

How to install Thermafleece

Warm roof

(e.g. pitched roof or attic conversion)

therma fleece®

Working in harmony with buildings.

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www.thermafleece.com

MADE IN BRITAIN

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Warm Roof

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THERMAFLEECE FULL-FILL BETWEEN RAFTER

Supported Breather Membrane

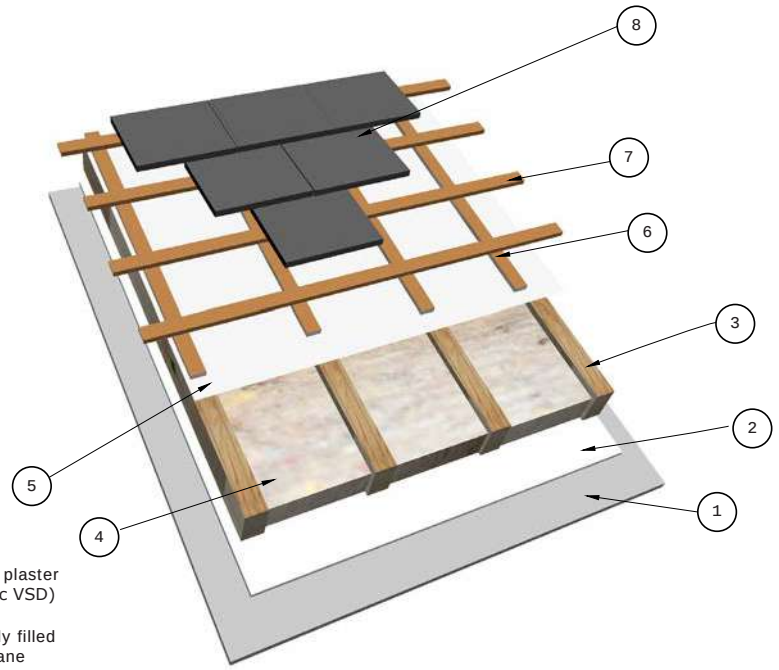
A supported breather membrane is created when the membrane is fitted taut on top of rafters and secured using counter battens that run the length of the rafter. Tiling battens run across the counter batten forming a space under the tiles.

The rafter depth can be fully filled with Thermafleece which fits neatly between rafters. The tightness of the fit combined with the friction against the rafters holds the insulation in place and prevents slumping. Thermafleece can also be stapled to the side of the rafter if desired.

It may be necessary or desirable to add an additional layer of Thermafleece under the rafter. A counter batten can be secured against the underside of the rafter running across or the rafter. Fit Thermafleece between.

Running the second layer of insulation across the rafters is desirable because it creates a thermal break.

Finally install an air-tightness / vapour control layer to the warm side (underside) of the rafters prior to fixing the lining board.



1. Lining board and plaster
2. AVCL (Thermofloc VSD)
3. Rafters
4. Thermafleece fully filled
5. Breather membrane
6. Counter battens
7. Tiling battens
8. Roofing tiles

Typical U-Value - W/m²K								
UltraWool between rafters @ 400mm centres								
50mm	70mm	90mm	120mm	150mm	170mm	190mm	200mm	240mm
0.62	0.27	0.41	0.32	0.27	0.23	0.22	0.21	0.18

