# 6812W   WARMUP WETROOM SYSTEM – MASTERSPEC –

**1.      GENERAL**

This section relates to the supply and installation of **Warmup™ wetroom system** comprised of interior tiled shower and wet areas supplied and installed by **Warmup New Zealand Ltd** or Warmup authorized distributor.
It includes:
- underlay
- waterproofing membrane
- tiled wet areas and showers including proprietary shower tray, wastes, drains, shower screens and glass, fittings and accessories
- undertile heating and thermostat control

1.1      RELATED WORK
Refer to 6221 ARDEX TILING SOLUTIONS for the .supply and installation of ceramic and stone tiles.

**Documents**

1.2      DOCUMENTS
Refer to the general section 1233 REFERENCED DOCUMENTS. The following documents are specifically referred to in this section:

| | |
|---|---|
| NZBC E3/AS1 | Internal moisture |
| NZBC G9/VM1 | Electricity, 1.0 Electrical installations |
| AS/NZS 1860.1 | Particleboard flooring - Specifications |
| AS/NZS 2208 | Safety glazing materials in buildings |
| AS/NZS 2269.0 | Plywood - Structural - Specifications |
| AS/NZS 2588 | Gypsum plasterboard |
| AS 3740 | Waterproofing of wet areas within residential buildings |
| NZS 4223.3 | Glazing in buildings - Human impact safety requirements |
| AS/NZS 4858 | Wet area membranes |
| AS/NZS 60335.2.96 | Household and similar electrical appliances - Safety - Particular requirements for flexible sheet heating elements for room heating. |
| NZS 6110 | Electrical installations - floor and ceiling heating systems |
| ASTM C630/C630M-96a | Water-resistant gypsum backing board |
| BRANZ | Good practice guide: Tiling |
| Electricity (safety) Regulations 2010 | |
| New Zealand Electrical Codes of Practice | |

1.3      MANUFACTURER/SUPPLIER DOCUMENTS
Warmup New Zealand Ltd documents relating to this part of the work:
Warmup™ product technical data sheets
Warmup™ Wetroom technical literature
BRANZ Appraisal 644 - Warmup Undertile Heating
BRANZ Appraisal 774 - Warmup Wetroom System
BRANZ Appraisal 727 - Ardex WPM750 Undertile Butynol
Ardex WPM750 Undertile Membrane technical literature

Manufacturer/supplier contact details
Company:        **Warmup New Zealand Ltd**
Web:            www.warmup.co.nz
Email:          levi@warmup.co.nz
Telephone:      09 820 2500

**Warranties**

1.4      WARRANTY - MANUFACTURER/SUPPLIER
Provide a Warmup™ manufacturer/supplier warranty:
15 years:               For Warmup™ Insulation Board

| 15 years: | For Warmup™ WPM750 Undertile Butynol |
| 15 years: | For Warmup™ Shower drain clamp waste |
| 15 years: | For Warmup™ Square drains and channel (strip) drains |
| 15 years: | For Frameless glass screens, fittings and accessories |

| Lifetime warranty: | For Warmup™ Undertile heating elements |
| 5 years: | For Warmup™ Undertile heating controllers |

- Provide this warranty on the Warmup™ New Zealand Ltd standard form.
- Commence the warranty from the date of practical completion of the contract works.

Refer to the general section 1237 WARRANTIES for additional requirements.

1.5      WARRANTY - INSTALLER/APPLICATOR
Provide a Warmup™ installer/applicator warranty:
15 years:          For Warmup™ Wetroom System

- Provide this warranty on the Warmup™ New Zealand Ltd standard form.
- Commence the warranty from the date of practical completion of the contract works.

Refer to the general section 1237 WARRANTIES for additional requirements.

**Requirements**

1.6      QUALIFICATIONS - GENERAL
Workers to be experienced, competent trades people familiar with the materials and techniques specified.

1.7      QUALIFICATIONS - WATERPROOF MEMBRANE
Installers of Warmup™ WPM750 Undertile Butynol to also be Ardex approved applicators.

1.8      WORK BY WARMUP
Supply and installation of Warmup™ Wetroom System to be carried out by Warmup New Zealand Ltd, or Warmup™ authorized distributor, except for the following:
- installation of shower drain clamp waste
- installation of square drains and channel (strip) drains
- supply and installation of tiles
- installation of electrical connection of heating controllers (thermostats).

1.9      NO SUBSTITUTIONS
Substitutions are not permitted to any of the specified Warmup™ systems, components and associated products listed in this section.

**Compliance information**

1.10     INFORMATION REQUIRED FOR CODE COMPLIANCE
Provide the following compliance documentation: -
- Manufacturer's warranty
- Manufacturer's, importers or distributors warranty
- Installer's / applicator's warranty
- Producer Statement - Construction from the applicator / installer
- Other information required by the BCA in the Building Consent Approval documents.

