

HEAT-ON BLOCKS: USE and SAFETY GUIDELINES

Precautions

- **Risk of burns from hot blocks**

Like oil baths, *HEAT-ON* Blocks remain hot for some considerable time after the heating source has been switched off. A temperature probe or temperature sensitive label can be used to indicate when blocks are too hot to touch.

- **All flasks must touch the bottom of the well**

When the flask is inserted into the well it is of vital importance to ensure that the flask touches the bottom of the well and **does not sit on the rim of the well**. The use of flasks that are too large may result in jamming and even cracking of the flask when the block is cooling.

- **Flask selection process**

To ensure that the flask is always a proper fit into the block, the well profile of *HEAT-ON* Blocks has been specifically designed to leave a clear and noticeable gap around the top of the well when a correctly sized flask is in place. **If there is not a clear gap this indicates that the flask is too large and will not be able to touch the bottom of the well**. A secondary test is to rotate the flask, a correctly fitting flask will rotate freely, in contrast to one that is too large will be difficult to turn.

- **Starting and stopping your reaction**

In an ideal situation you will start with a room temperature block, but in certain situations this may not be practical. You can use cold water to cool the blocks down but take care with blocks above 100 °C as steam is a potential hazard. It is safe to insert flasks into blocks that are below 50 °C but the flask should be removed before it drops below the start temperature. In all eventualities flasks should be removed at or above the temperature they were originally inserted so in the case of a flask that is inserted at room temperature it is safe to let it cool back down to this temperature with the flask in place.

Usage information

- **Chemical resistance**

Anodised (coloured) blocks are resistant to the majority of solvents, and splash resistant to dilute acids and alkalis at room temperature.

The 3rd Generation *HEAT-ON* blocks, with Teflon Coating (grey), are resistant to the majority of solvents, acids and alkalis. However, for example, hot concentrated sulphuric acid will damage the coating over a period of time. Spills of concentrated acids and alkalis which are trapped between the flask and the block should be cleaned up before continuing to heat as this is the most likely situation in which damage will occur. If damage to the block does occur it is possible to reprocess them by returning them to the manufacturer; this is best done as soon as possible after the damage has occurred.

- **Temperature range**

The *HEAT-ON* block range can be used up to 200°C without damage to the blocks. Temperatures up to 260°C can be achieved but some minor surface degradation may occur.

- **Blocks with IKA hotplates**

The 3rd Generation *HEAT-ON* blocks (recognisable by their Teflon coating) have a single recess in the base to locate onto your stirrer hotplate. Some hotplates, such as the IKA range, have a smaller diameter hotplate so some movement will be noticed. If you feel this is unacceptable to you an adaptor plate can be purchased from Glass Solutions.

- **Other manufacturers' blocks**

Please be aware that other manufacturers' blocks do not incorporate our special well profile, so extra care is needed in selecting properly fitting flasks and it is essential that you are particularly vigilant when using them. **ALWAYS MAKE SURE THAT THE FLASK SPINS FREELY BEFORE HEATING.**

If you have any queries about this or any other Glass Solutions product please email us at: enquiries@glass-solutions.co.uk