

As part of a joint study by TU Dresden and Lucht LHZ Elektroheizung GmbH & Co. KG, a measurement analysis was carried out to determine the proportion of heat emission (convection and radiation) of a partial storage heater. A test rig concept was designed for this purpose and realised in the indoor climate room of the Combined Energy Lab at TU Dresden. Stationary tests were then conducted under various load conditions. The measurement data obtained was then used to calculate the radiation and convection heat flows.

The following table summarises the analyses carried out.

Measuring point	Proportion of radiation	Proportion of convection
1	42,0 %	58,0 %
2	40,4 %	59,6 %
3	41,9 %	58,1 %
Mean value	41,4 %	58,6 %

It should be noted that, independent of the load conditions of the partial storage heating system, approx. 41 % of the heat is emitted into the entire room by radiation and approx. 59 % by convection.