

General properties

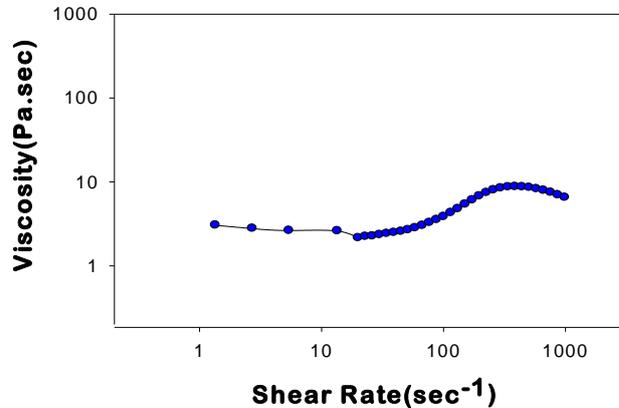
KL-31 is a low molecular weight micro-suspension type PVC homopolymer.

It produces plastisol exhibiting 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

<i>Property</i>	<i>Unit</i>	<i>Typical Value</i>	<i>Test Method</i>
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
Viscosity at 500 sec ⁻¹	Pa.s	10	1824

BF viscosity test conditions:

PVC 100

DINP 60 phr

1 hours aged at 25 °C

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