Compression Molding

Volara® and Minicel® can be molded alone or in combination with other foams, fabrics, films, or solid plastics to provide three-dimensional shapes. The recommended procedure is to preheat Volara® and Minicel® can be heated and cooled in the mold to produce very intricate parts; however, the cycle times are considerably longer and only justifiable when the part cannot be made by the recommended method.

Methods of Heating

Generally infrared heaters are used, but hot air ovens can be used. The infrared heaters can be positioned in a conveyor oven or as a station on a rotary molding table. Heating times vary for thickness and density (see chart); in general, longer heating times at lower temperatures are recommended.

Tooling

Molds can be made from a variety of materials. Wood and epoxy are used for prototype work. Aluminum filled epoxy and water-cooled metal are used for extended runs.

Venting of molds is recommended as this prevents air entrapment. Mold separation is dependent on the thickness and type of material being used.

Mold Presses

Hydraulic presses of either the four-pillar or "C" type are used for compression molding. The platens should be water-cooled.

"Heating Times at Various Oven Temperatures" Chart on back

17 Allen Ave, Coldwater, MI 49036 Tel: (833) 517-1627 Fax: (517) 279-8562
www.sekisuivoltek.com Email: Prodinfo@sekisuivoltek.com

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Heating Times at Various Oven Temperatures

(Seconds)

300°F Oven Temperature

Thickness	2 pcf	3 pcf	4 pcf
3/8"	75 - 180	75 - 180	90 - 225
1/2"	115 - 255	115 - 255	115 - 255
3/4"	150 - 390	150 - 450	225 - 450
1"	255 - 405	255 - 705	315 - 900

350°F Oven Temperature

3/8"	60 - 135	60 - 135	90 - 175
1/2"	75 - 165	75 - 180	105 - 255
3/4"	150 - 330	150 - 390	210 - 390
1"	240 - 330	240 - 600	315 - 705

400°F Oven Temperature*

3/8"	40 - 105	60 - 120	60 - 120
1/2"	60 - 135	75 - 150	90 - 165
3/4"	135 - 240	150 - 270	180 - 360
1"	180 - 330	210 - 450	280 - 555

*Note: The surface may deteriorate at this temperature

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