



THERMAL PERFORMANCE

Planziegel blocks are designed to provide the optimum thermal performance for single leaf external walls

- aerated clay and vertical perforations trap air to provide good thermal insulating qualities
- dry perp joints and thin joint mortar prevent thermal bridging
- thermal mass to regulate heat absorption and heat release
- no additional insulation required for external walls

The right mix...

Clay and sawdust

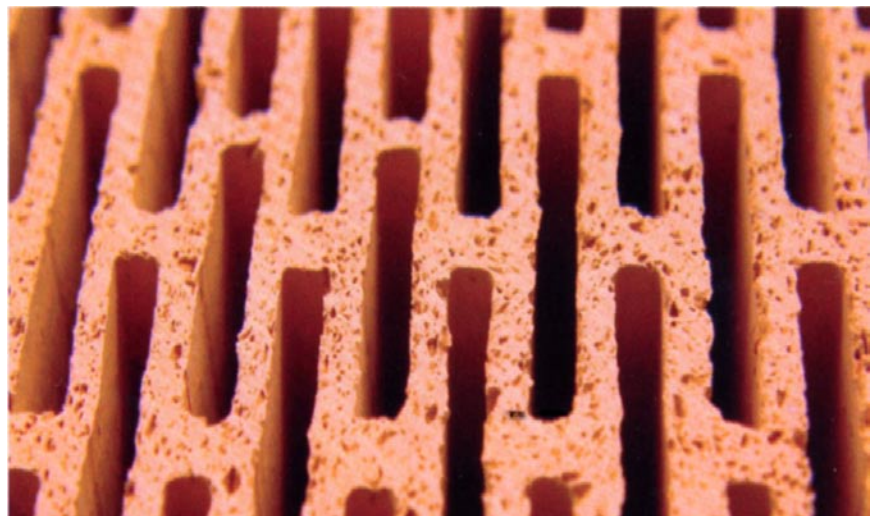
Ziegel products have a very fine ceramic structure containing millions of tiny air pockets. This is achieved by adding sawdust to the wet clay mix. As the clay product is fired in kilns, the sawdust totally incinerates, leaving behind air pockets. This technology has been used for over 100 years to "aerate" fired clay to improve its thermal properties. The geometric vertical perforations of the block are also designed to trap more air.

Heat loss

Heat is often lost through the mortar joints of conventional masonry. The Planziegel system dramatically reduces thermal bridging at these points with interlocking dry perp joints and thin joint laying mortar. The Planziegel block is "planed" on the top and underside surfaces, to produce a precision masonry unit for laying with thin joint mortar. The airtightness of an external wall is an important factor in reducing heat loss. The application of a lightweight render system will prevent this and contribute further to the overall thermal performance of a single-leaf external wall.

Thermal Mass

Ziegel masonry performs in much the same way as night storage heaters. The relatively high density of the Ziegel enables it to absorb, store and eventually release heat. The effects of overly warm room temperatures in the hot summer months are staved off. Short cooler intervals will cause the heat to be released back into the room. This natural process helps to control and maintain room comfort all year round.



Typical U values for a single-leaf external wall built ThermoPlan®

U values*	ThermoPlan®					
Block reference	S9	T10	T11	T12	T14	T16
lambda value: W/mK	0.09	0.10	0.12	0.12	0.14	0.16
Wall thickness 240mm				0.43	0.50	0.55
Wall thickness 300mm	0.28	0.30	0.33	0.36	0.41	0.46
Wall thickness 365mm	0.23	0.25	0.28	0.30	0.34	0.39
Wall thickness 425mm	0.20	0.22				
Wall thickness 490mm						0.30

* incl. 20mm LW Render (lambda = 0.22 W/mK) and 15mm lime/gypsum plaster (lambda = 0.35 W/mK)