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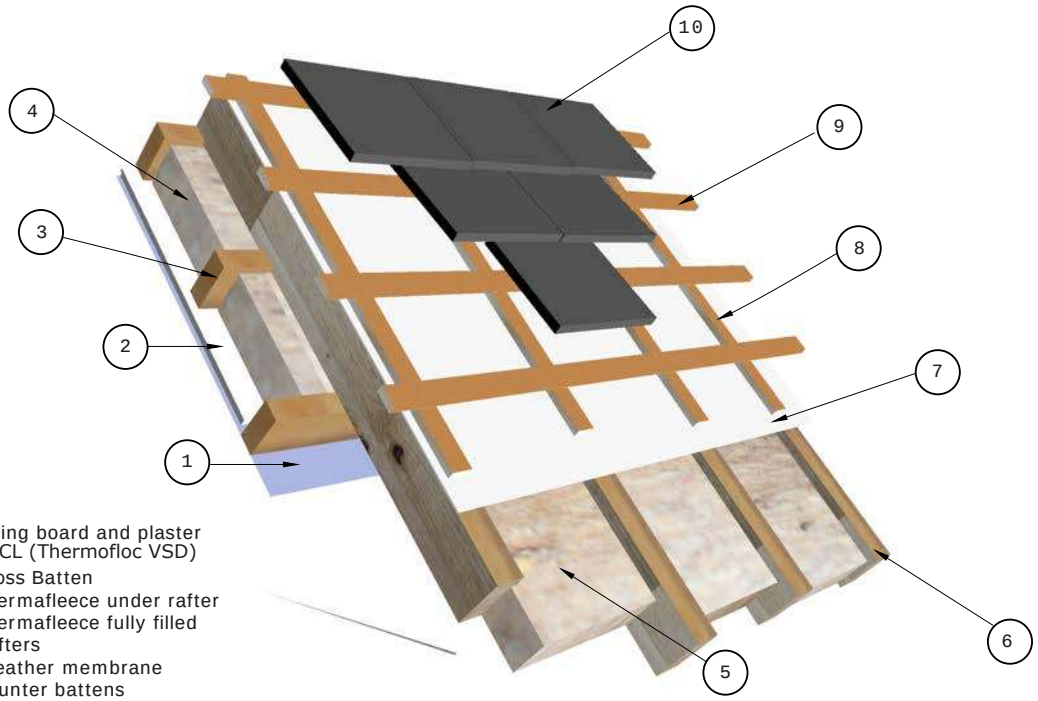
THERMAFLEECE FULL-FILL BETWEEN AND BELOW RAFTER

Supported Breather Membrane

A supported breather membrane is created when the membrane is fitted taut on top of rafters and secured using counter battens that run the length of the rafter. Tiling battens run across the counter batten forming a space under the tiles.

The rafter depth can be fully filled with Thermafleece which fits neatly between rafters. The tightness of the fit combined with the friction against the rafters holds the insulation in place and prevents slumping. Thermafleece can also be stapled to the side of the rafter if desired.

Finally install a Thermofloc VSD (AVCL) layer wth joints taped to the warm side (underside) of the battens prior to fixing the lining board.



1. Lining board and plaster
2. AVCL (Thermofloc VSD)
3. Cross Batten
4. Thermafleece under rafter
5. Thermafleece fully filled
6. Rafters
7. Breather membrane
8. Counter battens
9. Tiling battens
10. Roof tiles

	U-Value - W/m²K								
	UltraWool between rafters @400mm centres								
	50mm	70mm	90mm	120mm	150mm	170mm	190mm	200mm	240mm
25mm CosyWool under rafter @600mm centre	0.44	0.37	0.32	0.26	0.22	0.2	0.19	0.18	0.16
50mm UltraWool under rafter @600mm centre	0.33	0.29	0.25	0.22	0.19	0.17	0.16	0.16	0.14
70mm UltraWool under rafter @600mm centre	0.28	0.25	0.22	0.19	0.17	0.16	0.15	0.14	0.13

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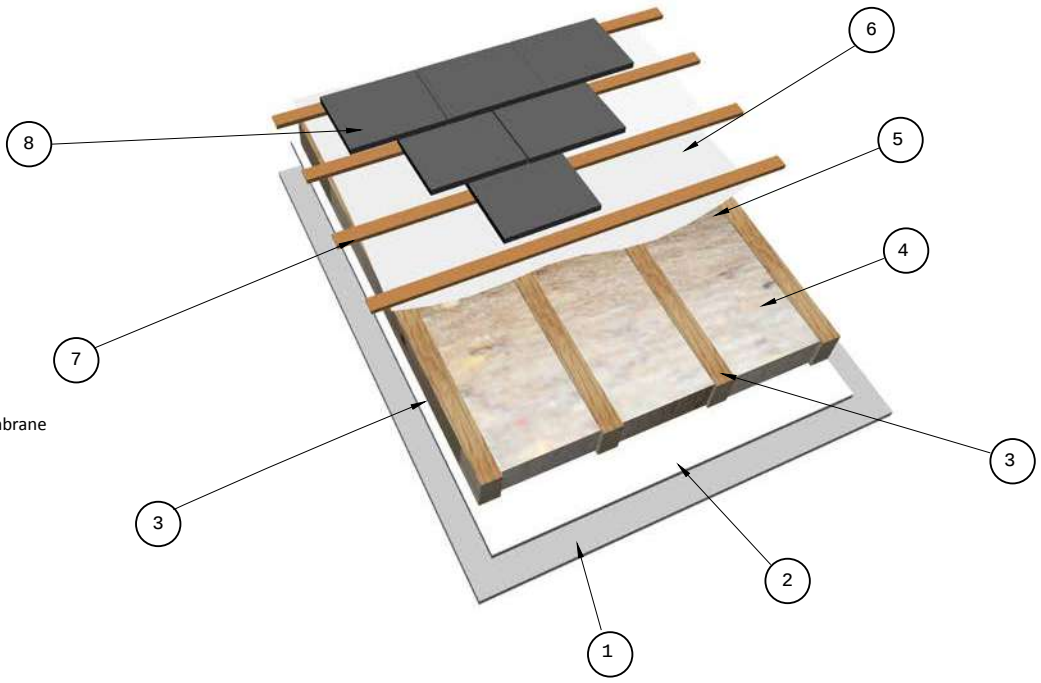
THERMAFLEECE PARTIAL FILL BETWEEN RAFTER

