



# Speedheat floor heating

HOME IS ... A WARM  
FEELING

Ultimate Safety | Healthier Living | Energy Saving



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# Overview

The Speedheat Generation 4 floor heating system was originally designed in 1986 by two Dutch engineers, Pieter Jansens and Paul de Pont.

It differed from other floor heating solutions on the market in its amazingly slim design, which does not affect floor levels. The simple yet elegant heating elements drastically improved the standard of quality and durability of these types of systems.

The products are locally manufactured by Klimax Mfg. (Pty) Ltd (formerly TERMO 2000), whose quality management systems are ISO 9001:2008 certified. We comply with all applicable local and international standards (IEC, CSA, UL).

Speedheat began expanding its franchises to the rest of the country in 1993, becoming a FASA member. Today, while proudly remaining a South African company we have operations in many parts of the world including: Europe, Australia and North America.

## Embracing innovation and simplicity

The Speedheat floor heating product focuses on heating a room quickly and effectively without negatively impacting on:

- The interior design of the room
- The occupants and their comfort

This was facilitated by a highly innovative product design and an obvious knowledge of heat transfer dynamics. Instead of installing the heating elements inside the floor slab, as is done with in-slab under floor heating, Speedheat installs the heating elements on top of the screed, preferably on top of a layer of floor insulation, just underneath the floor finish, thereby creating a much quicker response resulting in reduced energy consumption.

Contrary to heating the air in the room, which creates a very dry atmosphere, our system heats the occupants in the room by means of radiant heat from the floor.

Speedheat floor heating systems allow for tailor-made installations in any room underneath any floor finish.



## Why SpeedHeat?

Strongly focused on environmental sustainability

In a world experiencing adverse climate change due to increased pollution and CO<sub>2</sub> emissions, it would be irresponsible for us as a company to create a product that leaves anything but the smallest environmental footprint, both in the energy it consumes during operation, as well as the materials and commodities used in manufacturing and installation.

Economic and durable

In these times of soaring energy prices, our floor heating system doesn't just help the environment, but also your electricity bills. Our floor insulation installed on top of the screed reduces downward heat losses into the concrete slab. This means your heat losses are minimized, response times are quicker and energy consumption is reduced.

Speedheat comes standard with a 7 year product AND installation warranty. In addition, there is a well-trained and highly qualified team of technicians on standby to assist with after sales service and repairs, bringing you complete peace of mind!

A global leader in domestic and commercial heating

Industry leaders for 28 years, Speedheat floor heating have successfully completed many local and international projects, allowing us to gain valuable experience to perfect our skills and knowledge. For a list of our **unique commercial projects** that we have completed please refer to **Pg 19**.

Our products are regularly improved and updated to the latest technology whilst maintaining high quality standards.

Our client-focused approach only intensifies as we grow larger and our increasingly sophisticated system allows us to give our customers not only the highest quality products, but service that is superfast and reliable.

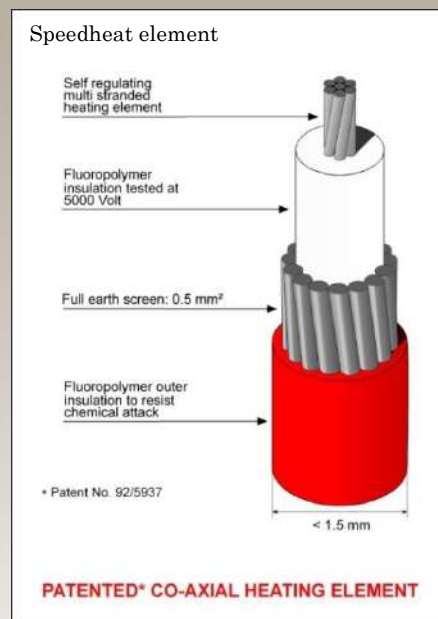


## A closer look at our products

The Speedheat heating element is designed for safety and durability. Its discreet design includes:

- A heating core with self regulating properties, which means that it generates progressively less heat with increasing temperature.
- An internal and external insulating sheath that withstands heat and high voltage. The fluoropolymer insulation is fully waterproof and corrosion resistant.
- A fully earthed co-axial element for electrical safety.

