

INDOFIL K-120 PB

Processing Aid for Opaque PVC Products

1 INTRODUCTION

INDOFIL K-120 PB is a highly dispersible, fine powder that dramatically improves the processing of rigid and plasticized polyvinyl chloride (PVC). PVC containing INDOFIL K-120 PB processing aid, fuses rapidly, flows smoothly, has excellent hot strength and is readily formed. Additionally the excellent dispersibility of INDOFIL K-120 PB Processing aid eliminates the gels & fish eyes that mar the surface of PVC products.

It is Recommended to use only for opaque PVC products such as pipes & fittings, PVC profiles etc.

Benefits

The benefits provided to PVC by INDOFIL K-120PB Processing Aid can be summarised as follows :

- Decreased fusion time
- Highly homogenous melt.
- Lower Cost
- Opaque applications
- Smooth processing.
- Reduced plateout even with higher filter level
- Increased output rates.

2. PHYSICAL CHARACTERISTICS

TYPICAL PHYSICAL PROPERTIES (These do not constitute specifications)

Appearance	White, fine free-flowing powder with uniform particle size
Bulk Density, g/cc	0.40 to 0.44
Specific Gravity, @ 25 °C	1.16
Molecular Weight	Low to Medium
Volatiles (%)	Max 0.5
Sieve Test Retention time	
60 mesh	Max 2
100 mesh	Max 5
200 mesh	Max 40
Clarity in 10% toluene solution	Hazy
10% Toluene Solution	
Viscosity (cps)	100 - 800

3 PERFORMANCE CHARACTERISTICS

3.1 Processing & Rheological Properties :

The Performance Characteristics of INDOFIL K-120 PB is determined on Haake Rheocord 90 for different grades of PVC resin. Table A Shows rheological properties which are graphically represented by Graph A.

Table A

A. PVC-K-67 - Temp. 180°C, RPM-60, Weight 60 gms.

Formulation	Parts
PVC (K-67)	100.00
Octyl tin stabilizer	2.25
Glycerol monostearate	0.70
OP Wax	0.30
Processing Aid	0 to 2 phR

Properties	Control (Without Processing Aid)	INDOFIL K-120 PB 2 phR
Fusion time (secs.)	115.00	56.00
Fusion Temp. (°C)	169.00	157.00
Gelation time (Min)	5.50	3.50
Gelation Temp. (°C)	187.00	182.00
Equilibrium torque (NM)	20.60	20.40
Thermal Stability (Min)	16.25	15.75

GRAPH : A

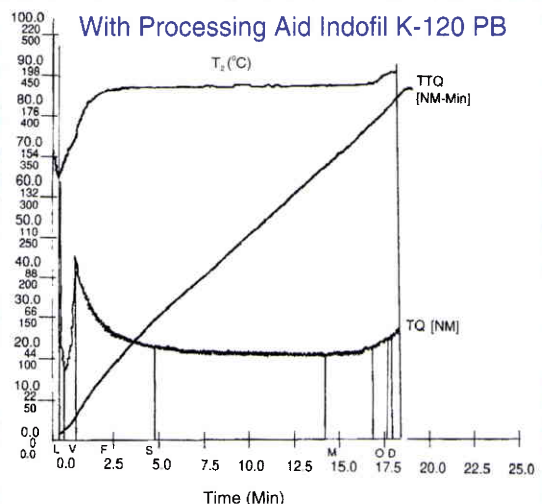
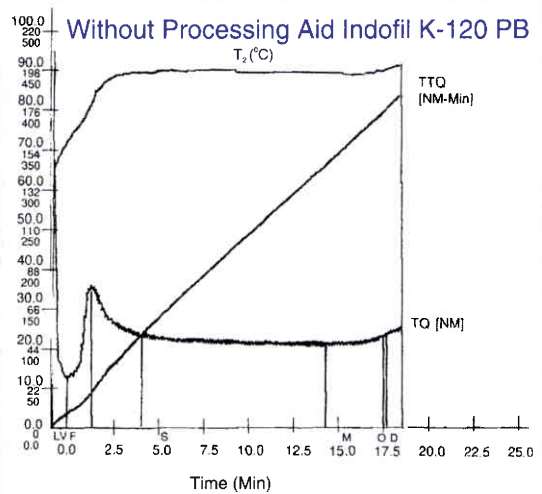


