

SPTB-07

Revised: 12 / 13 / 01

PLASTISOL GLOSSARY

PROPERTIES:

Durometer: Refers to the hardness of the product, and primarily reflects the ratio of plasticizer to resin. A high durometer is a harder plastisol, a lower durometer is a softer plastisol. Generally higher durometer products have better physical properties in regards to tensile and tear strength, but lack flexibility of lower durometer products. Durometer is measured on different scales Shore A, Shore D, and Shore OO

Gelation: In a plastisol, when the vinyl resin absorbs all the plasticizer forming a non-tacky, crumbly film.

Cure: In a plastisol, when the resin melts to form one continuous film and obtain all desired physical properties.

Viscosity: Characterizes the plastisol's thick or thin nature as it is being sheared. The viscosity is a measurement of the amount of resistance when shear is applied.

Rheology: Characterizes the flow and form of plastisol i.e. corn oil or mayonnaise. Two different plastisols can have the same viscosity but different rheologies.

Dilatent: "Shear Thickening" The phenomenon of moving from a low viscosity to a high viscosity when shear is applied.

Thixotropic: Time Dependant flow. Fluid undergoes an increase or decrease in viscosity with time, while is subjected to constant shearing.

Pseudo-Plastic: "Shear Thinning" The phenomenon of moving from a high viscosity to a low viscosity when shear is applied.

Elongation: Refers to how much the plastisol film will stretch before tearing. Generally lower durometer (softer) products have better elongation.

Gloss: Characterizes how much light a plastisol will reflect and thereby is a function of surface texture. Gloss can be enhanced or reduced by resin, plasticizer, and blow agent choices. Faster fusing products generally have better gloss, because they generally cure faster.

Yield Value: A measure that reflects the amount of force needed to be applied to ink to create flow.

Tensile Strength: Refers to the resistance given by a material to a force trying to tear it apart, measured generally in psi as the maximum tension the material can withstand without tearing.

COLOR TERMS:

METAMORISM: The phenomenon of a color changing depending upon the light source it is viewed under. Color is derived from the reflection of light. If the source lighting changes so may the color. One single color can be made up of many different combination wavelengths of light (i.e., one color can be comprised of multiple combinations of pigments.) This is most evident if two different color swatches look the same under one light source and look different under another light source.

ACHROMATIC COLOR: A color that has no hue and is neutral, (i.e., white, black, or gray.)

HUE: Refers to the general shade or attributes of a color, (i.e. blue, green, or red.)

VALUE: Refers to the luminous intensity of a color in terms of lightness and darkness, i.e., a stalk of celery has a much lighter value than a green pepper. In color match terms, value is not necessary a function of the amount of white or black, but can also be a function of the amount of pigment in a system.

SATURATION or the "CHROMA": Refers to the vividness or dullness of the shade. I.e., Is the shade dull or bright? An apple has a higher saturation level than a radish.

MONOPIGMENTED: A color derived from one source pigment. Most finished colors are a blend of two to five different pigments.