**Performance**

1.11     QUALITY ASSURANCE
Maintain quality necessary to assure that work is performed in accordance with this specification and qualifying requirements of Warmup New Zealand Ltd.

1.12     INTERNAL / EXTERNAL MOISTURE
Wet area membranes under tiled areas to AS 3740, NZBC E3/AS1 and to BRANZ Good Tiling Practice.

1.13    ELECTRICITY
Comply with Electricity (Safety) Regulations 2010, NZBC G9/VM1 Electricity, 1.0 Electrical installations, New Zealand Electrical Codes of Practice, NZS 6110 Electrical installations - floor and ceiling heating systems and AS/NZS 60335.2.96 Household and similar electrical appliances - Safety - Particular requirements for flexible sheet heating elements for room heating.

## 2.    PRODUCTS

**Materials - substrate linings**

2.1

2.5    GYPSUM PLASTERBOARD - WATER RESISTANT
Gypsum plaster core containing a wax emulsion encased in a durable face and backing paper formed for standard and fire rated use to AS/NZS 2588 and for water resistance use to ASTM C630/C630M-96a.

**Tiles**

2.6    TILING
Refer to 6221 ARDEX TILING SOLUTIONS for tiles, adhesives and installation of tiles.

**Floor levelling compound**

2.7    FLOOR LEVELLING COMPOUND
Warmup™ Thermal Screed.

**Primer**

2.8    PRIMER
Warmup™ proprietary primer.

**Tile underlay**

2.9    SHOWER TRAY
Warmup™ Insulation Board (by Marmox), a cement reinforced waterproof underlay, available in sheets 1250mm x 600mm x 6mm or 10mm thick. Shower trays have a high density topping, sized to suit the application, with an in-built preformed fall to waste of 1:50 for point drains and 1:100 for channel drains.

**Waterproofing membrane**

2.10    SHEET WATERPROOFING MEMBRANE
Warmup™ WPM750 Undertile Butynol (by Ardex), a single ply sheet membrane, to AS/NZS 4858, available in rolls 1.4m wide x 20m long x 0.5mm thick.

**Adhesives**

2.11    ADHESIVE - SOLVENT FREE
Warmup™ proprietary adhesive.

2.12    CATALYST - SOLVENT FREE
Warmup™ proprietary catalyst.

**Sealants**

2.13    PROPRIETARY SEALANT
MS35 silicone

**Anti fracture membrane**

2.14      ANTI FRACTURE/UNCOUPLING MEMBRANE
          Warmup™ WPM750 Undertile Butynol (by Ardex), a heat weldable single ply sheet
          membrane, to AS/NZS 4858, available in rolls 1.4m wide x 20m long x 0.5mm thick.  Acts
          as an anti-fracture/uncoupling membrane.

          **Acoustic underlay**

2.15      ACOUSTIC UNDERLAY
          Cork Concepts Acoustic Underlay, comprised of PUR-bound cork particles and PUR-
          foam, tested to AS/ISO 717.2 and AS/ISO 140.6, available in sheets 6mm thick.

          **Undertile heating**

2.16      HEATING ELEMENTS
          Warmup™ heating elements, 2.2mm in diameter comprised of double insulation, full
          screen earth, teflon primary and multi-stranded heating conductors.  Tested to AS/NZS
          60335.2.96.  Available in a number of lengths, wattages and coverage.  Refer to
          SELECTIONS for options.

2.17      THERMOSTATS
          A range of Warmup™models of programmable and non-programmable temperature
          controllers available with Warmup™ Undertile System.

          **Accessories - Warmup™ wetroom system**

2.18      CLAMP WASTE
          Warmup™ Clamp Flange, moulded PVC-U, supplied 75mm in diameter (overall flange
          diameter 180mm).

2.19      SHOWER DRAINS
          Warmup™ 316 stainless steel drain range, available in standard drain range - square and
          channel drains (7 styles), centre or off centre point drains, and offset or full length channel
          drains.  Refer to SELECTIONS for style and size options.

2.20      FRAMELESS GLASS SHOWER SCREENS
          Frameless glass shower screen, comprised of 10mm thick A grade toughened safety
          glass, to NZS 4223 3 and AS/NZS 2208, custom made to fit the application.  Incorporates
          pre-channelling for glass installed prior to tiling.  Refer to SELECTIONS for details.

2.22      ELEMENT MONITOR
          Warmup™ "Watchdog" audible alarm connected to the heating element during tiling to
          advise of any adverse treatment.  Once installed the alarm must be left "ON" until
          removed.

          **Thermostat controls**

2.23      THERMOSTAT - PROGRAMMABLE
          Warmup™ TH115 with on/standby switch, remote input, on-screen heating command
          indicator, temporary bypass and floor model with easy access floor sensor connector
          (and air, floor or air with floor limitation).