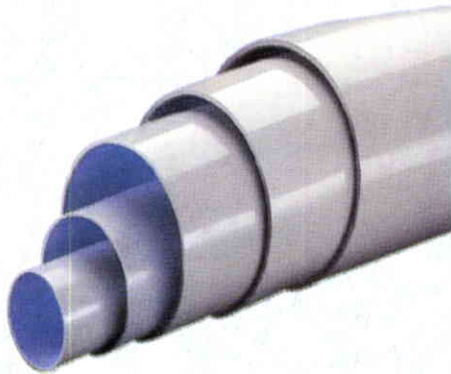
Table B Shows rheological properties using K-57 PVC resin which are represented by Graph B

Table B

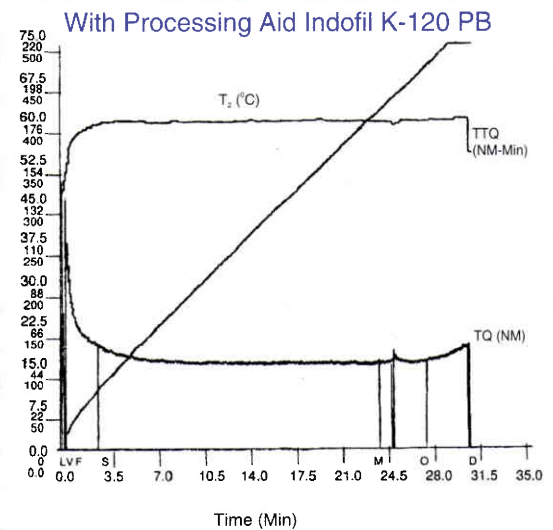
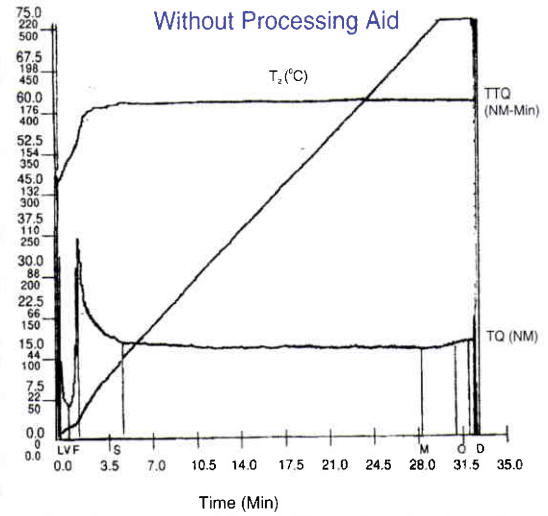
PVC-K-57 - Temp. 180°C, RPM-60, weight 60 gms.

Formulation	Parts
PVC (K-57)	100.00
Octyl tin stabilizer	2.25
Glycerol monostearate	0.70
OP Wax	0.30
Processing Aid	0 to 2 phR

Properties	Control (Without Processing Aid)	INDOFIL K-120 PB
		2 phR
Fusion time (secs.)	23.00	12.00
Fusion Temp. (OC)	158.00	154.00
Gelation time (Min)	4.00	2.75
Gelation Temp. (OC)	191.00	189.00
Equilibrium torque (NM)	10.50	10.60
Thermal Stability (Min)	15.00	14.50



GRAPH : B



4 APPLICATIONS

INDOFIL K-120PB processing Aid can be used for a wide range of PVC products including :

- Injection moulded parts
- Pipes & conduits
- Extruded profiles

INDOFIL K-120ND & INDOFIL K-120PB can be used interchangeably. However, INDOFIL K-120ND is preferred when higher melt strength and outstanding weatherable resistance are required. Indofil K-120PB is preferred when fast gelation with higher filler loading and low cost are of prime importance. Indofil K-120PB makes even higher molecular weight PVC (higher K value) easily processable.

Recommended Dosage 1 to 3 PHR

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