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Product Guide

Compression Molding of XIAMETER® High Consistency Silicone Rubber

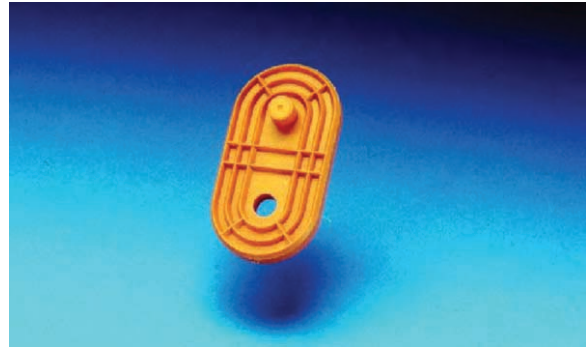
COMPRESSION MOLDING OF XIAMETER® HIGH CONSISTENCY SILICONE RUBBER

In compression molding, a preform is placed on one half of a heated mold. When the mold is closed and put under pressure (in a press), the rubber is forced into all parts of the mold cavity, and excess rubber flows into a flash groove around the mold cavity.

Silicone rubber is compression-molded to form gaskets, seals, O-rings, flat sheets, fabric reinforced laminates, and many other types of industrial rubber goods, of almost any size desired.



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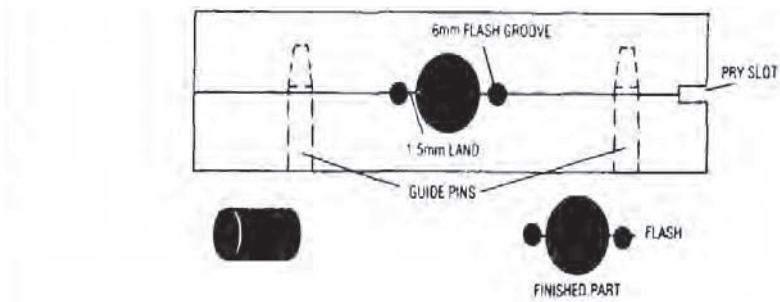


Fig. 1. Typical compression mold

Loading the Mold

Single cavity molds are loaded by hand. With some multiple cavity molds, loading boards may provide faster mold loading, which helps prevent scorching of the preforms. Loading boards are devices on which the preforms are placed in position for simultaneously loading all of the mold cavities.

Molding Time

Molding time and temperature vary with the vulcanizing agent used, the thickness of the part being molded, and other production conditions discussed under "Molding Problems" The figures given in Table I are typical; but for each specific molding job, the most favourable values of time and temperature can only be determined by experimentation.

Molding Pressure

Enough pressure should be applied to obtain sufficiently rapid flow of rubber in the mold. Most XIAMETER® silicone rubber products flow well at about 200 psi (1.4 MPa).

Unloading

Silicone rubber parts are usually unloaded hot. However, when molding thick sections or fabric reinforced parts, it may be necessary to cool the mold before releasing the pressure to help prevent backrinding, porosity, and delamination.

TABLE I: SUGGESTED CONDITIONS FOR COMPRESSION MOLDING WITH VARIOUS VULCANIZING AGENTS

Vulcanizing agents	Molding Temperature	Molding Time, minutes				
		1.5mm	3mm	6mm	10mm	12mm
2,4-dichlorobenzoyl peroxide	116°C	5	5	10	15	20
Benzoyl peroxide	127°C	5	5	10	15	20
Dicumyl peroxide	150°C	10	10	15	18	20
Tertiary-butyl perbenzoate	150°C	10	10	15	18	20
2,5-dimethyl-2,5-di (t-butyl peroxy) hexane	171°C	10	10	15	18	20
Tertiary butyl peroxy isopropyl carbonate	140°C	5	5	10	13	15

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Printed in USA

AGP9790

Form No. 95-562-01

