DEVI Inslab Heating System - Specification.

This section relates to the supply and installation of **DEVI™** Heating Systems Ltd electric inslab heating system and controls for domestic, commercial, or industrial applications.

**1. DOCUMENTS.**

* 1. **Product Installation and Compliance Documentation.**

 Compliance with the following documents is required during the installation, commissioning, and testing of installed Devi products:

 [NZBC G9](http://www.masterspec.co.nz/redirect.aspx?pl=251)/VM1 Electricity, 1.0 Electrical installations.

 NZS 6110 Electrical installations: Floor and ceiling heating systems.

 AS/NZS3000 Electrical installation (Act approved).

 IEC60800:2009 DEVIflex™ inslab heating cables DTCE.

 IEC 60730-2-9 DEVIreg™ thermostat.

### **Manufacturers Documentation.**

 **DEVI™** Heating Systems product information, installation instructions and warranty documents are supplied with all products.

 Additional copies of these instructions are available from:

 Web: [www.devi.co.nz](http://www.devi.co.nz)

 Email: info@devi.co.nz

 Telephone: South Island 03 348 0070 or 0800 468 356

 North Island 09 415 7250 or 0800 927 635

* 1. **Warranty – Supplier/Manufacturer.**

 The manufacturer’s warranty is:

 **DEVI™** DEVFlex™ Heating elements 20 years.

 **DEVI™** DEVIreg™ Smart thermostats 5 years.

 **DEVI™** DEVIreg™ Programmable thermostats 5 years.

 **DEVI™** DEVIreg™ Manual thermostats 2 years.

 Warranties must be provided using the manufacturer/supplier standard forms as supplied. Warranties commence from the date of element installation.

 Work undertaken by each subtrade shall be covered by their own warranty.

### **2.** **RELATED WORKS.**

 Electrical specification.

 Foundation specification.

 Flooring specification.

 **3. CONDITIONS.**

All work and materials must comply with **DEVI™** installation instructions.

###  **4.** **QUALIFICATIONS.**

###  Installation must be undertaken by an electrical trades person, or by a **DEVI™** approved installer.

###  Refer section 7.3 for livening.

### 5. **DEVI™ PRODUCTS AND DESIGN INFORMATION.**

5.1 Substitutions are not permitted to any **DEVI™** system, associated products, components, or accessories.

5.2 DEVIflex™ DTCE30 is a twin conductor fully screened heating element in ready-made lengths with a UV stabilized PVC outer sheath with a FEP conductor insulator. Elements are available from 10M to 140M in length. Multiple cables may be installed to one circuit for larger areas.

5.3 Element size to be determined by measurement from drawings or as specified.

5.4 Elements are not to be installed beneath fixed furnishings.

5.5 THERMOSTATS.

 DEVIreg™ 330 Thermostat, Manual, Distribution board mount.16A with floor sensor.

 DEVIreg™ 530  Thermostat, Manual, 15A with floor sensor.

 DEVIreg™ Touch (White) Thermostat, Programmable, 16A, air and/or Floor sensor.

 DEVIreg™ Touch (Black) Thermostat, Programmable, 16A, air and/or Floor sensor.

 DEVIreg™ Smart (White) Thermostat, WiFi Programmable, 16A, air and/or floor sensor.

 DEVIreg™ Smart (Black) Thermostat, WiFi Programmable, 16A, air and/or floor sensor.

 DEVIreg™ Multi 7 Channel distribution board mounted programmable thermostat and sensor with Bacnet interface.

 (Delete thermostat models that are not applicable then delete this line).

## 6. EXECUTION.

### 6.1 **Confirm Layout.**

 Before commencing work confirm the proposed location of heating cables and controls.

### 6.2 **Co-ordinate Services.**

 Co-ordinate and co-operate with other sub-trades to avoid any conflict with the installation of the system.

6.3 **Preliminary Work.**

 Ensure reinforcing mesh is installed and properly set on chairs.

 Ensure all walls, doorways, windows, fixed furnishings and floor penetrations are clearly and accurately marked out on the polystyrene floor insulation.

### 6.4 **Install DEVIflex DTCE Cables.**

 Install the **Deviflex ,** ensuring as much of the floor area is covered in each of the zones shown on the plan /DEVI™ schedule and in accordance to **DEVI™** instructions.

 Cable to be secured to the reinforcing mesh using cable ties of a **DEVI™**  approved tie gun.

 Refer AS/NZS3000 section 4.

6.5 Ensure the DEVIflexelement is evenly spaced, minimum 50mm separation between element runs, do not cross or touch and are installed in accordance with the manual.

### 6.6 **Install Thermostat Sensor.**

 Install thermostat sensors for each zone as per the **DEVI™** schedule. Install sensors within a rigid 20mm conduit. Ensure any conduit bends are 50mm radius or greater to ensure sensor can be easily replaced.

### 6.7 **Pouring Foundation.**

 Liaise with the concrete placers to ensure that **DEVI™** elements are not hooked to the surface or damaged during the pour.

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### 6.8 **Cold Tail Connection.**

 Terminate all cold tails in a flush box mounted not less than 300 mm above floor level.

6.9 **Thermostat Installation.**

 Install and connect all thermostats and control accessories as per the **DEVI™** schedule and thermostat installation instructions.

### **7.** **TEST PROCEDURES AND COMMISSIONING.**

7.1 Refer AS/NZS3000 section 8 Verification.

7.2 Complete visual inspection, conductor resistance and insulation resistance test prior to installation. Repeat tests after installation (post-pour) and immediately before livening the circuit. Record the tests in the record panel in the installation manual. The manual is to be given to whomever the electrician is contracted to.

7.3 An electrician registered person must complete the test result panel and associated Certificate of Compliance and forward these to the property owner or project manager.

### **8. CONTROLS SETTINGS.**

 For non-programmable thermostats, set to minimum and off mode (where applicable).

 When programmable or intelligent thermostats are installed, the correct day and time must be programmed then left in manual off state.

### **9. CLEANING.**

 Check site for safety and remove all surplus materials.