          Warmup touch screen controller fully programmable with easy floor measuring limitation

2.24      THERMOSTAT - NON-PROGRAMMABLE

          Warmup™ MTC, electronic thermostat with remote floor sensor and locking mechanism.

          **Accessories - general**

2.25      STRIPS, WEATHER BARS AND EXPANSION JOINTS
          Refer to 6221 ARDEX TILING SOLUTIONS tiling section.

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## 3. EXECUTION

**Conditions -general**

3.1 DELIVERY, STORAGE AND HANDLING
Take delivery of materials and goods and store on site and protect from damage.
Protect finished surfaces, edges and corners from damage.
Move/handle goods in accordance with manufactures requirements.
Reject and replace goods that are damaged or will not provide the required finish.

3.2 COMPLY
Comply with AS 3740 and the requirements and instructions of Warmup New Zealand Ltd.

**Conditions - substrate**

3.3 CHECK SUBSTRATE
Ensure that substrate is level, not subject to movement, deflection and is structurally sound. Ensure all surfaces are clean dry and free from dust and dirt, oil and grease with no projection of sharp materials. Complete all remedial work before commencing installation.

3.4 SURFACE PREPARATION
Ensure surface to receive Warmup™ insulating board is clean, dry and free of any foreign matter that may adversely affect the adhesion of the membrane. Do not use the products in the following situations:
- areas subject to negative hydrostatic pressure or rising damp
- when the substrate is wet
- where the substrate temperature is below 10°C or above 35°C.

3.5 SUBSTRATE - CONCRETE
Ensure slab is level, smooth, clean, cured for a minimum of 28 days, and dried to a relative humidity not exceeding 65% or until the moisture content does not exceed 5.5%. Add cure and seal catalytic agent to concrete or seal as required. Remove loose material and dust.

3.6 SUBSTRATE - FIBRE CEMENT SHEETING
Ensure fibre cement sheeting is wet area grade and suitable for the membrane installation. Check that fixing, thickness and sheet layout is in accordance with manufacturer's requirements.

3.7 SUBSTRATE - PLYWOOD
Ensure plywood is a minimum of 17mm thick structural grade treated to H3.2 (CCA treated) with support framing a minimum of 400mm centres in both directions and moisture content less than 20% before commencing installation. LOSP treated plywood not to be used.

3.8 SUBSTRATE - PARTICLE BOARD
Ensure particle board is wet area grade and suitable for the membrane installation. Check that fixing, thickness and sheet layout is in accordance with manufacturer's requirements.

3.9 SUBSTRATE - PLASTERBOARD
Ensure plasterboard is wet area grade and suitable for the membrane installation. Check that fixing, thickness and sheet layout is in accordance with manufacturer's requirements. Ensure plasterboard is stopped before commencing installation. Must only be used for wet area walls not included in shower enclosure area.

**Installation - tiles**

3.10 INSTALL TILES
Refer to 6221 ARDEX TILING SOLUTIONS tiling section for installation of tiles, adhesives, grouting, movement joints, sealants and accessories.

**Installation - anti fracture membrane**

3.11      INSTALL ANTI FRACTURE/UNCOUPLING MEMBRANE
Install Warmup™ WPM750 Undertile Butynol (by Ardex), in accordance with
manufacturer's requirements.

**Installation - acoustic underlay**

**Installation - Warmup™ wetroom system**

3.13      INSTALL WARMUP WETROOM SYSTEM
Install Warmup™ wet room system in accordance with Warmup™ installation
instructions.  Application includes:
- Level entry (set down) shower on concrete or timber
- Threshold shower on concrete or timber.

3.14      INSTALL WASTE OUTLET
Install Warmup™ Shower Drain Clamp waste outlet and set top surface flush with the
surface receiving the Warmup™ WPM750 Undertile Butynol (by Ardex) application.
Complete with shower gully trap and selected Warmup™ shower drain.

3.15      INSTALL ACOUSTIC UNDERLAY
Install Cork Concepts 6mm Acoustic Underlay, in accordance with manufacturer's
requirements.

3.16      INSTALL WATERPROOFING MEMBRANE
Roll out Warmup™ WPM750 Undertile Butynol (by Ardex) and cut to measured length.
Install membrane under the pre-formed shower tray.  Smooth the membrane on contact
to minimize air entrapment beneath the membrane. Apply adhesive between the clamp
waste and membrane prior to clamping.

Extend membrane up wall at least 150mm.  Ensure membrane is laid tightly into corners.
Overlap wall sheets to the 150mm upstand.  Weld seams and laps with the Leister Triac
S hot air gun.  Roll with rubber roller to ensure seams and laps are secure.

