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## CONVERSION CHART FOR SOFTENING PLASTISOLS, USING PLASTICIZER DOP

The following conversion chart is to be used to soften a plastisol to other hardnesses. Lowering the durometer of an on hand material may be desirable at some times. Certain considerations should be observed:

1. The color intensity of a colored material will be diluted.
2. Settling of pigments and vinyl resin will be accelerated.

In a conscientious compounded plastisol settling is given utmost consideration. With some materials some settling is unavoidable. However, with the addition of plasticizer, the balance of ingredients is upset and settling is aggravated. More frequent stirring is required and a settling tendency, suspension agents are normally added. These besides retarding settling, soften the settling so that the settling is easily stirred in. With the addition of plasticizers, suspension agents become less effective. We suggest that plastisols softened be used within a relatively short period of time to reduce problems caused by settling.

The chart is an approximation of the number of parts of plasticizer to add to 100 parts of plastisol. Follow instructions and examples below.

Read across from the hardness of the material to be softened to the softness desired. The amount in the box where the two intersect is the amount of plasticizer to be added to 100 parts of plastisol. Shore A hardnesses achieved are approximate, as well as the amounts (rounded of to nearest 5 parts addition). It is not meant as an exacting chart because of various properties that may effect the softening of the plastisol, depending on material used.

Keep in mind that the addition of plasticizer will not only soften the material, but will also increase the time for cure, effect the strength, color, and viscosity.

CONVERSION CHART FOR SOFTENING PLASTISOLS,
USING PLASTICIZER DOP

| SHORE A of Plastisol to be Softened. | Plasticizer is DOP<br>SHORE A Softness Desired (Approximate) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 90 | 80 | 70 | 60 | 50 | 40 | 30 | 20 | 10 | 5 |
| 95-100 | 15 | 25 | 35 | 50 | 60 | 90 | 130 | 190 | 230 | 340 |
| 90 | X | 7 | 20 | 40 | 70 | 85 | 110 | 155 | 180 | 290 |
| 80 | X | X | 10 | 30 | 60 | 70 | 85 | 120 | 150 | 250 |
| 70 | X | X | X | 20 | 50 | 65 | 95 | 110 | 135 | 225 |
| 60 | X | X | X | X | 25 | 50 | 75 | 90 | 115 | 200 |
| 50 | X | X | X | X | X | 20 | 35 | 50 | 95 | 165 |
| 40 | X | X | X | X | X | X | 10 | 25 | 65 | 110 |
| 30 | X | X | X | X | X | X | X | 15 | 45 | 90 |
| 20 | X | X | X | X | X | X | X | X | 25 | 75 |
| 10 | X | X | X | X | X | X | X | X | X | 40 |

CROSSHATCHED AREA IS SUBJECT TO SEVERE SETTLING

**EXAMPLE 1**: If you have a Shore A 80/0 hardness plastisol and wish to make a 50/0 Shore A, read across from 80 Shore A, down from 50 Shore A to the amount: 60 parts plasticizer to 100 parts of plastisol.

**EXAMPLE 2**: If yo have a 70/0 Shore A plastisol and wish to soften to 45 Shore A, read down from both 40 to 50 Shore A and split the difference (approx.); the amount to be added would be 62.5 parts (approx.).

## DISCLAIMER

The instructions given here are believed to be reliable, however, because the use of the product is beyond our control, the product should be tested to verify its suitability in your application. No warranty is expressed or implied. The user assumes all risks of use or handling whether or not in accordance with any directions or suggestions of the manufacturer. Certain plastisols are not recommended to be softened without loss of basis properties such as resistance to chemicals, solvents, adhesiveness. **DO NOT** use plasticizers to soften those materials which are critical in their performance.