Hanwha Solutions

PVC Paste Resin (Homopolymer)

EL-103

General properties

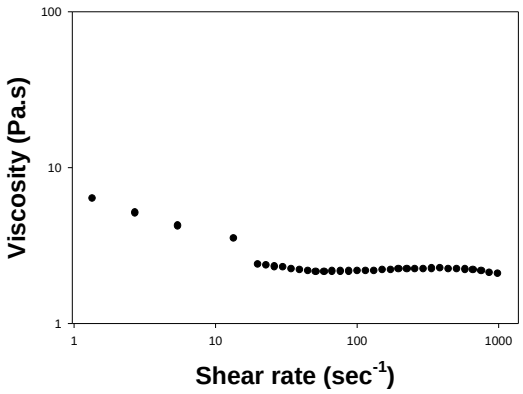
EL-103 is a low molecular weight emulsion type PVC homopolymer.

It produces plastisol exhibiting low viscosity at low shear rate and newtonian flow at high shear rates with low-medium plasticizer level (50-70 phr).

Plastisol made from this polymer exhibit the following properties.

- good gelation rate
- good whiteness for wallpaper and cushioned flooring
- good rheological property
- high clarity and high gloss surface finish
- good thermal/light stability with a wide range of stabilizers especially liquid Ca/Zn or Tin type
- good foaming properties with a wide range of stabilizers especially liquid K/Zn or Na/Zn or Ca/Zn type
- low viscosity aging rate-long shelf life with little tendency to sediment

Rheological properties



1 hours aged at 25 °C

Formulation
PVC 100
DINP 60 phr

Polymer properties

Property	*Unit*	*Typical Value*	*Test Method*
Polymerization degree	-	900±100	JIS 6721
K-value	-	60.5~65.5	JIS 6721
Apparent density	g/cc	0.20~0.40	JIS 6721
Volatile content	%	Max. 0.35	JIS 6721
Particle size	%	100	100 mesh pass
BF viscosity(20rpm)	Pa.s	6.3	ASTM D 1824
Viscosity at 500 sec^{-1}	Pa.s	3.8	

BF viscosity test conditions:

PVC 100

DINP 60 phr

1 hours aged at 25 °C

Hanwha Solutions

Hanwha Solutions

PVC Paste Resin (Homopolymer)

EL-103

Applications

EL-103 produces plastisols which are ideal for the manufacture of foamed wall paper and foamed flooring by spread coating.

EL-103 plastisols are also ideal for the spread coating of chemically blown foams with a fine cell structure produced at low-medium oven temperatures.

EL-103 can be applied by transfer spread coating process or rotary screen coating process.

The main applications are

- chemically foamed wallpaper produced by comma or gravure coating process
- chemically foamed wallpaper produced by rotary screen coating process
- low-medium plasticizer content chemically blown foam coating for wallpaper and cushioned flooring using the 'Congoleum' process where a fine cell structure with excellent inhibition and contour sharpness is required.
- foaming material with a fine cell structure at low-medium oven temperature

Guide formulations

Wall Covering	
EL-103	100 phr
DINP	65
plasticizer for flame retardant (Chlorinated paraffine, TCP)	as required
Blowing agent(ADCA)	3
Antimony oxide	10～20
Filler(calcium carbonate)	30～50
TiO_2	10
Kicker(ZnO)	0.5～1
Stabilizer	3
Diluent	as required

Floor Covering(foamed layer)	
EL-103	70～80 phr
Blend resin(HB-65)	20～30
DINP	40～60
2nd plasticizer(TXIB)	5～10
Stabilizer	1～2
Blowing agent(ADCA)	2～3
Filler(calcium carbonate)	10～30
TiO_2	3～6
Kicker(ZnO)	1
Diluent	as required

Hanwha Solutions