Furthermore, our patented element has won the SABS award for outstanding engineering design.



Speedheat brings you a quality floor heating system which is safe and durable and can be applied for new and retrofit installations and is suitable for all types of floor coverings.

The radiant heating system is installed quickly and neatly with minimal disruption to your household.

We recommend installing floor insulation with all our heating systems to further increase the efficiency of the system. Your home will warm up even faster, whilst reducing your energy consumption. For more about our **Stoploz range of floor insulation** and its benefits, refer to **pg 12**.

Like floor insulation, the choice of thermostat is important for the efficient operation of your Speedheat electric floor heating system. The thermostat is equally responsible for the improvement of your comfort of living and the reduction in energy consumption. With the Speedheat multi-function programmable thermostat every room can be independently controlled according to your requirements.

Speedheat has a number of high quality **thermostats** in their range, which you can view on **pg 16 , 17 and 18**.

Your Speedheat consultant will advise you on the best floor insulation and thermostat for your situation.

# Under tile floor build-up

Speedheat floor heating is the best choice of heating for your ceramic or porcelain tiles. The system is 100% safe and waterproof. This makes Speedheat ultimately suitable for wet areas like bathrooms or kitchens. Natural stone flooring like marble and slate turn comfortably warm with the radiant heating system bringing you comfort without compromising your choice of flooring. This modern solution is durable, reliable and safe.

Fig 1.1 shows a typical Speedheat under tile floor build-up with insulation (10mm KlimaBoard).

The heating element is installed on top of the screed, and secured with adhesive fibreglass mesh. A protective screed is then applied and the floor is subsequently tiled.

Insulation may be installed on top of the screed to decrease downward heat loss into the cement slab and increase the efficiency and response time of your heating system.

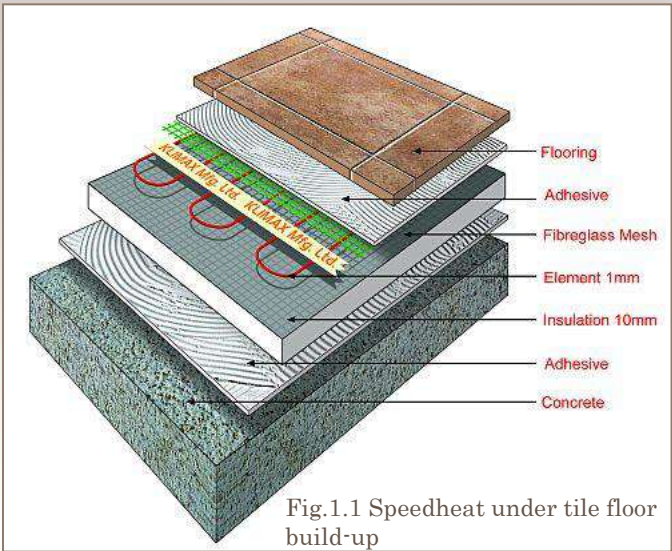


Fig.1.1 Speedheat under tile floor build-up

## Power density for tiled and stoned floors

100 – 200 W/m<sup>2</sup> depending on the floor insulation installed. Your Speedheat consultant will advise you further and recommend the correct system.



# Step by step under tile installation



1. Heating element is unrolled on top of floor insulation and taped down.



2. Adhesive mesh is then laid on top of the heating element



3. Protective screed is applied.



4. The floor is then tiled.

An installation monitor is used to alert the installer of any damage to the element during the installation and tiling process.

# Under wood/laminate floor build-up

Speedheat electric floor heating heats your laminate floor swiftly and economically.

