



® VINNOLIT PVC

FOR PASTE PROCESSING

REFERENCE GUIDE

Westlake
Vinnolit



PASTE PVC FOR FLOORING

FLOORING - TOP COAT GRADES

Grade	Rheology	Properties
P 70 / P 80	Newtonian	Glossy
E 70 TT	Newtonian	Silkmatt
E 80 TT	Newtonian	Silkmatt
MP 8058	Newtonian	Matt

Typical formulation top coat	
Paste PVC	100 - x phr
Blending resin (Vinnolit EXT)	x phr
Plasticizer	35 - 45 phr
Stabilizer	2 - 3 phr
Viscosity reducer	2 - 6 phr

BENEFITS

- ☑ Good mechanical properties (abrasion, tear strength)
- ☑ Low water uptake
- ☑ Good resistance against stain
- ☑ Suitable for contact gelation
- ☑ High transparency
- ☑ Good initial colour, low yellowness
- ☑ Good colour stability
- ☑ Matt surface finish if desired

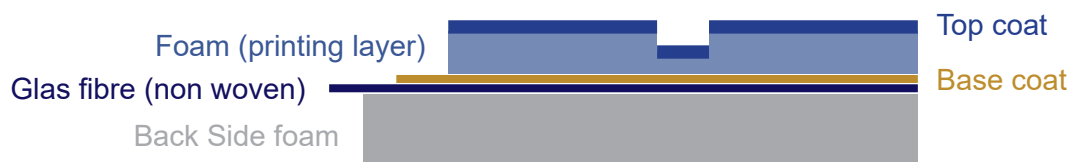
FLOORING - GRADES FOR BACK SIDE- / PRINT-FOAM

Grade	Rheology
E 68 SA	Newtonian
M 68 FW	Newtonian
E 68 CF	Newtonian

BENEFITS

- ☑ Fast / uniform foaming
- ☑ No overblowing / overfoaming, broad processing range
- ☑ Finest foam structure, smooth surface
- ☑ Good printability (e.g. with inhibition inks)
- ☑ Good compatibility with inhibitor
- ☑ Suitable for contact gelation

Typical formulation foam layer	
Paste PVC	100 - x phr
Blending resin (Vinnolit EXT)	x phr
Plasticizer	60 - 70 phr
Filler	80 - 120 phr
Blowing aid	1 - 3 phr
Kicker	0,5 - 1,5 phr





FLOORING - BASE COAT

Grade	Rheology
P 4472	Newtonian
MP 7151	Newtonian
EP 6953	Newtonian

BENEFITS

- ☑ Very low viscosities
- ☑ Suitable for contact gelation
- ☑ Very high filler tolerance

Typical formulation base coat	
Paste PVC	100 - x phr
Blending resin (Vinnolit EXT)	x phr
Plasticizer	60 - 70 phr
Filler	100 - 180 phr
Stabilizer	0,5 phr
Dispersion aid	0 - 3 phr





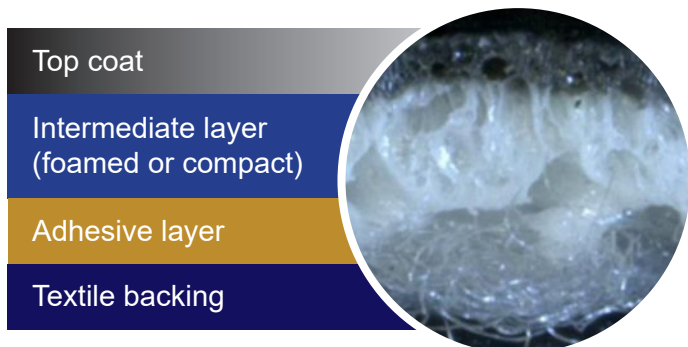
PASTE PVC FOR CAR INTERIOR

HIGH PERFORMANCE GRADES FOR CAR INTERIOR

Grade	Properties
E 75 SK / E 75 HV	Low fogging and high thermomechanical foam stability (e.g. for modern deep drawing and vacuum forming)
E 74 CC	Lowest fogging / emission (foamed and compact films)
P 80 / P 70 PS	Glossy, mechanical stable, highest thermostability (for top coats)

Adhesive Layer	
PVC (e.g. E 74 CC)	100 phr
Plasticizer (e.g. DIDP)	50 - 70 phr
Stabilizer (Special low emission type)	2 phr
Filler	10 phr

