



Product Evaluation Report

## ThermaSkirt Skirting Board Heating

MEP Briefing Note 02 (Rev 00)



ThermaSkirt – An Alternative Heating Method in Residential Dwellings

**1. Introduction to Heating in Residential Developments**

Traditionally, heating within residential dwellings is provided via radiators or underfloor heating. Whatever choice of emitter, it is typically boiler fed. Boilers are situated within the building’s Energy Centre and distribute heat via low temperature hot water pipework to each apartment, in which each system is then split by a Heat Interface Unit.

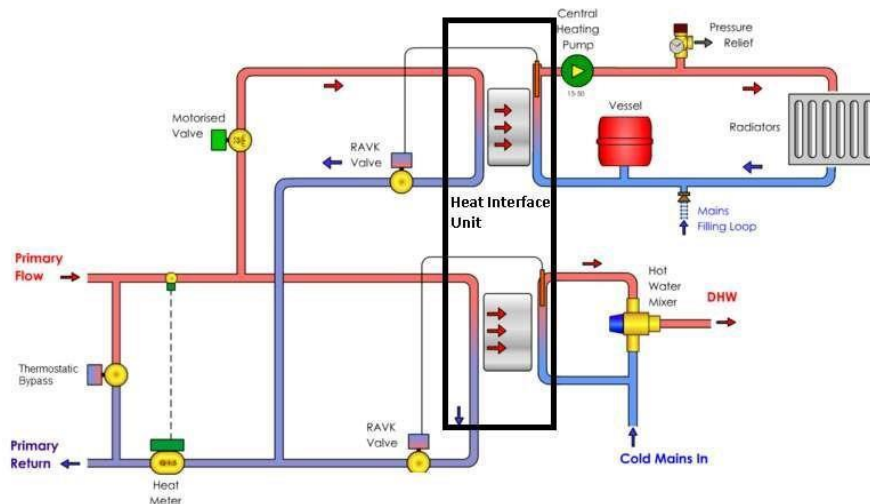
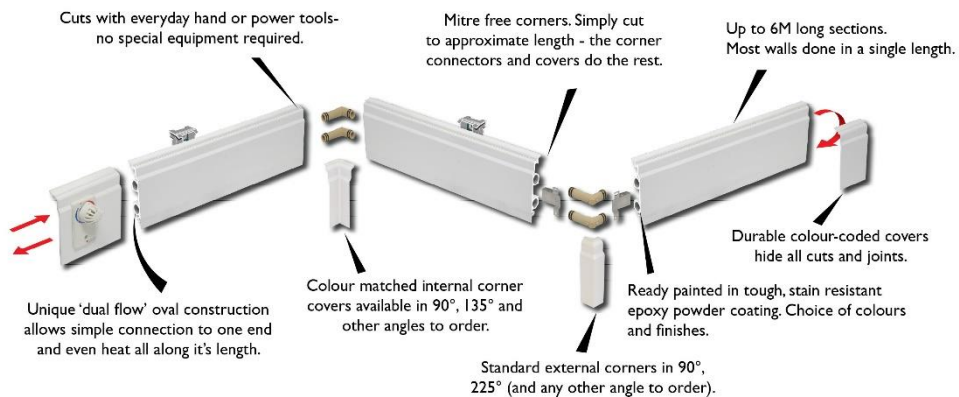


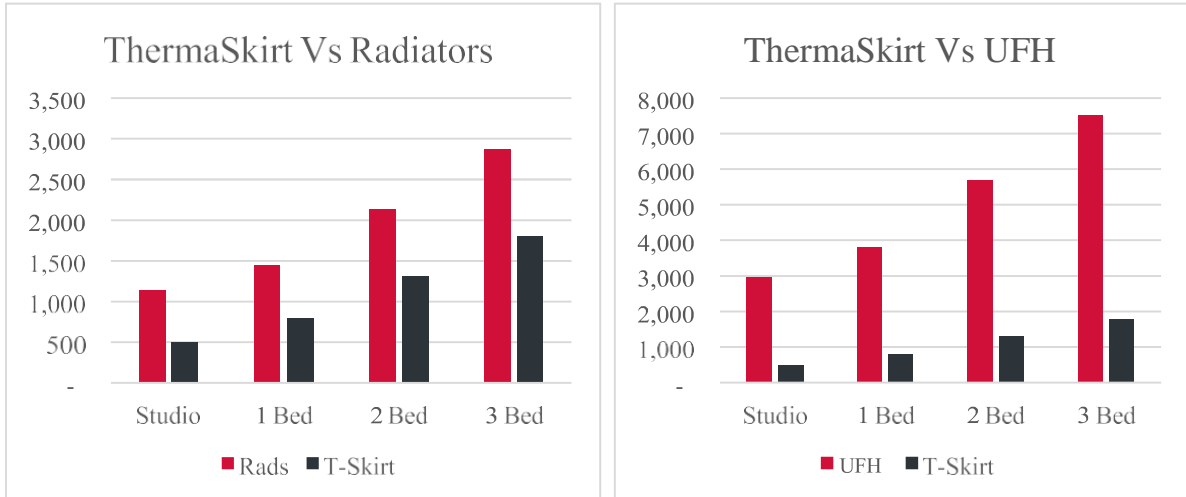
Figure 1 – Diagram of a Heat Interface Unit (HIU), hydraulically separating the Shell & Core side & the Apartment Fit Out side of the LTHW system. It also can be used to generate Domestic Hot Water by heating the mains / boosted cold water, as shown.