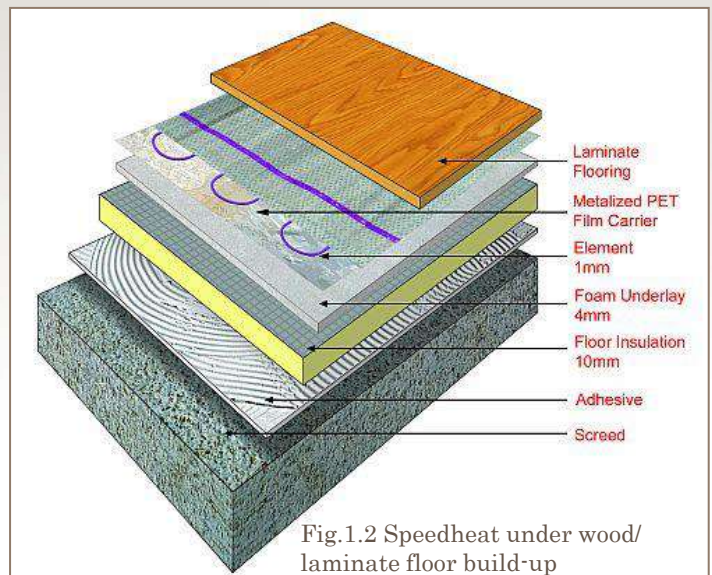
All Speedheat laminate installations include a floor probe for temperature limitation. The floor surface is limited to the maximum allowable temperature of 27 degrees (in accordance with the SA Wood and Laminate Association's specifications). This ensures that laminate flooring preserves and maintains its aesthetic appearance without buckling or warping.

Our under laminate heaters are sandwiched between a high quality metalized PET film carrier and a woven PP layer. The bottom layer is specially designed for even heat distribution and downward heat flow reduction, the top layer is designed to promote radiation, resulting in your laminated floor being heated evenly and effectively.

Fig 1.2 shows a typical Speedheat under wood/laminate floor build-up with insulation (10mm KlimaBoard).

This is a dry application where the heating element is placed just underneath the wood/laminate flooring on top of a foam underlay.

Insulation may be used on top of the screed to further decrease downward heat loss and increase the performance of your heating system.



## Power density for laminated and wooden floors

Wood and laminate heaters are specifically designed with a power density of 110W/m<sup>2</sup>.



# Step by step under laminate installation



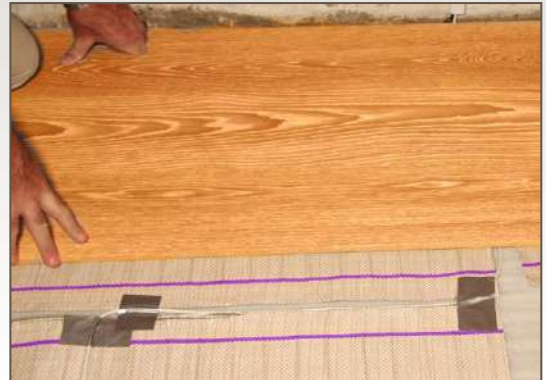
1. Foam underlay is normally installed by flooring company.



2. The foil strip heater is unrolled on top of the foam underlay and secured with tape.



3. The probe for floor temperature limitation is placed and connected.



4. Laminate flooring is installed.

An installation monitor is used to alert the installer of any damage to the element during installation and the fitting of your laminated flooring.

# Under carpet floor build-up

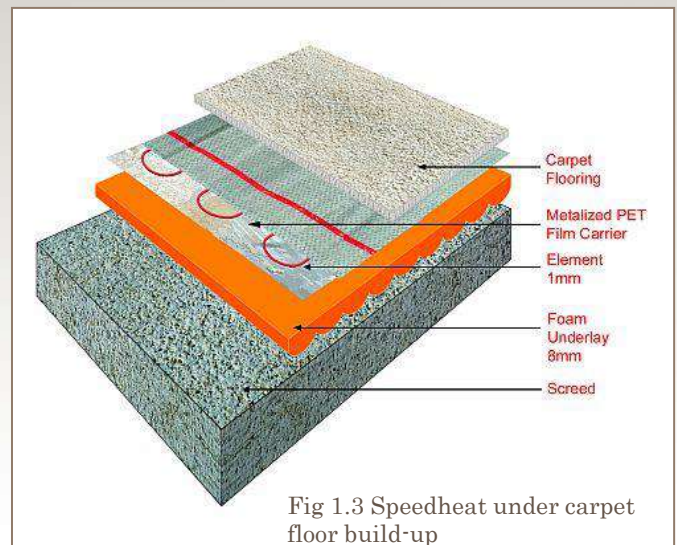
Speedheat electric floor heating panels heat your carpets economically and safely. They are quickly and easily installed under existing or new carpets.

