# FYNOL 40

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| **DESCRIPTION** | : | Viscosity depressant for PVC paste processing | | |
| **SPECIFICATIONS** | : | Appearance | : | Yellowish Liquid |
| | | Acid Value | : | 5 Max |
| | | Flash Point | : | Above 190°C |

(Slight variations in the specifications stated due to raw materials and production conditions are possible though they have no influence on the application properties described.)

## APPLICATIONS

### FYNOL 40 IN PVC PLASTISOLS :

Reduces the viscosity of plastisol formulations, when added in optimum proportions

**The effects demonstrated are** :

* For a given shear rate, viscosity is reduced by up to 50% at low shear rates and up to 33% at higher shear rates.
* When stored for periods of up to 21 days, low viscosity is retained.

FYNOL 40 does not have adverse effects on the mechanical properties of cured plastisols and in some circumstances improve them. Since FYNOL 40 is in liquid form at formulation temperature, its incorporation in plastisol formulations is very easy.

There are additional beneficial effects in using FYNOL 40 viscosity depressants**. FYNOL 40 can be used as a post-polymerization additive in E-PVC manufacture, it has also useful antistatic properties.**

### FYNOL 40 AS A VISCOSITY DEPRESSANT FOR PVC LEATHERCLOTH

**FYNOL 40** is an effective viscosity depressant for PVC Plastisol.
For manufacturing PVC leathercloth by spread coating technique, use of FYNOL 40 gives following advantages.

* It helps in dispersion of pigments and fillers, thus enables better surface finish and gloss. In white ($TiO_2$) leather cloth, remarkable improvement in colour strength (whiteness) is observed using FYNOL 40
* Enables uniform coating
* Reduces pin-holes and improves mechanical properties
* Give uniform cell structure
* Finish and feel gets improved
* Facilitates release of air from PVC paste

**USE LEVEL** recommended is about 5 to 10% of total plasticizers level depending upon the viscosity and stiffness desired.

## USE IN PVC PASTES

An addition of FYNOL 40 to the level of 1% related to PVC + Plasticizer facilitates the release of air in PVC pastes. At the same time a reduction in viscosity is noticeable. The use of FYNOL 40 in PVC pastes ensure block free and slipping surfaces to the moulded toys / parts etc.

## ANTISTATIC AGENT

FYNOL 40 is used as an internal antistatic agent for soft PVC products. It is homogeneously incorporated into the soft PVC compound at the compounding stage. Due to its hydrophilic characteristics, it imparts antistatic properties to the soft PVC compounds. It is particularly effective in medium to high plasticized compounds.

At the ratio of 60 PVC : 40 plasticizer, an addition of FYNOL 40 reduces the surface resistance by the factor 100. This effect is achieved if 5 % of the total plasticizer content is covered by FYNOL 40. Higher amounts do not result in an essential improvement of the antistatic behavior and it is not recommended to exceed 10% use level on the weight of total plasticizer content, particularly not in unfilled blends due to the limited compatability.

In soft PVC compounds of low plasticizer level or rigid PVC, the antistatic properties of FYNOL 40 is not so pronounced as in medium or high plasticized compounds.

## OTHER APPLICATIONS

FYNOL 40 is an excellent dispersing effect for difficult to disperse pigments like Carbon Black, Pthalocyanine Blue, Pthalocyanine Green. Thus ensuring efficient and uniform dispersion of the pigments in the polymer matrix. Used in polyolefins / PVC colour masterbatches.

**USE LEVEL** : The dosage depends on the percentage loading of pigment in a particular masterbatch. The wetting agent has to be added during mixing stage to the polymer prior to addition of pigments.

Generally recommended between 0.5 - 1.0%