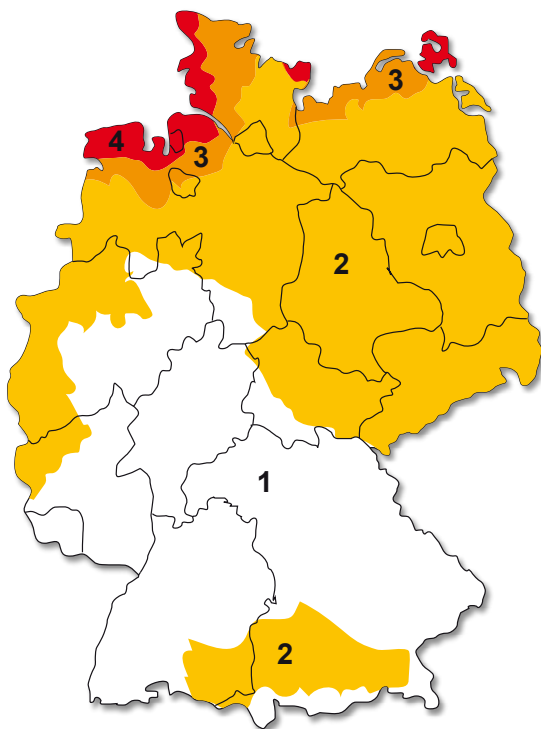
Fastening tables for Gutex Multitherm, wall

Table 1 shows the velocity pressure according to DIN 1055-4:2005-03 for structures with heights of up to 10 m and from 10 to 18 m, as well as the wind pressure for the different wind zones.

Figure 1 shows the wind zone map according to DIN 1055-4:2005-03, Appendix A.

Wind zone		Wind suction [kN/m^2] on buildings with a façade height of			
		Up to 10 m		From 10 m to 18 m	
		Corner area A	Other areas B	Corner area A	Other areas B
1	Inland	-0,70	-0,40	-0,91	-0,52
2	Inland	-0,91	-0,52	-1,12	-0,64
	Baltic Sea coast and islands	-1,19	-0,68	-1,40	-0,80
3	Inland	-1,12	-0,64	-1,33	-0,76
	Baltic Sea coast and islands	-1,47	-0,84	-1,68	-0,96
4	Binnenland	-1,33	-0,76	-1,61	-0,92
	North Sea and Baltic Sea coast and islands	-1,75	-1,00	-1,96	-1,12
	Islands of the North Sea	-1,96	-1,12	—	—

Table 1: Velocity pressure according to DIN 1055-4:2005-03 for structures with heights of up to 10 m and from 10 to 18 m, as well as the wind pressure determined with the stated aerodynamic coefficients for the wind zone.



Wind load zone 1 → 22.5 m/s
 Wind load zone 2 → 25.0 m/s
 Wind load zone 3 → 27.5 m/s
 Wind load zone 4 → 30.0 m/s

Figure 1: Wind zone map according to DIN 1055-4:2005-03, Annex A

In the following tables, the wind pressures calculated according to Table 1 are subdivided into wind suction categories 1 to 4 for simplification. These wind suction categories have been compiled from the values in Table 1 and are not related to the wind zones according to DIN 1055.

The required nails and their maximum clearances, with spacing between the ribs of 62.5 cm and 83.5 cm, are set out below.

	Gutex Multitherm 40 mm				Gutex Multitherm 60 mm			
	Max. nail clearance in cm Nail 4.6 × 160 (head diameter min. 8 mm) Rib spacing of 62.5 cm Counterlathing cross-section 40 × 60 mm				Max. nail clearance in cm Nail 4.6 × 160 (head diameter min. 8 mm) Rib spacing of 62.5 cm (and 83.5 cm) Counterlathing cross-section 40 × 60 mm			
Façade net weight [kN/m ²]	Wind suction [kN/m ²]				Wind suction [kN/m ²]			
	1	2	3	4	1	2	3	4
	-0,68	-1,00	-1,33	-1,96	-0,68	-1,00	-1,33	-1,96
0,3	40	33	27	20	40 (30)	33 (24)	27 (20)	20 (15)
0,6	27	24	20	16	27 (20)	24 (17)	20 (15)	16 (12)
0,9	20	18	16	14	20 (15)	18 (14)	16 (12)	14 (10)

Table 2

Example:

Table 1

Height of façade: 9 m

Structure location: Westerland – North Sea islands, wind zone 4

Wind suction in the corner area: 1.96 kN/m²

Wind suction in the other areas: 1.12 kN/m²

Thickness of wood fibre insulation board: 40 mm → Table 2

Façade: curtain wall tiles – heavy façade

Spacing of timber ribs: 62.5 cm

Required number of nails in other areas: Category 3: 16 cm spacing

Required number of nails in other areas: Category 3: 16 cm spacing

From a thickness of 80 mm, Gutex Multitherm must be fastened with approved screws. The forms for screw dimensioning can be found at www.gutex.de/service/bemessung-verbindingsmittel.



GUTEX Holzfaserplattenwerk H. Henselmann GmbH + Co. KG

Gutenberg 5, D-79761 Waldshut-Tiengen, Phone +49 7741 6099-0, info@gutex.de, www.gutex.co.uk