Similar to our under laminate heaters, our under carpet heaters are sandwiched between a high quality metalized PET film carrier and a woven PP layer. The bottom layer is specially designed for even heat distribution and downward heat flow reduction, the top layer is specially designed to promote radiation, resulting in your carpets being heated evenly and effectively without overheating or hot spots.

Fig 1.3 shows a typical Speedheat under carpet floor build-up.

A dry application where the under carpet heating element is placed on top of the carpet underfelt or foam underlay, just underneath the carpet.

The underfelt or foam underlay acts as an insulator reducing downward heat loss, increasing the efficiency of the heating system.



## Power density for carpeted flooring

Carpet heaters are available with a power density of 125 or 160 W/m<sup>2</sup>.

# Step by step under carpet installation



1. Underfelt or foam underlay is laid by carpet installers.



2. The carpet heater is unrolled on top of the underlay.



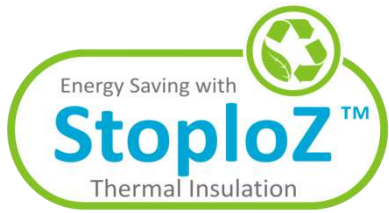
3. The carpet heater is secured down with tape.



4. Carpet installation is completed.

An installation monitor is used to alert the installer of any damage to the element during installation and the fitting of your carpets.

# Insulation products

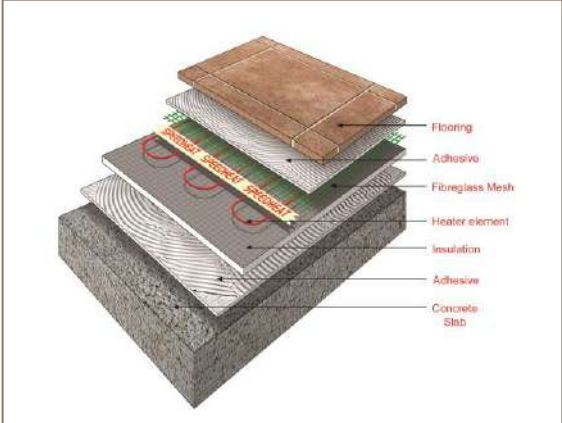


One of the best ways to conserve energy and improve comfort is to use a quality insulation product in your floors.

Speedheat insulates from the ground-up with cork and EPS. Our StopLoz Thermal Insulation range includes KlimaBoard™ (5mm, 10mm or 25mm thick). KlimaBoard™ is rated green because of energy saving and its recyclable nature.

### Features and Benefits:

- Reduces downward heat loss, improves warming up time and reduces energy consumption.
- Effective de-coupler and crack suppressor.
- Sound travel in buildings is reduced.
- Non-ageing.
- Environmentally friendly.
- It can be shown that StopLoz™ solutions outperform the new regulations where SANS specifies an R1 insulation value under heated slabs.



Different insulation material is suited for different floor surfaces and heating requirements, offering you a tailor made insulated floor heating system.

Product	Material	Total build up (mm) Includes heater and screed	Warming up time	R value (m <sup>2</sup> K/W)	Compressive strength (kPa)
KlimaBoard 5 mm	EPS 40	12	2.5 times faster	±0.15	>250
KlimaBoard 10mm	XPS 40	15	3 times faster	±0.30	>250
KlimaBoard 25mm	XPS40	30	3 times faster	±0.80	>250

