Existing pitched roof, ceiling at rafter line



Tel: 01428 870150 www.bufca.co.uk

General

Spray applied polyurethane foam between battens and rafters, directly onto existing tiles or slates.

Average depth:	150mm
U-value:	0.18W/m ² K
Condensation risk:	Zero
Ventilation:	Unventilated warm deck

PU foam, applied to the underside the roof, bonds slates or tiles to each other and to structural or supporting timbers to replace the anchorage of fixing nails. It also seals the gaps between slates or tiles, preventing the ingress of wind-blown rain, snow and dust.

PU foam is applied between rafters in sloping ceiling areas and loft conversions and the U Value can be achieved without the need to lower the existing ceiling height. The foam is then plasterboarded over in the conventional way.

Alternatively, in applications such as barn conversions the foam is dubbed out with a coat of bonding plaster and then Thistle finish plaster. Existing structures must be in a good state of repair with no evidence of rain penetration or damp. Defects should be made good prior to installing the product. The product also minimises unwanted air infiltration and reduces airborne noise pollution from air and road traffic.



U-value and Condensation Risk Analyses

Construction details Hybrid warm pitched roof	Thickness (mm)	Dew point prediction	Outside Rso=0.04
Clay tiles	12.0	3 /	
PU foam (between battens)	25.0		
PU foam (between rafters)	125.0	1	
Plaster Board	12.5	4	
Thistle Finish Plaster (Multi Board)	2.0	i	
U-value - 0.18W/m²K		5 	Inside Rsi=0.22

These calculations take into account repeating thermal bridges using methods in ISO 6046 (walls and roofs), ISO 13370 (ground floors) and analyses interstitial condensation risk using the method in BS EN ISO 13788.2002 (and BS 5250 Appendix D) to help you demonstrate compliance with the Building Regulations and Building Standards. Each project must be assessed individually and therefore examples here can only be illustrative.