Unsupported Breather Membrane

An unsupported breather membrane is when the membrane is fitted over the rafters and secured by tiling battens running across the rafters. A drape of around 10mm is created in the membrane running across the rafter to allow a gap between the breather membrane and the tiling batten above. In this case there is no counter batten installed on top of the rafter.

Fit insulation between the rafters leaving a 20mm space above the insulation to accommodate the drape in the breather membrane above. Thermafleece fits neatly between rafters. The tightness of the fit combined with the friction against the rafters holds the insulation in place and prevents slumping. Thermafleece can also be stapled to the side of the rafter if desired.

Finally install a Thermofloc VSD (AVCL) layer wth joints taped to the warm side (underside) of the battens prior to fixing the lining board.



1. Lining board and plaster
2. Thermofloc VSD (AVCL) Membrane
3. Rafters
4. Thermafleece insulation
5. 20mm space
6. Breather membrane
7. Tiling battens
8. Roofing tiles

U-Value - W/m²K							
UltraWool between rafters @400mm centres							
50mm	70mm	90mm	120mm	150mm	170mm	190mm	200mm
0.72	0.55	0.44	0.34	0.28	0.25	0.23	0.22

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(e.g. pitched roof or attic conversion)

THERMAFLEECE PARTIAL FILL BETWEEN AND UNDER RAFTER

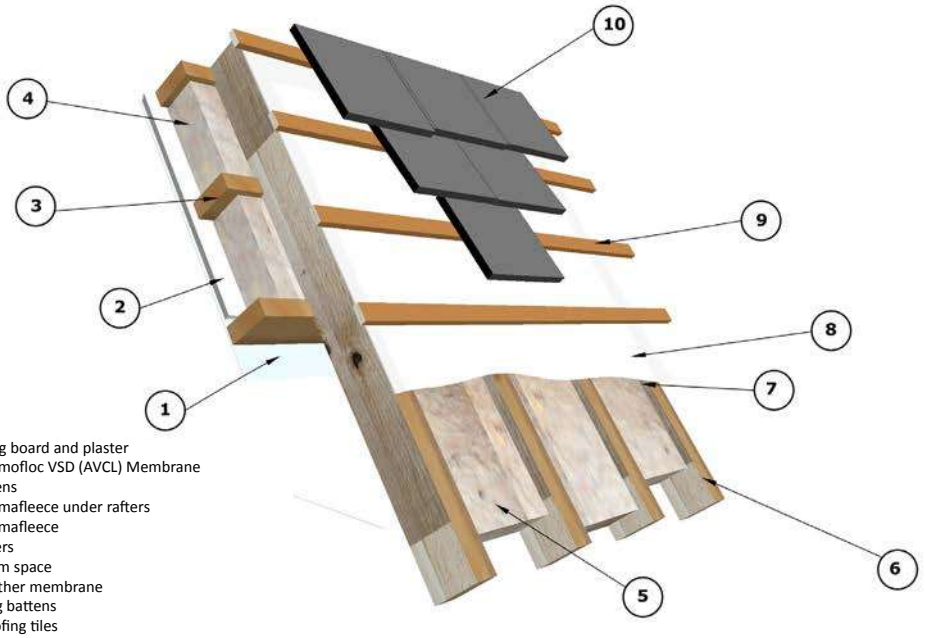
Unsupported Breather Membrane

An unsupported breather membrane is when the membrane is fitted over the rafters and secured by tiling battens running across the rafters. A drape of around 10mm is created in the membrane running across the rafter to allow a gap between the breather membrane and the tiling batten above. In this case there is no counter batten installed on top of the rafter.

