



Loes Enterprises, Inc

1457 Iglehart Ave
St. Paul, Mn 55104

Fax: 651-646-3067

800-869-1088

WWW.Loesent.com

E-mail: Loes@Loesent.com

PH : 651-646-1385

GENERAL INFORMATION SHEET FOR ROTOCASTING PLASTISOLS

The rotocasting of a plastisol consists of pouring a given amount of plastisol into a mold, closing the mold (which consists of two or more parts), and rotating the mold in two planes simultaneously while heating. The vinyl "cures" into the shape of the mold. Rotocasting produces a totally enclosed hollow part. This process is used for making such things as vinyl beach balls, basket balls, doll parts, etc.

PROCEDURE

1. The mold surfaces should be coated with a mold release such as MR 205. Follow instructions for MR 205.
2. Pour a pre-determined amount of plastisol into a part of the mold cavity. The amount of plastisol used will depend on the surface area of the mold and the coating thickness desired. Ten (10) ounce (liquid) of plastisol per square foot of mold surface will yield a coating of 1/8" thickness (125 mils).
3. Close the mold and begin the rotocasting process. The sections must fit snugly and be securely fastened or the mold will leak. Generally, an oven temperature range of 450° F to 550° F are used for 5 to 15 minutes depending on the requirement dictated by the mold size, weight, mold material, type of plastisol, and part configuration.
4. After a cure period, which is determined experimentally, the mold is cooled, generally with water. A generous uniform water spray to ALL MOLD SURFACES AT THE SAME TIME is essential for a uniform part, especially with plastisols having some hot flow. Generally, these are plastisols of less than 60 Shore A hardness.

Specific questions are welcomed for discussion.

COMMON PROBLEMS IN ROTOCASTING PLASTISOL - PAGE 2 CONTINUED

<u>PROBLEM</u>	<u>PROBABLE CAUSE</u>	<u>CORRECTION</u>
Part weak or crumbly	Undercured	Increase heat or cure time.
Uneven inner surface See Note (1)	Gelled plastisol lumps in plastisol	Strain plastisol before re-using.
Blisters, bubbles	Moisture contamination or oil contamination if using oil bath to gel	Requires evacuation of water usually plastisol is ruined.
Off color burn spots	Plastisol overcured	Decrease temperature or cure time.
Sticking in mold	Burnt plastisol in mold	Clean mold thoroughly and apply mold release, use MR 205 or equivalent.
Off color, hardness variations	Plastisol separation or setting	Stir before using.
Pin holes	Mold may be porous and gassing	Seal with RTV silicone, weld or use new mold.
Some areas heavier than others - Plastisol over 50 Shore A	Uneven heating or mold rotation, mold of uneven thickness	Check heat source and rotational ratio. Check mold thickness
Some areas heavier than others Plastisol softer than 50 Shore A	See for harder plastisols. Cooling may be uneven or plastisols with hot flow	Check water jets for evenness of cooling water spray, especially that water jets spray into <u>all</u> surfaces of the mold at the same Time, especially the undersides.

Note: There will always be some runs or or drip marks inside a rotocast part, especially those harder than 50 Shore A.