Importance of Floor Probes

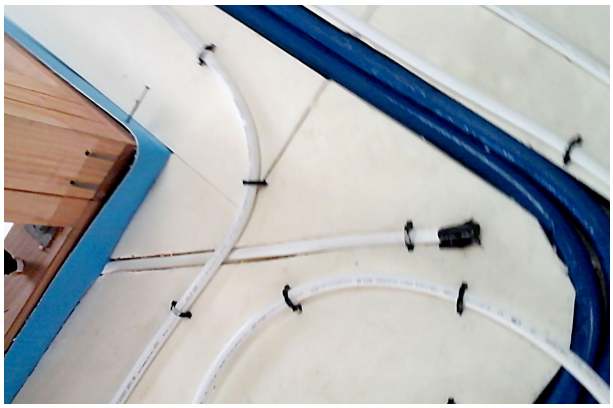
Hydronic underfloor heating, first adopted in Scandanavian countries in the 1950s and 1960s, has gained popularity as a central heating choice in Europe and North America. Over the years, the technology has evolved significantly, incorporating advancements in materials, installation methods, and controls.

Central Heating New Zealand has been a leading provider of central heating solutions in the country for over 20 years. The company has played a pivotal role in developing installation techniques and details for underfloor heating systems that integrate seamlessly with typical construction methods in New Zealand. Having designed and supplied over 3,000 underfloor heating systems, Central Heating New Zealand has gained valuable insights into the best ways to design, install, and operate underfloor heating systems that cater to Kiwi homes and lifestyles.

Underfloor heating systems in New Zealand differ from those in Europe and North America. While European and North American systems typically involve installing pipes in a thin and thermally broken topping slab, New Zealand's underfloor heating systems are integrated into the main construction slab. This approach offers a cost-effective solution but also means that these systems operate on a larger thermal mass, resulting in a longer response time to heating demands. Moreover, Kiwi homes are specifically designed to maximize solar gain, taking advantage of the extended winter sun hours to maintain warmth throughout the day. As a result of these unique factors, underfloor heating systems in New Zealand require distinct management approaches compared to those in Europe or North America.

Optimal Control Options

After experimenting with various control options, it was discovered that the most effective way to control underfloor heating systems in New Zealand is by using a floor probe with a minimum floor set point. This means that even if the room reaches the desired temperature, the system continues to operate to prevent the floor cooling too far below its effective temperature range. By maintaining a minimum floor temperature (typically 20-24°C), the system remains ready to respond to any heating demands without providing additional heat to the room.



Floor probe conduit chased into the insulation layer of a screed type underfloor heating system

To efficiently manage underfloor heating systems in New Zealand, Central Heating New Zealand offers three suitable controllers:

1. CHNZ Analogue Thermostat

A user-friendly thermostat with minimum and maximum floor set points set via dip switches, providing only two options for each.

2. CHNZ Digital Thermostat

A programmable thermostat that allows setting the minimum and maximum floor set points via parameters, offering a small temperature range for each setting.

3. CHNZ SmartOne

A WiFi and app-enabled smart thermostat capable of controlling both underfloor heating and cooling. This thermostat features a wide range of minimum and maximum slab set points for heating and cooling.

In addition to selecting the appropriate controller, the placement of the floor probe is crucial. During the installation of the heating pipes, the installer creates conduits using lengths of underfloor pipe within the floor slab. These conduits allow for the later installation of the floor probe. It is essential for these conduits to terminate centrally between two pipes and at the same level as the pipes to ensure accurate measurement of the floor temperature.

Central Heating New Zealand emphasises the significance of minimum floor set points and proper floor probe placement. Their Engineering and Aftersales teams actively engage with customers and each other to provide the best advice for each project. While there are control options available in the market that do not manage the minimum floor temperature, on projects where performance has been an issue, retrofitting a thermostat that maintains this minimum floor temperature has proven to significantly enhance comfort levels and system efficiency in numerous cases.

Whether you are planning a new underfloor heating system or seeking advice on your existing system, Central Heating New Zealand is dedicated to assisting you. Their knowledgeable National sales team can guide you through the available options and provide a solution that suits your needs and budget.

Floor probe conduit run under the mesh from a wall to its final location in the floor in a Kiwi slab type underfloor heating system