Fit insulation between the rafters leaving a 20mm space above the insulation to accommodate the drape in the breather membrane above. The tightness of the fit combined with the friction against the rafters holds the insulation in place and prevents slumping. Thermafleece can also be stapled to the side of the rafter if desired.

It may be necessary or desirable to add an additional layer of Thermafleece under the rafter. A counter batten can be secured against the underside of the rafter running across the rafter. Fit Thermafleece between. Running the second layer of insulation across the rafters is desirable because it creates a thermal break.

Finally, install an air-tightness / vapour control layer to the warm side (underside) of the battens prior to fixing the lining board.



1. Lining board and plaster
2. Thermofloc VSD (AVCL) Membrane
3. Battens
4. Thermafleece under rafters
5. Thermafleece
6. Rafters
7. 20mm space
8. Breather membrane
9. Tiling battens
10. Roofing tiles

	U-Value - W/m²K								
	UltraWool between rafters @400mm centres								
	50mm	70mm	90mm	120mm	150mm	170mm	190mm	200mm	240mm
25mm CosyWool under rafter @600mm centre	0.44	0.37	0.32	0.26	0.22	0.2	0.19	0.18	0.16
50mm UltraWool under rafter @600mm centre	0.33	0.29	0.25	0.22	0.19	0.17	0.16	0.16	0.14
70mm UltraWool under rafter @600mm centre	0.28	0.25	0.22	0.19	0.17	0.16	0.15	0.14	0.13

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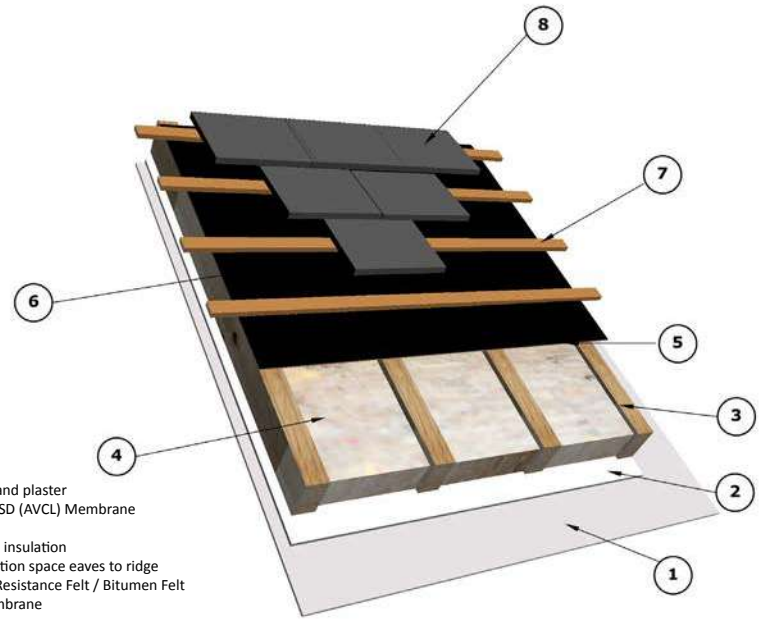
High Vapour Resistance Roofing Felt

Traditional bitumen roofing felt is laid over the rafter and secured by tiling battens running across the top of the rafter. Bitumen roofing felt is not breathable and has a high vapour resistance so it is important to create a well ventilated space under the roofing felt to avoid the risk of condensation.

Fit insulation between the rafters leaving a 50mm space between the insulation and roofing felt to provide clear ventilation down to the eaves and up to the ridge.

Thermafleece fits neatly between rafters. The tightness of the fit combined with the friction against the rafters holds the insulation in place and prevents slumping. Thermafleece can also be stapled to the side of the rafter if desired.

Finally, install an air-tightness / vapour control layer to the warm side (underside) of the battens prior to fixing the lining board.