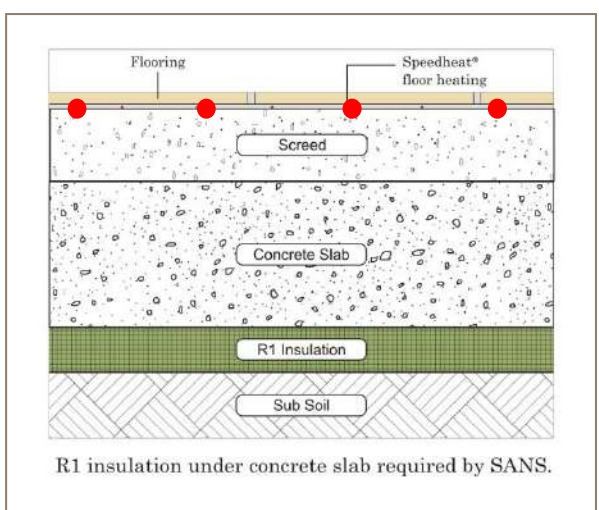


# In screed insulation

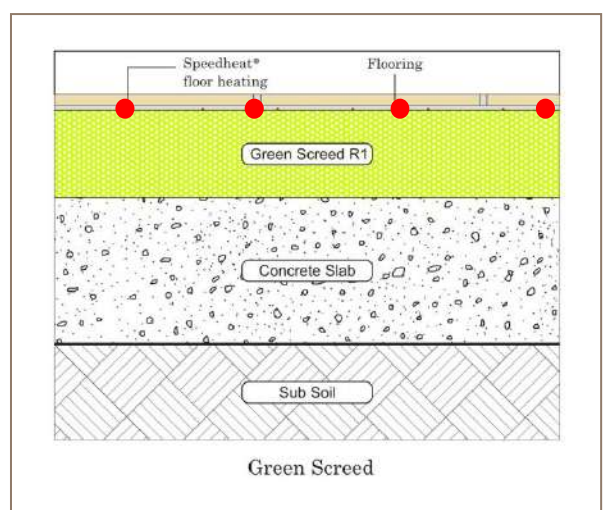


StopLoz™ GreenScreed aggregates are mixed into screed as a sand replacement to achieve ideal thermal insulating properties.

Green Screed on top of the concrete slab is more effective than R1 insulation placed underneath the concrete slab.



vs.



R1 insulation under concrete slab	vs.	GreenScreed on top of concrete slab
High thermal mass = longer warming up times (up to 8 hours to warm up)		Low thermal mass = shorter warming up times (warms up in minutes)
Energy wastage from longer warming up times and limited control		Energy saving from shorter warming up times and improved control
Cannot respond quickly to changing weather conditions		Responds swiftly to weather changes with reduced energy consumption



# In screed insulation



## Why GreenScreed?

- Reduces downward heat loss, improves warming up time and reduces energy consumption.
- Increases overall performance and efficiency of your heating system.
- Effective de-coupler and crack suppressor.
- Sound travel in buildings is reduced.
- Durable.
- Environmentally friendly.
- GreenScreed aggregates made from 100% recycled material
- Lightweight
- Energy Saving
- Recyclable
- It can be shown that StopLoz™ solutions outperform the new regulations where SANS specifies an R1 insulation value under heated slabs.



