

# Solutions for plastic coatings

## Primers

- ESACOTE® PUDs and acrylic emulsions provide good adhesion, also with UV inks.
- ESACOTE® cationic and non ionic PUDs help widen choices of additives to be used in the formulation of special coatings without incurring in-compatibility issues.
- ESACOTE® PUDs improve Al and AlOx adhesion on plastic films for a better barrier effect against oxygen and water vapour.
- ESACOTE® PUDs withstand harsh sterilization conditions.

## Heat sealability

- ESACOTE® acrylic emulsions with initial sealing temperature from 90 up to 130°C

## Matt/Soft touch

- ESACOTE® PUDs inherently matt with a variety of haptic effects from silky to rubbery
- DECOSPHAERA®/SPHEROMERS® PU and AC beads to enhance burnishing, scratch resistance and special texturized effect.
- Bio-based ESACOTE® (glossy and inherently matt) and DECOSPHAERA® bio grades available.

## OPV/Protective coating

- ESACOTE® PUDs and radiation curable PUDs to meet the most demanding specifications in terms of scratch and chemical resistance.
- DECOSPHAERA®/SPHEROMERS® PU and AC transparent beads to improve anti-burnishing effect and help control coefficient of friction.
- DECOSPHAERA®/SPHEROMERS® PU and AC beads for deep matt effect (< 2 gloss units) and haptic control.
- ADIWAX wax emulsion for anti blocking and scratch resistance.
- SPHEROMERS® acrylic based beads with monomodal particle size distribution, excellent for enhancing scratch and burnishing resistance in natural look and low gloss top coats

## Release/Transfer coating

- ESACOTE® PUDs and acrylic-urethane dispersion as release coating for labels' liners and adhesive tapes.
- ESACOTE® PUDs and acrylic-urethane hybrid dispersion as transfer coating for hot or cold stamping process; optimal overprintability.
- ESACOTE® acrylic emulsions as primers for UV curable glues in cold stamping.

