

DCM-PRO System

Overview

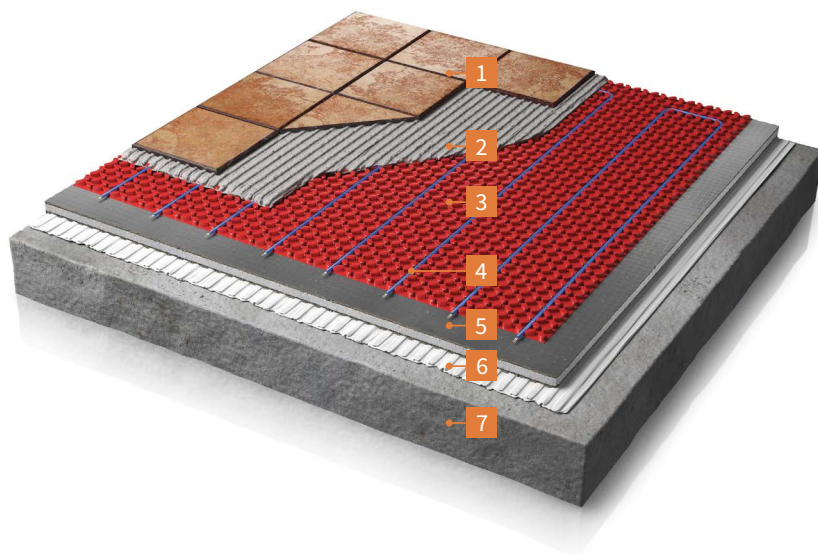
The Warmup DCM-PRO System is designed for use over a subfloor prepared for tiling. The mat has a strong self-adhesive layer to secure it directly to Warmup insulation boards. Alternatively it can be affixed to a clean dry subfloor, which has been primed using an SBR primer (ratio 1:4). The mat is available in 1 m² sheets or 15 m x 1 m rolls, which makes installation quick and easy whilst ensuring precision is maintained. The mat can be easily trimmed using a utility knife.

The 4.5 mm multi-strand, dual core heating cable, is insulated with an advanced fluoropolymer making it exceptionally tough and easy to tile over. It is easily clipped into the DCM-PRO mat by gently pressing it in between the castellations. The cable can be spaced at 60 mm, 90 mm & 120 mm depending on power requirements.

The DCM-PRO system can be used as a waterproofing layer through the addition of the DCM-PRO waterproofing tape, for installations such as wetrooms or where there will be significant exposure to water.

FLOOR CONSTRUCTION

- 1 Floor finish
- 2 Tile adhesive or levelling compound
- 3 Warmup DCM-PRO Mat
- 4 Warmup DCM-PRO Cable
- 5 Warmup Coated Insulation Board
- 6 Flexible Tile Adhesive
- 7 Subfloor



Electric
Heating System

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Warmup

The world's best-selling floor heating brand™

Technical Data

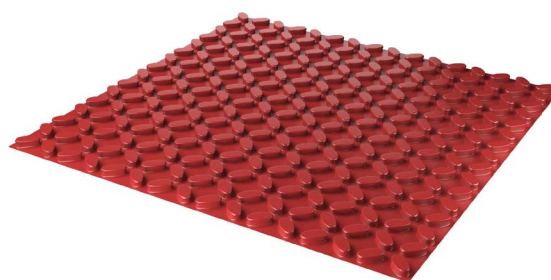
TECHNICAL DATA - DCM-PRO Cable

OPERATING VOLTAGE	230 V AC: 50Hz
IP RATING	IPX7
COLOUR	BLUE
THICKNESS	4.5mm (± 0.2 mm)
OUTPUT RATING	150 W/m ² (3 Castellations - 91.8 mm)
INNER INSULATION	ADVANCED FLUOROPOLYMER (ETFE)
OUTER INSULATION	PVC
MIN. INSTALLATION TEMP	5 °C
CONNECTION	3 m LONG "COLDTAIL" CONNECTION



TECHNICAL DATA - DCM-PRO Mat

THICKNESS	5.5 mm
COMPOSITION	POLYPROPYLENE MEMBRANE WITH SELF-ADHESIVE BACKING
COLOUR	RED
SPACING	61.2 mm, 91.8 mm & 122.4 mm
SIZING	1m ² sheet / 15m x 1m roll