„SANDWICH“-STRUCTURE



Foam Layer	
PVC (e.g. Vinnolit E 75 SK, E 75 HV or E 74 CC)	100 phr
Plasticizer (e.g. DIDP)	65 - 70 phr
Stabilizer (Special low emission type)	2 - 3 phr
Foaming agent	1 - 4 phr
Kicker	1 phr
Pigments	~ 1 phr



Topcoat	
PVC I (e.g. Vinnolit E 74 CC, E 75 SK)	40 - 100 phr
PVC II (e.g. Vinnolit P 80, P 70 PS)	0 - 60 phr
Plasticizer (e.g. DIDP)	50 - 70 phr
Stabilizer (Special low emission type)	2 - 4 phr
Pigments / Additives	~ 1 phr

	Fogging Finished product < 1 mg	VDA 277 Finished product < 15 ppm	VDA 278 Finished product VOC < 250 ppm Fog < 700 ppm
E 75 SK	< 0,4 mg	2 - 5 ppm	VOC 41 ppm Fog 31 ppm
E 74 CC	< 0,1 mg	1 - 3 ppm	VOC 42 ppm Fog 12 ppm
E 75 HV	< 0,4 mg	1 - 4 ppm	VOC 37 ppm Fog 29 ppm
P 70 PS	2 - 4 mg	5 - 8 ppm	VOC 103 ppm Fog 316 ppm
P 80	3 - 4 mg	5 - 8 ppm	VOC 131 ppm Fog 408 ppm

BENEFITS

- ✓ Adjustable viscosities for different processing technologies
- ✓ Low water uptake
- ✓ Excellent foaming characteristics: high thermal stability and very good mechanical properties of foams
- ✓ Good deaeration properties of the plastisol
- ✓ Good filler tolerance
- ✓ Wide processing range
- ✓ Good mechanical or chemical embossing
- ✓ Designed for deep drawing processes
- ✓ Excellent emission properties



PASTE PVC

FOR WALL COVERING

GRADES FOR SCREEN PRINTING

Grade	Properties
E 67 ST	Homogenous, fine foam structure, high whiteness
E 69 ST	Ultrafine PVC particles, high whiteness

GRADES FOR HOT EMBOSSEMENT

Grade	Properties
E 68 CT	Highest whiteness, very low viscosity
E 68 SA	High whiteness, low viscosity (only knife coating)

GRADES FOR COMPACT WALLPAPER

Grade	Properties
P 4472	Low viscosity, high gloss
MP 7151	Very low viscosity, long storage stability



Topcoat	
PVC (Single grade or blend)	100 phr
Plasticizer (DINP, DOTP, DINCH)	65 phr
Filler (Calciumcarbonate, Dolomite)	30 phr
Foaming agent (ADC, OBSH, etc.)	3 phr
Kicker (K/Zn)	2 phr
Titanium dioxide	5 phr
Viscosity modifier	as required
Pigments	as required
Dispersing Agents	as required

BENEFITS

- ✓ High whiteness
- ✓ Low viscosity level
- ✓ High quality constancy
- ✓ Good foaming properties
- ✓ Very fine grades for screen printing
- ✓ High filler tolerance
- ✓ Suitable for hot embossment



PASTE PVC

FOR UNDERBODY COATING

HOMOPOLYMERIC PASTE PVC

Grade	Properties
E 70 CQ	Base PVC, rheology adjustment, good mechanical properties
E 75 HV	

COPOLYMERIC PASTE PVC

Grade	Properties
PA 5470/5	Faster gelation, low bake, high flex, adhesion adjustment
E 70 SC	

HOMOPOLYMERIC EXTENDER

Grade	Properties
C 65 V	Rheology adjustment, plasticizer reduction, blending resin
EXT	

COPOLYMERIC EXTENDER RESIN

Grade	Properties
C 12/62 V	Very Fast gelation, low bake, high flex, rheology adjustment, good storage and potlife stability
SA 1062/7	

Typical UBC formulation	
Homopolymeric Paste	70 phr
Copolymeric Extender	30 phr
Plasticizer (DINP)	132 phr
White spirit	7 phr
Precipitated chalk	54 phr
Natural chalk	50 phr
CaO	7 phr
HDK/Silicia	2 phr
ZnO	2 phr
Adhesion promoter	4 phr

Ratio of Copolymer / Homopolymer

is determined by baking temperature and speed, desired mechanical properties and rheology requirements.

