

General Properties

TCS 30 Silicone is a 2-part RTV (room temperature vulcanizing) high performance, tin/condensation cure mould making silicone. These silicone's can be poured or brushed onto a variety of surfaces to produce block, cavity or brush-on moulds. A variety of materials like polyurethane, polyester, epoxy, gypsum plaster, cement, wax, soap, low temperature melt alloys, etc, can be cast into these moulds.

Physical Properties

	Mix Ratio (Parts By Weight)	Pot life	Demould time	CPS viscosity	Shore A Hardness +/- 2	Tear Strength N/mm	Elongation at break	Linear Shrinkage	Specific Gravity
TCS 30	100A : 2B	40 mins	24 hrs	20 000	30	23	350%	0.3%	1.21

Processing

Before measuring out the components, pre-mix Part A and Part B separately (this mixes any components that may separate during storage). Measure out required amounts of Part A and B into mixing container and mix thoroughly for 3 minutes making sure to scrape the sides and bottom of the mixing container several times. Transfer mixed material into clean mixing container and stir again. Be careful not to whip and beat the material during the mixing process as this introduces unnecessary air bubbles. For best results after mixing, vacuum de-air material before casting (29 inches of mercury required) and allow for up to 5 x expansion during the vacuum process. For faster demould time, catalyst can be increased up to 4% (please note that this will decrease pot life). Above mentioned percentages are by weight.

For Brush-On applications and for the silicone to hold a vertical surface, silicone thixo should be added to increase viscosity. By weight 0.5% (thick), 1% (thicker), 2% maximum dosage (thickest).

For a Block & Cavity moulds (where the silicone is poured) silicone thinning fluid can be added to reduce viscosity which assists in reducing air bubbles and capturing intricate surface detail. Max dosage by weight 10%. Please note that by adding silicone thinner, Shore A hardness and tear strength are proportionally reduced.

Pouring - for best results, pour the silicone rubber in a thin stream to the lowest part of the mould in a single spot and allow material to flow around the model and self-level. It is suggested to cover the model by at least 10 mm.

Curing/Post Curing - allow the mould to cure for 24 hours at room temperature (23°C) before demoulding. Post curing the mould an additional 4-6 hours at 80 °C will eliminate any residual moisture and alcohol that is a by-product of the condensation reaction that can inhibit the cure of some urethane resins and rubbers. Allow mould to cool to room temperature before using. Do not cure rubber where temperature is less than 23°C. The silicone moulds can be cleaned with mild soap and water then rinsed and left to dry.

Mould performance & storage

The physical life of the mould depends on how you use it (materials cast, frequency etc.). Casting abrasive materials such as concrete can quickly deteriorate mold detail, while casting non-abrasive materials like wax or plaster will not affect mould detail. Before storing, the mould should be cleaned with soap & water solution and wiped fully dry. Two-part (or more) moulds should be assembled. Moulds should be stored on a level surface in a cool, dry environment. Casting Plaster into the mould prior storing will extent mould library life.

Disclaimer

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