

The Concept of Sinner's Circle

Whether performed mechanically or manually, the cleaning of used medical instruments is an important step. The general principle of cleaning, based on physical factors, was summarized by Herbert Sinner in 1959 in a simplified way in the so-called **Sinner's Circle**. Herbert Sinner was an employee of Henkel and his task was to find better methods to clean clothes and develop the respective detergents. The process itself support the removement of soluble residuals on medical devices. It is important to remember that even an optimised Sinner's Circle will not remove dental cement or liners that have set on dental instruments, these must be removed at chairside.

The concept of Sinner's Circle essentially makes use of **four main physical factors that affect one another:**

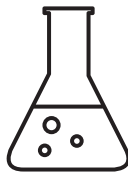
1



TIME

(exposure time of the other three factors)

2



CHEMICAL

(usually a cleaning solution)

3



MECHANICAL POWER

(e.g. scrubbing to remove visible dirt or to establish contact with the cleaning solution)

4



TEMPERATURE

(affects e.g. the effectiveness of the cleaning solution)

These factors are always in a specific proportion to one another and influence each other. The respective proportions of these four factors can thus be depicted as a pie chart, and the quantity of each factor can be shifted within the circle in specific proportion to the others. Also added to this is the fundamental element of water, which supports the four factors in their basic function. If the quantity of one of the factors changes, this in turn affects the other factors, but they must always fit within the circle. Detergents are still being developed at Henkel today based on his Sinner's Circle model.