## R values and compressive strength

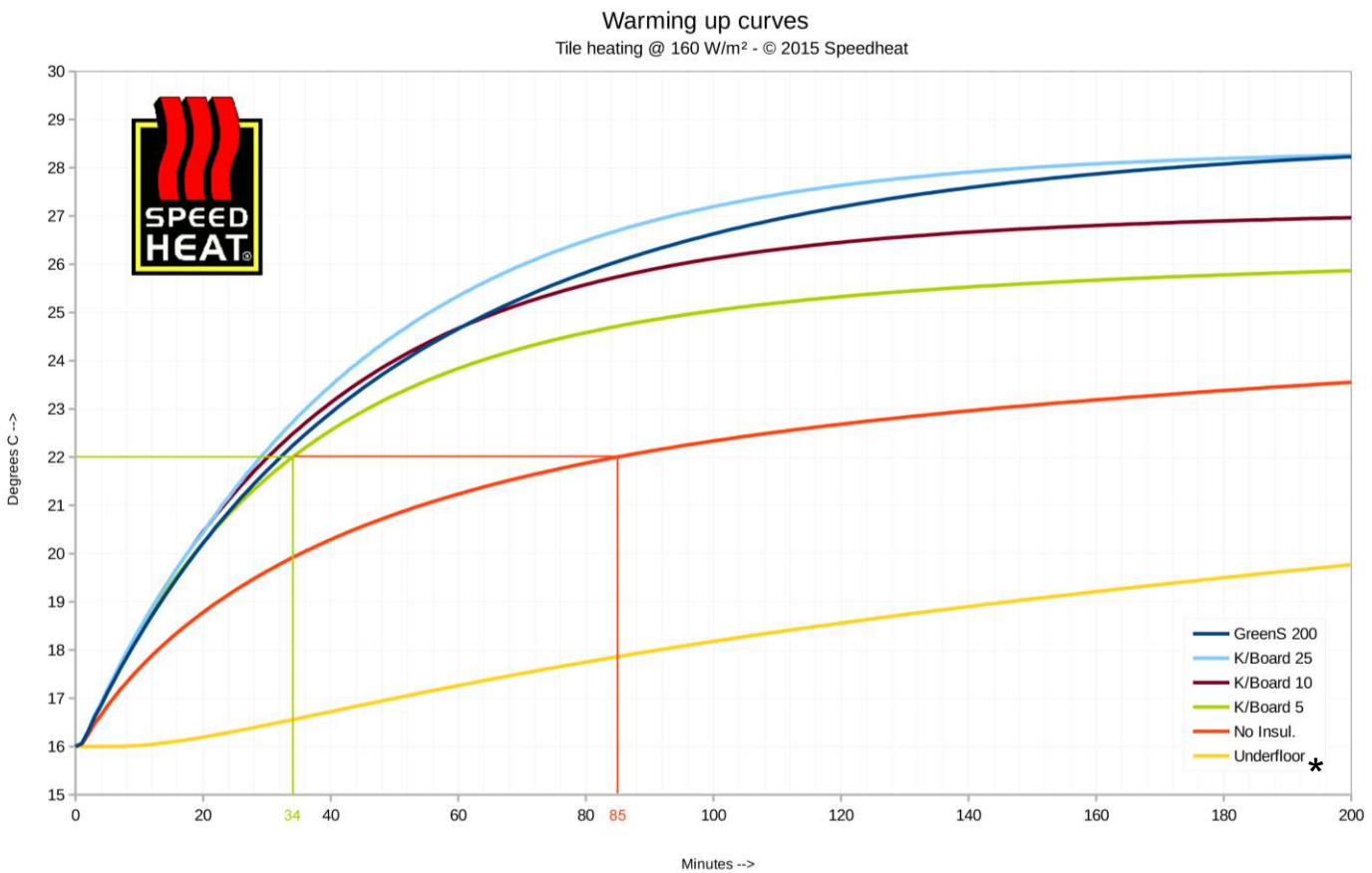
Screed Density	Thermal Cond.	Comp. Strength	R Value (m²K/W) against screed thickness in mm							
			30	40	50	70	80	90	100	110
Kg/m³	W/m.k	Mpa								
210	0.066	0.70	0.46	0.62	0.77	1.08	1.23	1.38	1.54	1.69
260	0.068	0.84	0.45	0.60	0.75	1.04	1.19	1.34	1.49	1.64
310	0.081	1.49	0.38	0.50	0.63	0.88	1.00	1.13	1.25	1.38
360	0.104	1.70	0.29	0.39	0.49	0.68	0.78	0.87	0.97	1.07

**Note: R0,50 GreenScreed on top of the slab is more effective than R1 insulation under the concrete slab.**

# Warming up graph



The below graph shows warming up times which have been calculated and tested using different floor insulation products with Speedheat floor heating.



\*Please note : the yellow curve refers to in slab heating.

Different insulation material is suited for different floor surfaces and heating requirements, offering you a tailor made insulated floor heating system.




# Choosing a thermostat

Thermostats should be carefully selected in order to maximize comfort levels, reduce energy consumption and enhance your lifestyle.

Our floor heating systems are compatible with most thermostats and are compatible with nearly all home automation systems.

A Speedheat consultant will advise you on the best option for your floor type, requirements and lifestyle.




