

## IMPORTANT NOTES

### OPERATING CONDITIONS

This heater is intended for use only in a domestic hot water system with an indirect or direct copper cylinder conforming to BS 699, BS 1566, BS 3198 or similar specification and operating at a maximum temperature of, or below, 85 degrees centigrade.

No warranty is given or implied for uses other than as part of a domestic hot water system.

### FITTING TO TANK

The heater is to be fitted to the tank using the washer supplied (or a 'Water Council' approved non-asbestos washer of at least 1.5mm in thickness) and tightened to a minimum torque of 30 Nm. To ensure a 'leakfree' joint, it is important that both flange faces are clean and free from all traces of old washer.

### WATER HARDNESS

To obtain maximum heater service life it is important to select the correct type of immersion heater for the local water conditions.

The 'Standard' range of Immersion heaters, where the sheath is of 'COPPER' material, are designed to operate in 'Soft' to 'Neutral' water or where water softening equipment is used.

The 'Backerloy' or 'Anti-Corrosive' ranges Immersion heaters, where the sheath is of 'STAINLESS' type material, are designed to operate in 'Neutral' to 'Hard' water where the build-up of limescale is likely to occur.

### POWER SHOWERS OR SHOWER PUMPS

Where a second hot water outlet is fitted to the storage cylinder (hot water tank) to supply a shower pump or power shower, the guarantee / warranty does NOT cover defects arising from the operation of the heater when not totally immersed in water.

### LIMITATIONS

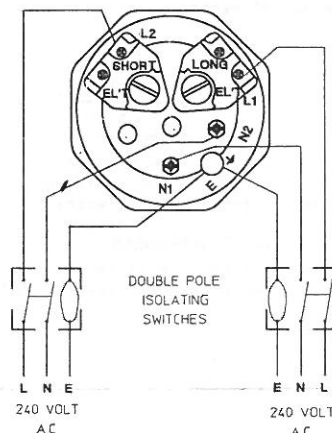
Any use other than that as listed above will invalidate the product guarantee unless the details of the operating environment are subject to a contractual agreement.

The guarantee / warranty does NOT cover defects arising from accidental damage, misuse, wear and tear, inappropriate selection to suit the local water conditions, incorrect connection or incorrect supply voltage.

### 'CE' MARKING

The 'CE' marking of this product indicates conformance to the following EEC regulations:- Electro Magnetic Compatibility Regulations (EMC), Electrical Equipment (Safety) Regulations / Low Voltage Directive (LVD) and the CE Marking Regulations.

## BACKER ELECTRIC COMPANY LIMITED 'DUO' BACKERSAFE IMMERSION HEATER WIRING INSTRUCTIONS



EXPOSED VIEW OF  
TERMINALS AT N1 & N2

This heater is designed to take secondary dual cut-out thermostats. It should be installed in a vertical position and is suitable for either standard tariff, Economy 7 or any Off Peak systems.  
Note: The elements are locally annealed and no attempt should be made to bend the element to either shorten the length or facilitate installation.

Connect the heater to the supply with flexible cord of either of the following types:  
1.5mm<sup>2</sup> 85°C rubber-insulated, 85°C RS 3-sheathed, complying with table 8 of BS6141:1991, OR 2.5mm<sup>2</sup> 90°C PVC-insulated, 85°C PVC-sheathed, complying with table 15 of BS6141:1991. Ensure All terminal screws are thoroughly tightened before re-fitting the terminal cover. Recommended thermostat settings:

For normal water areas	.....	Up to 70°C (158°F)
For hard water areas	.....	Up to 60°C (140°F)
For soft water areas	.....	Up to 80°C (176°F)

N.B: If only one three core cable is used then the top part of the cable clamp should be reversed with the flat face to the cable as shown below.



The short heater thermostat should be set to suit local water conditions as listed above. The long heater thermostat should be set 10°-15°C (50°-59°F) lower.

**WARNING : THIS APPLIANCE MUST BE EARTHED**  
BACKER ELECTRIC COMPANY LIMITED, ROTHERHAM

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