

Silicone Caps information sheet

Information about silicone caps including material details, manufacturing details, selection and tips for easy fitting.

Silicone Caps are the industry standard for general paint & powder coating, masking applications. Their versatile nature allow them to fit over extrusions, threaded studs, PEMS and dowels, as well as be used as a plug for tapped holes, irregular contours and threaded holes. High temperature silicone is specially formulated to ensure reusability and economy during masking and painting processes.

Material - Silicone rubber is used for this type of application as it has excellent heat resistant properties. In a typical application the caps will withstand 316 C. The down side is silicone is an expensive material, so if the temperatures you are using are below 200 C then EPDM rubber or similar should be considered as it is a cheaper raw material.

Manufacturing process – typically silicone caps are made by a process called injection moulding. This involves a mould that splits into 2 halves and has a cavity in the centre, the cavity being the shape and size of the required cap. The tool is heated and the rubber is injected into the mould filling the cavity. The more cavities a tool has the more parts are made during each cycle of the machine.

Selection of caps – Typically silicone rubber caps are very flexible so when selecting the best size for your application, you should consider using an internal diameter between 0.5mm to 2mm smaller than the outside diameter of the component you are trying to cover.

Fitting – selecting the right size is key to easy fitting. If you want a cap that you can fit onto a component and then easily remove after, for example, powder coating or painting, then a size similar to the diameter to be covered or just slightly smaller should be used. This can then be push fitted to your application with ease. If a tighter fit is required samples should be tested around 1mm – 2mm smaller.

Tip – caps can be used as a plug by inserting them into a hole. If possible silicone caps with round or radius heads should be used as these are easier to fit into holes. The round head / closed end helps with this.

Tip – Silicone Caps are flexible enough to conform to irregular shapes, allowing for components that are not exactly round.

Tip – Silicone caps can be used more than once through most processes. Don't waste money by throwing them away. Collect them and re-use them.