Features

- 4.5 mm multi-strand, dual core heating cable with an advanced fluoropolymer inner insulation making it exceptionally tough and easy to tile over
- Reduced installation costs, by comparison to similar products
- Pressure sensitive adhesive securely binds the mats to the floor keeping them flat for fast and secure installation
- BEAB Approved and CE marked meeting the highest safety standards for ultimate peace of mind
- Lifetime Warranty & SafetyNet Installation Guarantee

SAFETYNet
Installation-Guarantee



Technical Data

PRODUCT CODE	DCM-PRO MAT SIZES			
	FORMAT	LENGTH (mm)	WIDTH (mm)	AREA COVERED (m ²)
DCM-M-1	Sheet	1,040	980	1
DCM-M-15	Roll	15,300	980	15

PRODUCT CODE	DCM-PRO CABLE			
	POWER (W)	LOAD (A)	RESISTANCE (Ω)	RESISTANCE BANDS (Ω)
DCM-C-1	150	0.7	352.7	335.0 - 370.3
DCM-C-1.5	225	1.0	235.1	223.3 - 246.9
DCM-C-2	300	1.3	176.3	167.5 - 185.1
DCM-C-2.5	375	1.6	141.1	134.1 - 148.2
DCM-C-3	450	2.0	117.6	111.7 - 123.5
DCM-C-3.5	525	2.3	100.8	95.8 - 105.8
DCM-C-4	600	2.6	88.2	83.8 - 92.6
DCM-C-4.5	675	2.9	78.4	74.5 - 82.3
DCM-C-5	750	3.3	70.5	67.0 - 74.0
DCM-C-6	900	3.9	58.8	55.9 - 61.7
DCM-C-7	1050	4.6	50.4	48.0 - 52.9
DCM-C-8	1200	5.2	44.1	42.0 - 46.3
DCM-C-9	1350	5.9	39.2	37.2 - 41.2
DCM-C-10	1500	6.5	35.3	33.5 - 37.1
DCM-C-12	1800	7.8	29.4	27.9 - 30.9
DCM-C-14	2100	9.1	25.2	23.9 - 26.5
DCM-C-16	2400	10.4	22.0	20.9 - 23.1

CABLE LENGTH (m)	HEATED AREA AT DIFFERENT SPACINGS, m ²				
	60mm	60/90mm	90mm	90/120mm	120mm
	225 W/m ²	~180 W/m ²	150 W/m ²	~130 W/m ²	112.5 W/m ²
10.9	0.7	0.8	1.0	1.2	1.3
16.3	1.0	1.3	1.5	1.8	2.0
21.8	1.3	1.7	2.0	2.3	2.7
27.2	1.7	2.1	2.5	2.9	3.3
32.7	2.0	2.5	3.0	3.5	4.0
38.1	2.3	2.9	3.5	4.1	4.7
43.5	2.7	3.3	4.0	4.7	5.3
49.0	3.0	3.8	4.5	5.3	6.0
54.4	3.3	4.2	5.0	5.8	6.7
65.3	4.0	5.0	6.0	7.0	8.0
76.2	4.7	5.8	7.0	8.2	9.3
87.1	5.3	6.7	8.0	9.3	10.7
98.0	6.0	7.5	9.0	10.5	12.0
108.8	6.7	8.3	10.0	11.7	13.3
130.6	8.0	10.0	12.0	14.0	16.0
152.4	9.3	11.7	14.0	16.3	18.7
174.1	10.7	13.3	16.0	18.7	21.3

Note: To heat larger areas, two or more cables should be used. i.e. To heat a 23m² room at 150 W/m², use a DCM-C-14 and a DCM-C-9

PRODUCT CODE	DCM-PRO ADDITIONAL COMPONENTS	
	PRODUCT DESCRIPTION	
DCM-E-25	PERIMETER STRIP	
DCM-T-50	WATERPROOFING TAPE	
DCM-R-I	INTERNAL CORNER	
DCM-R-E	EXTERNAL CORNER	

FORMAT	LENGTH (Varies)	WIDTH (mm)	HEIGHT (mm)	THICKNESS (mm)
Roll	25m	-	30	10
Roll	50m	-	120	1
Corner	120mm	120	60	1
Corner	120mm	120	60	1

WARMUP COMPONENTS

Insulation Boards

Warmup® Insulation Boards are a water resistant, insulated tile backer board made of extruded polystyrene, faced on both sides with a fibreglass mesh embedded into a thin cement polymer mortar.