3.17      INSTALL SHOWER TRAY
Position Warmup™ Insulation Board (by Marmox) shower tray using Warmup™
proprietary flexible adhesive.  Lay tray level with falls to waste (1:100 for channel drain,
1:50 for centre or off-centre waste).  Seal all joints between substrate and waterproofing
using Warmup™ proprietary sealant.

3.18      INSTALL SHOWER THRESHOLD
Adhesive fix Warmup™ Insulation Board (by Marmox) threshold using Warmup™
proprietary flexible adhesive.  Ensure all joints between tray and threshold are sealed.

3.19      INSTALL GLASS CHANNELLING
Adhesive fix proprietary glass channelling to the inside upper edge of the threshold and
up the walls to height as shown on the drawings.  Install channels flat, level and plumb.

3.20      INSTALL FRAMELESS GLASS SHOWER SCREEN
Install frameless glass shower screen and accessories in accordance with the
manufacturer's installation instructions.

**Conditions - undertile heating**

3.21      GENERALLY
All work and materials to be in accordance with Warmup™ undertile heating installation
instructions.

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

3.23    CO-ORDINATE SERVICES
        Co-ordinate and co-operate with other sub-trades to avoid any conflict with the installation
        of the system with other subcontractors work.

**Installation - undertile heating**

3.24    PRELIMINARY WORK
        Clean and prime floor prior to installing the heating cables.  All fixings such as door stops
        and floor mounted cabinetry to be clearly marked out on the floor.

3.25    INSTALL UNDERTILE HEATING
        Install Warmup™ undertile heating system in accordance with Warmup™ installation
        instructions,ensuring as much of the floor area is covered in each of the zones shown on
        the plan / Warmup™ schedule.

        Install Warmup™ "Watchdog" audible alarm must be installed and remain turned on until
        tiling, grouting and all perimeters and movement joints are sealed.  Electrical connection
        of heating controller must be carried out by registered electrician once tiling is completed.

**Installation - thermostat controls**

3.26    INSTALL THERMOSTAT SENSORS
        Install thermostat sensors for each zone in accordance with the Warmup™ schedule.
        Install sensors within a conduit so they are easily replaced after completion.  For a timber
        floor install the sensor higher than the heating cables / directly under the flooring.

3.27    COMMISSION
        Allow to commission the system fully toWarmup™ instructions.

3.28    TEST ALL ELEMENTS
        All elements to be tested for continuity, resistance and insulation resistance prior
        installation of flooring, and after installation and prior to livening.  Fill out the pre and post
        floor placement test result sheets and forward these results to the owner.  It is
        recommended that all elements are tested at prewired stage of the installation.

3.29    TEST AND ACTIVATE ALL CONTROLS
        All thermostats to be activated and checked for correct operation.  Where programmable
        or intelligent thermostats are installed the correct day and time to be programmed in.
        Once these thermostats have been checked, leave in manual and off unless instructed
        otherwise.

3.31    CONNECTION TO POWER SUPPLY
        Connect from wall mounted flush box to power supply protected by an RCD.  Refer to the
        appropriate electrical section for electrical connections of the heating mats.

**Completion**

3.32    ROUTINE CLEANING
        Carry out routine trade cleaning of this part of the work including periodic removal all
        debris, unused materials and elements from the site.

3.33    DEFECTIVE OR DAMAGED WORK
        Repair damaged or marked components.  Replace damaged or marked items where
        repair is not possible or will not be acceptable.  Leave work to the standard required for
        following procedures.

3.34    PROTECTION
        Provide temporary protection of the finished work:
        Warmup™ Wetrooms unsuitable as a trafficable surface.

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**4.      SELECTIONS**
For further details on selections go to [www.warmup.co.nz](www.warmup.co.nz).
Substitutions are not permitted to the following, unless stated otherwise.

**Materials**

4.1      TILES
Refer to 6221 ARDEX TILING SOLUTIONS tiling section.

**Undertile heating**

4.2      HEATING ELEMENTS
Location:            ~
Brand:               Warmup™
Area:                ~
Coverage:            ~

**Warmup™ wetroom system**

4.3      WARMUP WETROOM SYSTEM
Location:            ~
Brand:               Warmup™
Tile underlay:       Warmup™Insulation Board (by Marmox) ~
Waterproofing membrane: Warmup™ WPM750 Undertile Butynol (by Ardex)
Sealant:             Ardex CA20P proprietary sealant
Clamp waste:         Warmup™ Shower Drain clamp waste
Shower drains:       Warmup™ stainless steel ~
Shower screen:       Warmup™ ~
Shower fittings:     Warmup™ ~
Shower niches:       ~

**Thermostat controls**

4.4      THERMOSTAT - PROGRAMMABLE
Location:            ~
Brand:               Warmup™ TH115
Type:                ~

4.5      THERMOSTAT - NON-PROGRAMMABLE
Location:            ~
Brand:               Warmup™ ~
Type:                ~