Rule of thumb:

PVC : Plasticizer : Filler ~ 1 : 1 : 1

Example 1:

44 phr [Vinnolit E 70 CQ](#) (Homo-Paste)
56 phr [Vinnolit C 12/62 V](#) (Copo-Extender)

Example 2:

77 phr [Vinnolit E 70 CQ](#) (Homo-Paste)
23 phr [Vinnolit E 70 SC](#) (Copo-Extender)

BENEFITS OF COPOLYMERIC GRADES

- ✓ Fast gelation
- ✓ Low baking temperatures
- ✓ Good mechanical properties

BENEFITS OF HOMOPOLYMERIC PASTE PRODUCTS

- ✓ Base rheology: highly pseudoplastic (yield point / Bingham viscosity)
- ✓ Very good storage stability
- ✓ Good paste deaeration
- ✓ High mechanical resistance
- ✓ Good adhesion to cataphoretic lacquers



PASTE PVC

FOR TEXTILE COATING

Westlake Vinnolit offers a broad range of paste grades for different layers.

TEXTILE COATING - HIGH PERFORMANCE GRADES

Grade	Rheology	Properties
P 70 / P 80	Newtonian	Highest weatherability and thermostability, lowest water uptake, very good pot life
P 70 HT / P 70 PS	Pseudoplastic	
E 70 TT	Newtonian	Good allround grade
MP 7151	Newtonian	Good adhesion to textile fabrics, low viscosity

TEXTILE COATING - BLENDING RESINS

Grade	Properties
EXT, C 65 V	Used to reduce flow anomalies, smoothing of rheology, matt finish if required
E 70 CQ, E 75 HV	As blend for viscosity adjustment



Typical formulation for textile coating

PVC (Mainly blends of different grades e.g. emulsion grade + blending resin or blend of microsuspension/emulsion grades e.g. Vinnolit P 70 / P 70 HT blended with E 70 TT, C 66 W, EXT Typical blending ration 70 : 30)	100 phr
Plasticizer (Mainly DINP, or blends with phosphates, adipates and/or polymeric systems)	50 - 68 phr
Thermostabilizer (mainly Ba/Zn and Costabilizer)	2 -3 phr (each)
Filler(s)	up to 25 phr
Fungicide/bactericide	0 - 3 phr
Flame retardant (when necessary)	up to 20 phr
Pigments	up to 15 phr
Viscosity modifier	as required
Bonding agents (for base coats)	up to 7 phr

BENEFITS

- ☑ Excellent low water uptake
- ☑ Good initial color and color hold
- ☑ Excellent thermal, UV- and weathering stability
- ☑ Very good compatibility with bonding agents
- ☑ Good deaeration properties
- ☑ Good welding properties
- ☑ Strong adhesion to textile substrates
- ☑ Easy to print / clean surfaces



APPLICATION CENTER AND TECHNICAL SERVICE

Westlake Vinnolit offers comprehensive support for customers.

LAB AND PILOT PLANT RESOURCES

- ✓ Laboratories and Pilot Plant (Application Center)
- ✓ Pilot Paste coating line for artificial leather, textile coating, wall covering, flooring...
- ✓ Pilot Extrusion lines for profiles, pipes, hoses, films & sheets, gaskets...
- ✓ Pilot Calender: rigid and flexible film
- ✓ Paste laboratory (paste and powder rheology, gelation, microscopy, film-, foam properties)
- ✓ Thermoplastic laboratory (melt rheology, thermo- and mechanical tests...)
- ✓ Physical and chemical analysis of PVC resins, formulations and end articles (colour, abrasion, resistance, weathering, HKV, DMTA, IR, Wickbold, Tensile-tester, Abrasion, GC...)

TECHNICAL SERVICE

- ✓ Customer advice from our experts
- ✓ Developing ideas for new / improved products
- ✓ Monitoring technical / formulation trends
- ✓ Developing formulations for customers needs
- ✓ Assessing new additives
- ✓ Developing new analytical methods



Contact us!

We are happy to assist you.

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YOUR CHOICE!

All our PVC grades are also available as
GreenVin®, GreenVin® bio-attributed
and GreenVin® circular-attributed!

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