They have high thermal insulation properties for energy efficiency and an added benefit of sound absorption.

INSBOARD - TECHNICAL SPECIFICATIONS

MODEL	THICKNESS (mm)	WIDTH (mm)	LENGTH (mm)	WEIGHT (kg)	R VALUE (m².K/W)
INSBOARD6MM	6	600	1250	1.95	0.16
INSBOARD(PK1)	10	600	1250	2.22	0.28
INSBOARD20MM	20	600	1250	2.48	0.58
INSBOARD30MM	30	600	1250	2.82	0.88
INSBOARD40MM	40	600	1250	3.05	1.20
INSBOARD50MM	50	600	1250	3.26	1.50



Warmup Insulation Boards have zero Ozone Depletion Potential (ODP) and a Global Warming Potential (GWP) of less than 5

Thermostat



4iE® SMART WIFI THERMOSTAT

For Central Heating and Underfloor Heating Systems

Connected to the internet by WiFi, it can be controlled from a smart phone, tablet or computer as well as its own touchscreen interface. It learns how homeowners use their heating and the unique way each zone reacts. It uses this knowledge to suggest ways to save energy, such as what temperature should be set when the area is not in use and when the heating can be turned off earlier with no noticeable impact on comfort.

Personalise your 4iE with uploadable photo backgrounds and changeable, textured overlays.



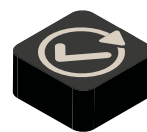
SmartGeo™

Always at the right temperature automatically, and up to 25% lower energy usage. Just like magic.



EasySwitch™

Always on the best tariff, automatically. Saving on average £210.



Easy to use

Simple and secure set up using WiFi, with 24/7 technical support.

Cement Coated Insulation Boards

Overview

Warmup Insulation Boards are manufactured from water resistant extruded polystyrene, finished on both faces with a thin layer of fibreglass reinforced cement. They are available in a range of thicknesses, from 6mm to 50mm, to individual project requirements.

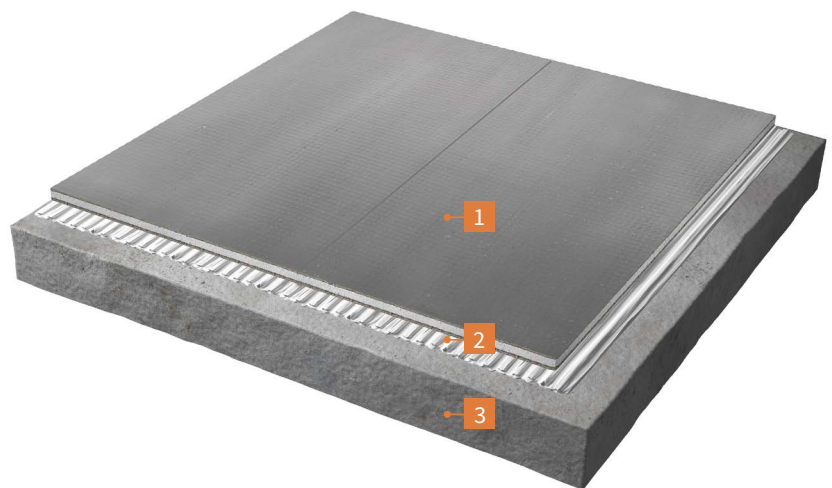
They are ideal for tile backing applications on both walls and floors, with the internal layer of insulation capable of supporting 30 tonnes per square metre. The 0.5mm thick cement coating provides an excellent surface for tile adhesive, plaster and smoothing/levelling compounds, with no priming required.

The low thermal conductivity of the insulation enhances the efficiency of underfloor heating systems, even when used over pre insulated sub floors. This is because they reduce the thermal mass of the floor, significantly reducing the amount of heat absorbed by the subfloor. This allows the underfloor heating system to warm the floor and the room up faster and ensures the floor cools down faster after use. By reducing the amount of time the room takes to warm up and cool down, the room can spend longer at its cooler set back temperature, reducing its heat loss.