**2. What is ThermaSkirt?**

ThermaSkirt is designed to look like a traditional skirting board running at low level around the perimeter of each room that provides radiant heating. It operates by integrating the flow & return pipework on the apartment side of the system and provides heating similar to underfloor heating. It is also available in electric form, for those buildings that propose an all-electric heating system (Figure 2 below shows wet version).



### 3. Cost Analysis – Benchmark Rate Per Unit



#### Analysis

The cost of installing the ThermaSkirt as shown above is generally cheaper than installing radiators (radiator cost based on £110 supply double panel convector), but the cost difference between these two systems largely depends on the specification of the radiator. A cast iron radiator could prove much more expensive whereas a ‘Stelrad Vita Deco’ would be significantly cheaper.

In comparison to underfloor heating, the inclusion of the structural elements such as additional insulation, deeper concrete, or overlay boards required with the system make it much more expensive. The mechanical & electrical aspects of the systems are similar in price generally.

Please see Appendix A to view the high-level breakdown of the above costs. These costs are indicative & specific to a central London project. Please also draw your attention to the set of notes which should be read in conjunction with the above cost comparisons.



#### 4. Further Information

For further information please contact the relevant person listed below:

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## Appendix A (Cost Comparison – Project Test)

Description	Quantity		Total Cost		Difference
	Rads	T-Skirt	Rads	T-Skirt	
LTHW Radiator Heating					
Studio	25nr	25nr	£28,300	£12,500	£15,800
1 Bed	32nr	32nr	£46,300	£25,600	£20,700
2 Bed	49nr	49nr	£104,300	£63,700	£40,600
3 Bed	24nr	24nr	£69,000	£43,200	£25,800
Totals			£247,900	£145,000	£102,900
Cost Per Unit			£1,907	£1,115	£792

Description	Quantity		Total Cost		Difference
	UFH	T-Skirt	UFH	T-Skirt	
LTHW Underfloor Heating					
Studio	25nr	25nr	£74,300	£12,500	£61,800
1 Bed	32nr	32nr	£121,600	£25,600	£96,000
2 Bed	49nr	49nr	£280,000	£63,700	£216,300
3 Bed	24nr	24nr	£180,500	£43,200	£137,300
Totals			£656,400	£145,000	£511,400
Cost Per Unit			£5,049	£1,115.4	£3,934

### Notes

The above costs include MEP Contractor mark-up @ 10%.

The above costs include installation for the ThermaSkirt @ the following as advised by Discrete Heat:

Studio - 1.5hrs

1 Bed - 2.5hrs

2 Bed - 4hrs

3 Bed - 4hrs

Skirting board is based on a painted Timber MDF Skirting Board @ £15/m & included in UFH & Rad costs.

UFH cost includes floor build up @ £50/m<sup>2</sup> as well as the skirting board.

The infrastructure including boilers, shell & core pipework etc. has been excluded. The costs above are net only are exclude on costs.



## Appendix B (Advantages of Incorporating this System into a Scheme)

	<b>Radiators</b>	<b>Underfloor Heating</b>	<b>ThermaSkirt</b>
<b>Cost</b>	The MEP for radiators & UFH is very similar in cost. However, it is the building costs associated with underfloor heating. Radiator's come in various specifications so if a lower spec radiator is selected, this could prove to be the cheapest option.	As stated, MEP costs for radiators & UFH are similar. The costs associated with the building elements i.e. the floor build-up of insulation makes UFH a much more expensive option.  Furthermore, if floor to ceiling height isn't to be compromised, then the building will need to be made taller.	The ThermaSkirt when compared with radiators it all depends on the specification of the radiator. In the case of the cost comparison in Appendix A, the radiator was based on a Stelrad £110 supply only radiator, which is a standard price for a double panel convector. When compared to UFH, it is much lower in cost for the same reasons as why radiators are.
<b>Performance</b>	Heating / cooling response times are fast. The heating up of the room only occurs in or near the location of the radiator, not providing an even spread.	Heating / cooling response times are slow. The heating up of the room is spread across the entire floor area. In large rooms, it is more effective than both the ThermaSkirt & radiators.	Heating / cooling response times are fast. The heating up of the room occurs all around the perimeter providing heat to every part of the room. In large rooms, it becomes less effective towards the centre.
<b>Space</b>	Space in inner city apartments is precious which make radiators not so popular, as they take up wall space.	UFH takes up no space within the apartment.	ThermaSkirt takes up no space within the apartment.
<b>Maintenance</b>	Radiators collect dust and grime making them difficult to clean.	Difficult to access but generally maintenance free.	Easy to access and generally maintenance free.