1. Lining board and plaster
2. Thermofloc VSD (AVCL) Membrane
3. Rafters
4. Thermafleece insulation
5. 50mm ventilation space eaves to ridge
6. High Vapour Resistance Felt / Bitumen Felt
6. Breather membrane
7. Tiling battens
8. Roofing tiles

U-Value - W/m²K							
UltraWool between rafters @400mm centres with 50mm ventilation above							
50mm	70mm	90mm	120mm	150mm	170mm	190mm	200mm
0.72	0.55	0.44	0.34	0.28	0.25	0.23	0.22

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THERMAFLEECE PARTIAL FILL BETWEEN AND UNDER RAFTERS

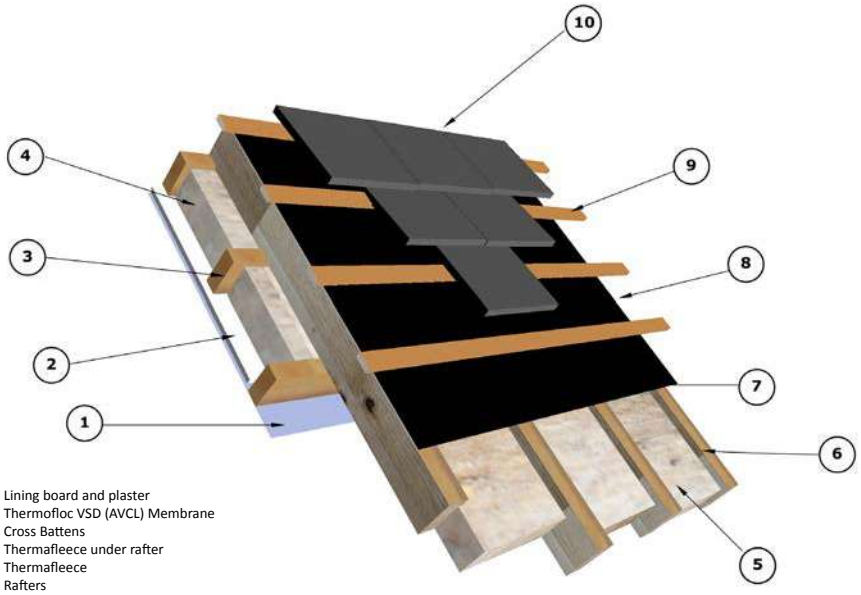
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It may be necessary or desirable to add an additional layer of Thermafleece under the rafter. A cross batten can be secured against the underside of the rafter running across the rafter. Fit Thermafleece between the second layer of insulation, across the rafters is desirable because it creates a thermal break.

Finally, install an air-tightness / vapour control layer to the warm side (underside) of the battens prior to fixing the lining board.



1. Lining board and plaster
2. Thermofloc VSD (AVCL) Membrane
3. Cross Battens
4. Thermafleece under rafter
5. Thermafleece
6. Rafters
7. 50mm ventilation space to ridge
6. High Vapour Resistance Felt / Bitumen Felt
6. Breather membrane
7. Tiling battens
8. Roofing tiles

	U-Value - W/m²K							
	UltraWool between rafters @400mm centres with 50mm ventillation above							
	50mm	70mm	90mm	120mm	150mm	170mm	190mm	200mm
25mm CosyWool under rafter @600mm centre	0.49	0.4	0.34	0.28	0.23	0.21	0.19	0.19
50mm UltraWool under rafter @600mm centre	0.36	0.31	0.27	0.23	0.2	0.18	0.17	0.16
70mm UltraWool under rafter @600mm centre	0.3	0.26	0.23	0.2	0.18	0.16	0.15	0.14

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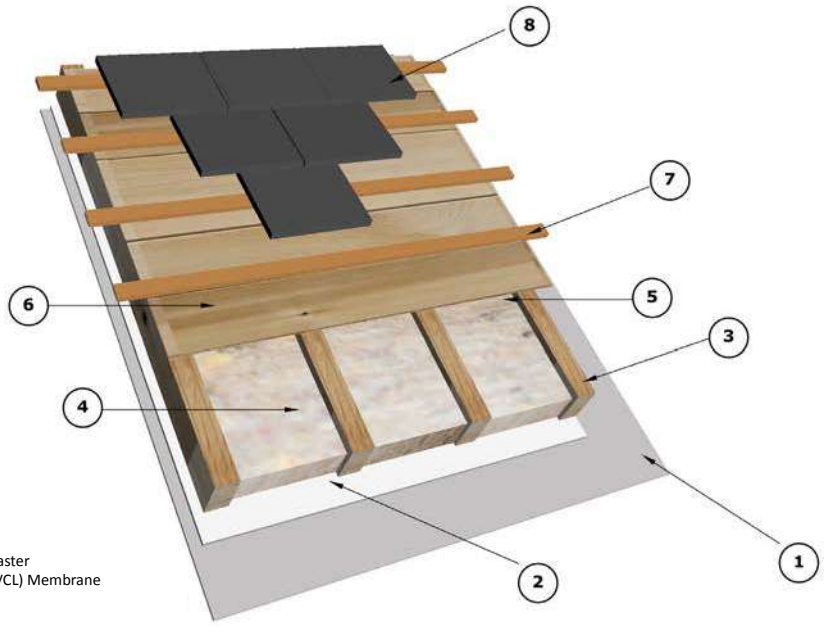
THERMAFLEECE PARTIAL FILL BETWEEN RAFTER