The waterproof insulation panels are suitable for bathrooms and showers as well as dry rooms, allowing the same construction to be used throughout

FLOOR CONSTRUCTION

- 1 Warmup Coated Insulation Board
- 2 Flexible Tile Adhesive
- 3 Subfloor



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Technical Data

TECHNICAL DATA - Insulation Boards						
PRODUCT CODE	INSBOARD6	INSBOARD(PK1)	INSBOARD20	INSBOARD30	INSBOARD40	INSBOARD50
THICKNESS - mm	6 mm	10 mm	20 mm	30 mm	40 mm	50 mm
WIDTH - mm	600					
LENGTH - mm	1250					
AREA - m ²	0.75					
WEIGHT - kg (kg/m ²)	2.2 (2.9)	2.3 (3.1)	2.5 (3.4)	2.8 (3.7)	3.0 (4.0)	3.2 (4.3)
THERMAL CONDUCTIVITY - W/mK	0.033					
THERMAL RESISTANCE - m ² K/W	0.12	0.24	0.55	0.85	1.15	1.45
COMPRESSIVE STRENGTH - kPa	300					
BOND STRENGTH - kPa	220					
SHEAR BOND STRENGTH - kPa	325					
MAXIMUM TILE WEIGHT (for Walls) - kg/m ²	60					
THERMAL EXPANSION COEFFICIENT (FOAM CORE ONLY) - mm/m per °C	≤0.07					
WATER ABSORPTION (2 DAY IMMERSION)(FOAM CORE ONLY) - % by volume	≤1.5					
FIRE RATING - Euroclass	E					
OZONE DEPLETION POTENTIAL - ODP	0					
GLOBAL WARMING POTENTIAL - GWP	<5					



