

Changes to Domestic Hot Water Temperatures at Kitchen Sinks

(April 2022)



Question

Is a hot water supply temperature of 50°C acceptable at kitchen sinks?

Considerations

- Hot water in the kitchen sink is most commonly used for cleaning dishes, therefore the hot water temperature should be compatible with hand dishwashing detergents. Detergents are commonly tested at 45°C - a safe temperature for skin immersion - therefore temperatures in excess of this will provide an acceptable level of cleaning.
- Scalding can happen significantly quicker when exposed to water at 55°C, rather than 50°C. This is particularly relevant to children and older people who generally have a reduced skin resistance.
- Limescale deposition is reduced by 10% when hot water temperature is reduced from 55 to 50°C. This improves the energy efficiency and increases the lifecycle of hot water system components.
- Legionella bacterial growth occurs in a temperature range of 20 to 45°C, therefore a hot water supply temperature of 50°C does not cause bacterial growth. Hot water systems that include storage may need to include antibacterial mitigation measures, including higher temperature distribution or purge cycles. Therefore, higher hot water supply temperatures at kitchen sinks may be achieved on such systems, however hot water safety should still be considered. Hot water storage should be based on a draw-off temperature of 60°C.

Answer

- A hot water supply temperature of 50°C at the kitchen sink provides an acceptable service level for users.

Please note: This technical guidance note will be superseded with the introduction of NHBC Standards 2022.