## Manual thermostats

	 SimpleStat	 KlimaStat	 TRCI Room Controller	 TFCI Floor Controller
Digital Display	•			
Room Control	•	•	•	
Floor Control*				•
Room Control with Floor Limitation**			•	•
Adjustable dial with end Stop	•	•	•	•
Probe Connectivity			•	•
Tile/Screed***	•	•	•	•
Wood/Laminate			•	•
Carpet	•	•	•	
16A Isolator Switch (4"x4" Option)	•	•	•	•
Battery back-up	•			

\* Suitable for bathrooms, kitchens, hallways  
 \*\* Suitable for laminated wooden floors and engineered wood  
 \*\*\* Suitable for coloured screeds, Cemcrete, screeds used for vinyl flooring



Programmable  
thermostats

	 EuroStat	 EzeeStatII	 RemoStat
Digital Display/Touch Screen	Touch	Digital	Digital
Room Control	▪	▪	▪
Floor Control*	▪	▪	
Room Control with Floor Limitation**	▪	▪	▪
7 Day Programmable	▪	▪	▪
Probe Connectivity	▪	▪	▪
Tile/Screed***	▪	▪	▪
Wood/Laminate	▪	▪	▪
Carpet	▪	▪	▪
16A Isolator Switch (4"x4" Option)	▪		▪
Battery back-up	▪	▪	▪
Childlock Function	▪		
Energy Monitoring Function	▪		
Wireless Connectivity (30m)			▪

\* Suitable for bathrooms, kitchens, hallways

\*\* Suitable for laminated wooden floors and engineered wood

\*\*\*Suitable for coloured screeds, Cemcrete, screeds used for vinyl flooring



# Smartphone Wi-Fi Thermostats

Digital Display	▪
Room Control	▪
Floor Control	▪
Remote Air Sensor (Optional)	▪
Room Control with Floor Limitation	▪
Remote Air Sensor with Floor Limitation	▪
7 Day Programming Mode / 5/2 Day Programming Mode/ 24 Hour Mode	▪
Battery back-up	▪
Keylock Function	▪



NeoStat



NeoHub



Mesh Network	Send and receive signals via other thermostats on the network.
Frost Protection	Should the room temperature drop below the set frost temperature, your heating will turn on.
Holiday function	Insert a holiday period, and the set temperature will reduce to frost protection for the duration of the holiday. The thermostat will automatically return to program mode on your return.
Multi-home	Control more than one home – perfect for holiday homes!
Multi-user	Other members of your family can also control your home heating by using the Share Feature.
GeoLocation	Geo Location works by using your phones Location Services feature. The Geo Location Feature will automatically reduce the temperature in your home when there is nobody home and increase the temperature for your return.

- Suitable for all rooms including bathrooms, kitchens, hallways
- Suitable for all floor finishes including:  
laminated , wooden floors and engineered wood  
coloured screeds, Cemcrete, screeds used for vinyl flooring



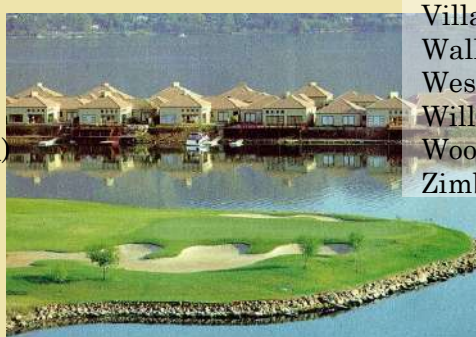


# Completed projects

Around the world, Speedheat is the chosen thermal comfort solution for a wide variety of commercial applications. Hotel lobbies and bathrooms, offices, boardrooms, cafeterias, kennels (for those pampered pets), restaurants, leisure centers, luxury trains, cargo boats, hospitals, art galleries and even the residences of successive presidents in South Africa.

## Hospitality industry

Altes Landhaus Country Lodge  
Arabella Sheraton Hotel – CT  
Bantry Place  
Budmarsh Lodge  
Bushmanskloof  
Delta Crest  
Dune Park Holiday Units  
Elerman House  
Game Valley Renovated Lodge  
Glenburn Lodge  
Grand Roche  
House of Pharaohs – Guest House  
Jaci's Safari Lodge  
Klein Olifantshoek  
Knysna Quays  
Kurland Hotel (Plettenberg Bay)  
Kwantu Game Lodge  
Macashee Gastehuis  
Mercury Hotel  
Montague Springs  
Mt. Grace Hotel  
Pat Goss's new Lodge  
Pezula Hotel & Spa  
Poniac Estate  
Tala Game Reserve – New Lodge  
The St James of Knysna  
The Crescent  
Thenwaterkloof  
Toadbury Hall (conference centre)  
Views Boutique Hotel, The (Knysna)  
Waterclub apartments  
Winchester Mansion Hotel