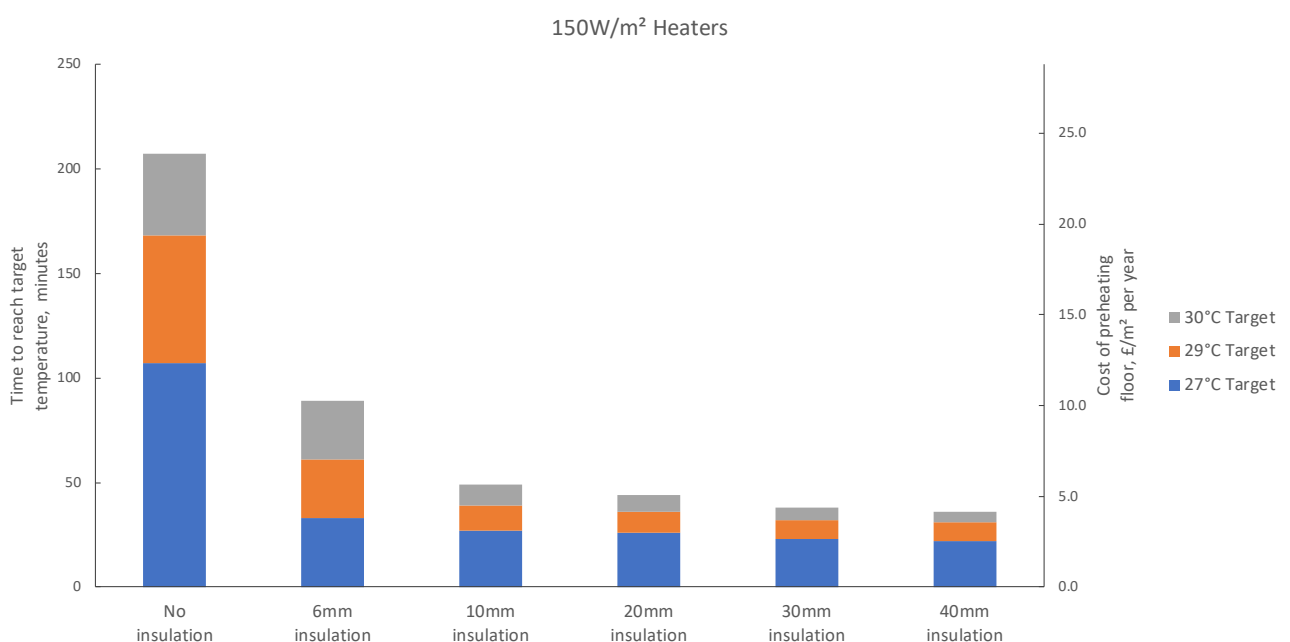
Features

- Easy to cut and shape around fixtures with a knife or saw
- Comes in a range of thicknesses to suit floor and wall applications
- Can be fixed to solid or stud walls
- Excellent as internal wall insulation especially when compared to standard cement building boards and plaster boards
- Reduces heat loss and improves the underfloor heating systems response time
- CE marked for ultimate peace of mind
- Can be used to easily create a waterproof floors and walls in wet rooms, just by adding silicone sealant to the edges of the board before butting them tightly together
- High resistance to rot due to very low absorption rate

INSULATION BOARD EFFECT ON PREHEATING TIMES

Warmup has conducted extensive testing of its electric underfloor heating systems when used in combination with its range of Cement Coated Insulation Boards. The tests consisted of a 75mm screed subfloor, heated with a 150W/m² under tile heating system. The range of Warmup Cement Coated Insulation Boards were each installed between the sub floor and the heated tiles with a reference construction that had none.

The chart below shows the response times and the resulting costs of preheating the floors from 18°C to three different temperature settings. Even just a 6mm board makes a significant improvement to system performance and provides savings that will quickly recover their initial purchase price.



*Cost assumptions: 12.66p/kWh - system on twice a day, for 6 months (182 days) of the year.

3iE™ Energy-Monitor Thermostat



Overview

The world's first fully interactive, touch technology, energy-monitor thermostat features an easy-to-use interface, eliminating complicated instruction manuals. The display shows recorded energy consumption usage, so

that users know the exact underfloor heating costs. Up to 10 programmable periods can be set each day to maximise energy efficiency.

Innovative

First thermostat with a 2.4" full colour screen and integrated touch technology – patents pending.

Beautifully crafted fashion colour fascia with chrome edging are perfectly in tune with the modern home environment.

Interactive

Clear graphical display makes any adjustment quick and easy.

Choose the display style that suits you best – wide choice of screen themes.

Intelligent

Proportional Adaptive Function ensures the room does not over-heat, reducing wasted energy whilst also protecting the components inside. The Early Start algorithm learns how long it takes to warm the room and activates the heating so it's up to temperature at the right time.

Installation

The 3iE™ Energy-Monitor Thermostat should be installed by a certified electrician only, using Warmup's installation instructions.

Energy Efficient

Unrivalled accurate floor temperature control means no wasted energy - reducing the costs associated with over-heating.

Graphical energy monitor shows exactly how much energy is being used and when.

AEM™ prompts you to choose the best and most efficient temperature for each room, maximising energy efficiency.

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Features

- Active Energy Management™ prompts user to save up to 10% on utility bills
- Easy-to-use interface eliminates complicated manuals
- Unrivalled accurate floor temperature control of +/- 0.5°C, significantly reduces energy wastage
- 10 programmable periods per day for efficient energy usage
- Stylish range of colours to suit any decor
- BEAB Approved and CE marked meeting the highest safety standards for ultimate piece of mind
- 3yr Warranty with option to upgrade to Lifetime Warranty



Technical Specifications

3iE - TECHNICAL SPECIFICATIONS	
INPUT VOLTAGE	230V +/- 15% at 50Hz
MAX LOAD	16A (3680W)
DIMENSIONS	(H/W/D): 90 x 113 x 19mm (from wall)
SENSORS	AIR & FLOOR (AMBIENT)
SENSOR TYPE	NTC10K 3m LONG (CAN BE EXTENDED TO 50m)
IP RATING	IP20/(IP 32 WITH OPTIONAL GASKET)
INSTALLATION DEPTH	35mm BACK BOX
DISPLAY SIZE	2.4" FULL COLOUR
COMPATIBILITY	IDEAL FOR ELECTRIC & HYDRONIC UNDERFLOOR HEATING
Er-P CLASS	IV

