

# ENERGY

## RUNNING COSTS OF SPEEDHEAT

Various factors affect electricity consumption. Some points that may affect the running costs of floor heating are:

- The gradual drying out process of new concrete slabs increases the running costs during the first year due to moisture increasing the rate of loss.
- Insufficient building insulation, bad orientation, large glazed areas, large open windows, prevailing wind or cold draughts, open chimneys and A/C vents can all increase electricity consumption.
- During a cold winter heaters may run 40-50% of the time, but during a warmer winter they may run at 25-35%. Colder ambient temperatures require more wattage and may have increased duty cycles.
- The power usage will depend on the difference between the ambient and desired temperatures i.e. a thermostat set at 24 °C will result in the heater consuming more electricity than one set at 20 °C, assuming a constant ambient temperature. Turning the thermostat down at night to say 15 °C will save energy.
- A 1 kW heater installed in a 20m<sup>2</sup> living room may run 70% of the time to keep the room at the same temperature as a 2 kW heater, which could run for only 30% of the time, given identical conditions. In other words, the duty cycle of the lower kW heater increases and therefore may consume more power than the correctly sized heater.
- Assuming good insulation, sensible heat loss management, and the correct capacity installed, the duty cycle of a SPEEDHEAT floor heater should be approximately 33%, i.e. a 1kW heater will use about 8kW/h per 24 hour day.

## ESTIMATED COSTS PER DAY

### *1kW of heating*

Because a 1kW heater uses approximately 8kW/h per 24 hour day, one can assume the following estimated running costs, using an electricity tariff of 12c per kW/h:

1kW heater x (8 kW/h x 12c) = 96 cents per 24 hour day, or 4c per hour

### *Average 200m<sup>2</sup> home*

Therefore, an average 200m<sup>2</sup> home with floor heating in 5 x bedrooms, lounge room, dining, games, kitchen, and meals will require approximately 7.5kW of floor heating to heat the 10 rooms (without any other additional form of heating). The running costs per 24 hour day for all the heating can therefore be assumed to be:

7.5kW x (8 kW/h x 12c) = \$7.20 per 24 hour day, or 30c per hour.

### *Hall or church 300m<sup>2</sup>*

Similarly, one can assume that a hall or church of 300m<sup>2</sup> with 23kW of floor heating and used for only 5/6 hours per day should have running costs of:

23kW x (2 kW/h x 12c) = \$5.52 for 6 hours on a Sunday

Call 1800 85 75 65 for more information on estimated running costs of Speedheat floor heating in other specific areas.



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