## Water based resins for plastic information & typical value chart

### Products families and main features

		Main application			Chemical properties					Film properties		
		Transfer	Primers	Opv Top coat	Chemical nature	Solvent (%)	Solvent type	Dry content (%)	pH	MFFT (°C)	König (K) Persoz (P) hardness (sec)	Elongation at break (%)
<b>Water based acrylic emulsions</b>												
AC100	FCMD - Holo/sealable		x	x	AC	0	Solvent free	20	10.0-11.0	30	40 (K)	NA
AC110	FCMD - Hydroxyl functional		x	x	AC	0	Solvent free	40	7.0-8.0	60	95 (K)	NA
AC190	FCMD - Heatsealable			x	AC	0	Solvent free	45	7.0-8.0	46	25 (K)/55 (P)	260
AC200	FCMD - Self crosslinking		x	x	AC	0	Solvent free	40	8.0-10.0	12	38 (K)	300
<b>Water based urethane acrylic dispersions</b>												
PU 148	Glossy/hard and versatile	x			PE	4.5	DPGDME	35	7.0-9.0	<0	93(K)/180(P)	≈230
PU 13	FCMD - Transfer coating	x			PE	<1	Acetone	35	8.0-10.0	0	65(K)/139(P)	≈280
UA 7023	Self crosslinking / chemical resistance			x	PC	0	Solvent free	35	7.0-9.0	60	140 (K)	NA
D8	FCMD - Good adhesion on BOPET		x		PES	<1	Acetone	35	7.0-9.0	≈0	22(K)/44(P)	≈450
<b>Water based BIOBASED polyurethane dispersions</b>												
BiO 4900	FCMD - 62% Bio based carbon	x		x	PES	<1	MEK	35	7.0-9.0	15	88 (K)	≈270
BiO 118	33% Bio based carbon content			x	PES	8	DPGDME	32	7.5-8.5	43	150(K)	NA
<b>Water based INHERENTLY MATT polyurethane dispersions</b>												
PU 940	UV resistant			x	PC	2	DMM	28	7.0-9.0	0	NA	NA
PU 900	Antifinger print			x	PE	0	Solvent free	32	7.0-9.0	0	NA	NA
PU 960	Ultra soft			x	PE	0	Solvent free	39	7.0-9.0	0	NA	NA
PU 980	Silky touch			x	PE	0	Solvent free	32	8.0-9.0	0	NA	NA
PU 980 FC	FCMD - Silky touch			x	PE	0	Solvent free	32	8.0-9.0	0	NA	NA
BIO 9001	66 % Bio based carbon content			x	PE	0	Solvent free	32	8.0-9.0	0	NA	NA
PU 9561	Rubbery touch, scratch resistance			x	PE	0	Solvent free	34	7.0-9.0	≈0	NA	NA
PU 9510	Soft touch, scratch resistance			x	PE	0	Solvent free	34	7.0-9.0	≈0	NA	NA
PU 9539	Silky touch, scratch resistance			x	PE	0	Solvent free	34	8.5-9.5	≈0	NA	NA
<b>WaterBased UV/EB curable polyurethane dispersions</b>												
LX 7050	High hardness high chemical resistance		x	x	PC	0	Solvent free	38	7.0-9.0	≈0	140(K)	NA
LX 5010	High hardness and abrasion resistance		x	x	PE	0	Solvent free	40	7.0-9.0	≈0	170(K)	NA
<b>Water based polyurethane dispersions</b>												
PU C1	CATIONIC - High water resistance		x		PC	<1	MEK	30	4.0-6.0	0	14(K)/42(P)	≈320
PU 5044	Alkali resistant	x		x	PE	15	NEP	31	7.0-9.0	<0	150(K)	NA
PU 61	Antiscratch	x		x	PC	8	DPGDME	35	7.0-9.0	25	127(K)	≈200
PU 62	Improved adhesion on plastic		x	x	PES	5	DPGDME	35	7.0-9.0	0	38(K)/57(P)	≈420
PU 7020	Flexibility / chemical resistance		x	x	PC	4	DPGDME	35	7.0-9.0	<0	33(K)/56(P)	≈320
SW3	Modified siloxane			x	SIL	<1	Acetone	35	8.0-10.0	0	15(K)/37(P)	≈1000
PU 40	Excellent overall compatibility	x	x	x	PES	<1	MEK	35	7.5-9.5	-0	50(K)/75(P)	≈400
PU 4045	FCMD - Good overcoatability		x	x	PES	<0,5	MEK	35	7.5-9.5	-0	NA	≈850
PU 77	Improved mech. / chemical resistance			x	PC	<0,5	MEK	35	7.0-9.0	35	105(K)	≈250
PU 5310	Tie-layer for lamination		x		PE	3	DPGDME	30	7.0-9.0	≈0	45(K)	≈600
PU 5034	FCMD - Transfer coating	x			PE	0	Solvent free	35	7.0-9.1	≈20	147(K)	≈250
<b>Crosslinkers</b>					<b>Chemico-physical properties</b>							
CATALYST AT5/N	Extended pot life	Polyaziridine			35	DPGME	65	-	-	Water Soluble		
CROSSLINKER 08 LM	NCO Content: 11% as supplied	Polyisocyanate			30	Propylene carbonate	70	-	-	Easily dispersible		
<b>Rheological modifiers</b>					<b>Chemico-physical properties</b>							
VISCOLAM® PS 166	Low/Medium Shear HEUR				24	2 Butoxyethanol	40	5.0-7.0	-	KU builder		
VISCOLAM® PS 167	Low/Medium Shear HEUR				24	Butyldiglycol	40	5.0-7.0	-	KU builder		
VISCOLAM® PS 170 AIR*	Low Shear HEUR				0	Solvent free	50	4.0-10.0	-	KU builder		
VISCOLAM® PS 202	High Shear HEUR				0	Solvent free	20	4.0-7.0	-	ICI builder		

\* development product

Above data cannot be considered as supply specification.

AC acrylic  
 PC polycarbonate  
 PE polyether  
 PES polyester  
 NA not applicable  
 FCMD food contact material declaration available  
 DPGME dipropylene glycol methyl ether  
 DPGDME dipropylene glycol dimethyl ether

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