## Golf Estates/ Complexes/ Clusters/ Luxury developments

Atlantic Beach Golf Estate  
Augusta Country Estate  
Bluehills Country Estate  
Boschenmeer  
Buffelsdrift Game Lodge  
Cedar Lakes  
Constantia Place  
Cosira International  
Dainfern  
Eagle Canyon Golf Estate  
Erinvale  
Eye of Africa Golf & Residential Estate  
Fancourt Hotel & Homes  
Feather Brooke  
Fever Tree Estate  
Helderberg Village  
Heron Banks Golf & River Estate  
Kyalami Country Estates  
Melrose Arch Apartments  
Meyersdal Nature Estate  
Meyersdal Eco Estate  
Michelangelo Towers (penthouse suites)  
Montego Bay  
Pecanwood Golf Estate  
Saddelbrooke  
Sandton Emperor  
Serengeti Golf and Wildlife Estate  
Steenberg Golf Estate  
The Claridges Luxury Apartments  
The Leonardo, Sandton  
The Palladium  
Tivoli  
Val de Vie Polo Estate - CT  
Villa Toscana  
Wallers View – Emmerentia Golf Course  
West Lake  
Willow Brooke Estate  
Woodhill Golf Estate  
Zimbali Coastal Forest Estate

Pecan wood Golf Estate



# Completed projects cont.

## Commercial projects

- African Explosives Ltd (AEL H/Office)
- First Rand Call Centre
- Lyndhurst BMW workshop
- Melrose Arch (Apartments)
- Mount Edgecombe Country Estate
- Nedcor Head Office (Sandton)
- The Mirage Apartments including "My Top Billing Dream Home"
- Village Walk Building – reception areas of offices



Melrose Arch Apartments

## Wine Farms

- Bellingham
- De Meye
- De Wet
- Glenwood
- Kanonkop
- Lanzerac
- Mirwida
- Slanghoek

## Technicians/Schools/Churches

- Discovery Primary School
- Flywell Centre
- Greek Orthodox Church
- Numerous Mosques
- Read Education Trust
- Rhema Church – Kippler Park
- University of Natal
- Vaal Technicon (Lab)
- Wits University (Library)

## Specialised projects

- Blue Train (cabins, bedrooms and bathrooms)
- Crocodile breeding pens at Emerald Casino
- Home of former State President – Nelson Mandela
- Home of former State President – Thabo Mbeki
- Koeberg Power Station (Control Platform)



Blue Train (Coaches, bars and bathrooms)



# Completed projects cont.

## International projects

- Kristin Oil Rigs – for Statoil Norway
- “Living Tomorrow” exhibit in Brussels
- Luxury Yachts in Italy
- Police patrol booths (NL)
- River barges (NL)
- Sheraton Tirana Hotel and Towers Albania
- Sony Head Office Amsterdam (NL)
- Van der Valk Group (NL)
- Various restoration and preservation projects (UK)
- SANAE IV research station (Antarctica) - specified supplier



“Living Tomorrow” exhibit in Brussels



Kristin Oil Rigs  
Statoil Norway



Sheraton Tirana Hotel and Towers  
Albania  
Speedheat electric floor heating under the tiled floor in the lobby



# Our Customers Say ..



“..Thanks for the great service. We are very impressed with you and your company. My builder is completely overwhelmed by your promptness and reliability”. **Nikki**

Thank you very much for the wonderful service that you have rendered during our renovation! You handled every situation with care and patience and we sought and negotiated acceptable solutions for every problem encountered.....**Cherylene (Ph.D)**

“It was such a pleasure dealing with an efficient, dynamic and helpful team. Speedheat went out of their way to assist me with my problem and it took one day for the problem to be resolved, and installed. We are very happy! Keep up the good work!”

**Miranda Joan Govender**

“..Thank you for your consistent, prompt and professional service.” **Sherie Grayman**

“I would like to commend your customer relations department for the excellent assistance regarding installation of my under floor heating. ” **Cecil Matome**



# Contact us..

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