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Hanwha Solutions

PVC Paste Resin (Homopolymer) KL-31

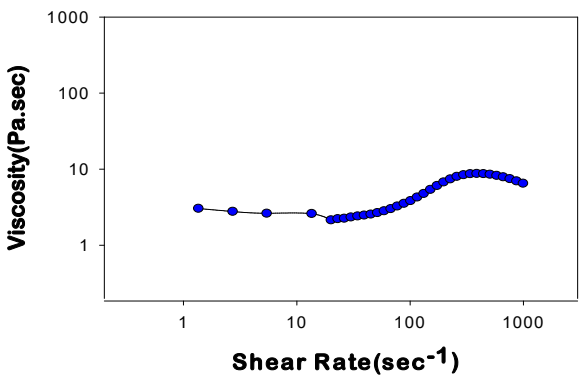
General properties

KL-31 is a low molecular weight micro-suspension type PVC homopolymer.
It produces plastisol exgibiting low viscosity at low shear rate and slight dilatancy 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 thermal/light stability with a wide range of stabilizers especially liquid Ba/Zn or Tin type
- ▶ good foaming properties with a wide range of stabilizers especially liquid K/Zn type
- ▶ low viscosity and 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	-	1000±50	JIS K 6720-2
K-value	-	66	DIN 53726
Apparent density	g/cc	0.33±0.05	ASTM D 1895
Volatile content	%	Max. 0.30	ASTM D 3030
Particle size	%	100	100 mesh pass
BF viscosity(20rpm)	Pa.s	4	ASTM D 1824
Viscosity at 500 sec^{-1}	Pa.s	10	

BF viscosity test conditions:
PVC 100
DINP 60 phr
1 hours aged at 25 °C

Hanwha Solutions

The information given herein and other otherwise supplied to users is based on our general experience and where applicable, on the results of tests on samples of typical manufacture. However, because of the many factors which are outside knowledge and control, which can effect the use of these products, users must rely on their own judgment and we cannot accept liability for any injury, loss or damage resulting from reliance upon such information.

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Applications

Kl-31 produces plastisols which are ideal for the manufacture of foamed wall coverings and foamed floorings by spread coating.

Kl-31 plastisols are also ideal for the spread coating of chemically blown foams with a fine cell structure produced at low-medium oven temperatures.

Kl-31 can be applied by direct or transfer spread coating process, including drum gelling process.

The main applications are

- ▶ low medium plasticizer content chemically blown foam coating for wall coverings and cushioned floorings 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.
- ▶ chemically foamed wall coverings produced by rotary screen coating process especially in blends with a pseudoplastic flow polymer such as EM3090.

Guide formulations

Wall Covering	
KL-31	100 phr
DOP	65
Plasticizer for flame retardant (Chlorinated paraffine, TCP)	as required
Blowing Agent(ADCA)	3
Antimony oxide	10~20
Filler(Calcium Carbonate)	30~40
TiO_2	10
Kicker(ZnO)	1~2
Stabilizer	3
Diluent	as required

Floor Covering (Foamed Layer)	
KL-31	70~80 phr
Blend Resin	30~20
DOP	3
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

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