PROCESSALL

Plastisols and Organisols

Plastisols

Plastisols are typically used as a protective coating in the automotive industry (for rust protection), toys, boots, appliances, gloves, fabric coating, sheeting, foam and many other applications. There are many inexpensive manufacturing techniques which utilize plastisols. These techniques include slush, rotational, and dip molding, as well as knife coating. Selecting the proper material - plasticizers, stabilizers, fillers and thixotropic agents is important when deciding the optimum formulation. The mixing of these materials under the proper conditions is equally important to pro-duce high quality products.

To formulate a plastisol, it is necessary to create a colloidal suspension of extremely fine PVC powders in a medium viscosity plasticizer. Complete solvation of all particles is required to assure a uniform and reproducible viscosity necessary for the production of material.

Top entering liquid agitators, low intensity ribbon, paddle, planetary and conical blenders have been the traditional technologies used to make plastisol. However, these types of machines have disadvantages such as longer mixing cycle, entrapment of air in the product, considerable heat build-up in thick pastes and as well as many other negative features which create problems downstream of the mixing step.

Typical Applications:

- Protective Coatings
- Sheeting
- Appliances
- Recreational Goods
- Fabric Coating
- Clothing

The Processall Mixperser with its mechanically fluidized bed mixing principle eliminates these problems by offering excellent dispersion with short mixing cycles. This mixing principle results in less heat build-up due to mechanical shear. Additionally, the use of a cooling jacket on the mixer controls the product temperature and prevents any hot spots and undesirable gels to form in the product.

Plasticizer and pigments are charged into the mixer when it is not running. Cold water is circulated through the jacket while charging the mixer. The main mixing elements are activated and the resin addition is initiated. The continuous addition of resin over a (3-5) minute period allows for better absorption by the plasticizer while mixing. Filler is then added slowly into the mix. After all ingredients are charged, the machine is sealed and air is removed with the aid of a vacuum pump. This allows the product to be deaerated while mixing. This stage of the cycle lasts approximately 5 minutes under (25"-27") Hg of vacuum. With this procedure complete, dispersion of resin and filler is achieved and all residual entrapped air is removed from the plastisol by eliminating any voids in the final product. The entire mixing and deaeration cycle is less than 15 minutes.

The Mixperser is easily cleaned by filling it half full with water and detergent and running for a short period of time. The machine can then be wiped clean or air dried after the water and detergent is discharged. The Processall Mixperser is capable of producing uniform plastisol free of gels, air pockets and agglomerates. The final product is ready for application or aging if it is necessary.

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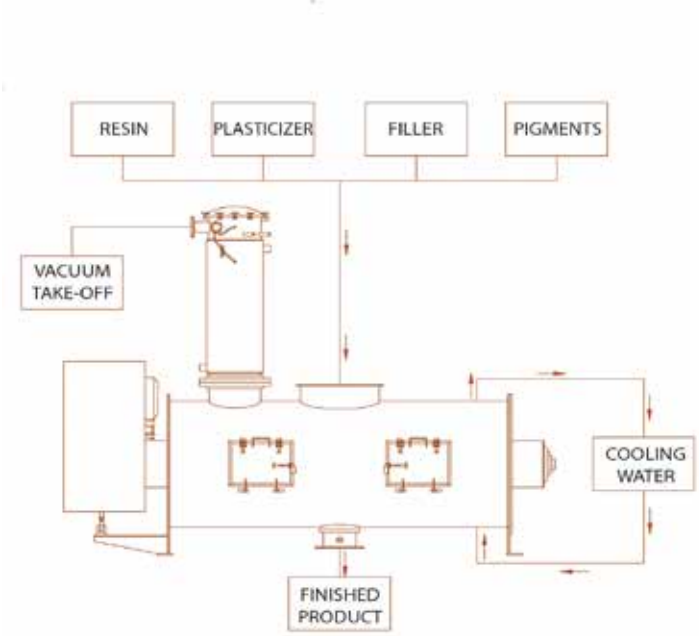
Plastisols and Organisols

Organisol

An organisol is similar to a plastisol but is modified by the addition of volatile solvents (dispersants) such as polar ketones. These are added to the resin, plasticizer, stabilizer and pigment at the beginning of the mix cycle. The diluents are non-polar solvents that adjust the flow properties and reduce the solvating effect of the dispersant. Diluents must be added after all the resin is solvated. The Processall Mixperser provides superior mixes when these formulation variations are used.

Processall maintains a fully staffed and equipped technical center in Cincinnati, Ohio, for the evaluation of customer's product and process. Pilot plant units for use in the customer's own plant are also available on a rental basis.



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