Timber Sarking Boards

Timber sarking boards run across the top of the rafter with tiling battens fixed above. Sarking boards are deemed to have a high vapour resistance so it is important to create a well ventilated space under the sarking to avoid the risk of condensation.

Fit insulation between the rafters leaving a 50mm space between the insulation and sarking to provide clear ventilation down to the eaves and up to the ridge. Thermafleece fits neatly between rafters. The tightness of the fit combined with the friction against the rafters holds the insulation in place and prevents slumping.
Thermafleece can also be stapled to the side of the rafter if desired.

Finally, install an air-tightness / vapour control layer to the warm side (underside) of the battens prior to fixing the lining board.



1. Lining board and plaster
2. Thermofloc VSD (AVCL) Membrane
3. Rafters
4. Thermafleece
7. 50mm ventilation space to ridge
6. High Vapour Resistance Felt / Bitumen Felt
6. Breather membrane
7. Tiling battens
8. Roofing tiles

U-Value - W/m²K							
UltraWool between rafters @400mm centres with 50mm ventilation above							
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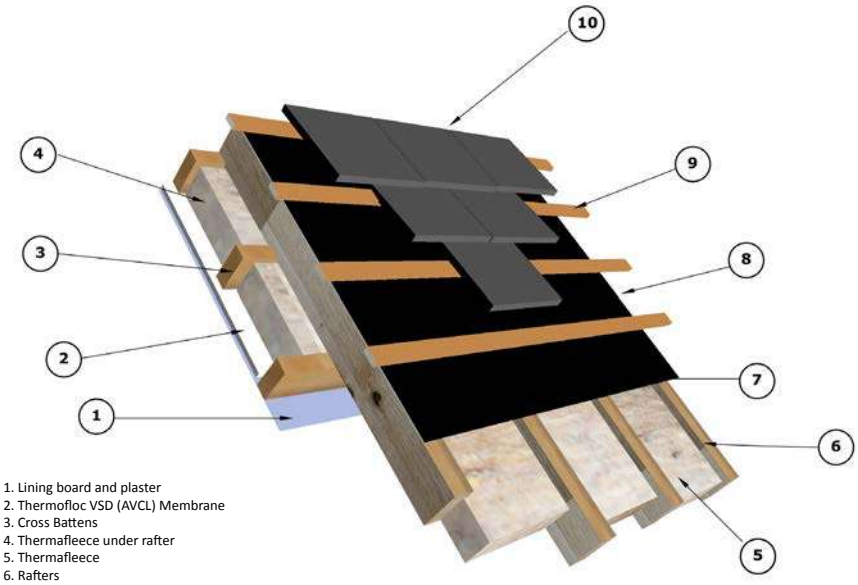
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Fit insulation between the rafters leaving a 50mm space between the insulation and sarking to provide clear ventilation down to the eaves. Thermafleece fits neatly between rafters. The tightness of the fit combined with the friction against the rafters holds the insulation in place and prevents slumping. Thermafleece can also be stapled to the side of the rafter if desired.

It may be necessary or desirable to add an additional layer of Thermafleece under the rafter. A counter batten can be secured against the underside of the rafter running across the rafter. Fit Thermafleece between. Running the second layer of insulation across the rafters is desirable because it creates a thermal break.

Finally, install an air-tightness / vapour control layer to the warm side (underside) of the battens prior to fixing the lining board.



1. Lining board and plaster
2. Thermofloc VSD (AVCL) Membrane
3. Cross Battens
4. Thermafleece under rafter
5. Thermafleece
6. Rafters
7. 50mm ventilation space to ridge
6. High Vapour Resistance Felt / Bitumen Felt
6. Breather membrane
7. Tiling battens
8. Roofing tiles

	U-Value - W/m²K							
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