



Luxury packaging

Low gloss & haptic solutions



Sensorial experience for luxury packaging

- ✓ Haptic experiences are gamechangers in the luxury packaging industry and fundamental for brand recognition
- ✓ Packaging is basic for creating a first brand impression and it plays a crucial role in customer's brand expectations
- ✓ «*Look & feel*» is the dominant trend in luxury packaging for designing and reinforcing brand images
- ✓ **We can provide a complete boxset of tools for developing water based matt and soft touch coating for the packaging industry**



Tailor made solutions for the right soft feel experience

- ✓ Sight and touch are the most important human sensory systems
- ✓ Luxury packagings are easy to be recognized by looking and touching surfaces
- ✓ The fingertips reactions while touching a surface generate the FEELING
- ✓ Different haptic effects lead to different feelings and reinforce brand reactions from Customers
- ✓ Uncoated board, plastics or aluminium cannot fulfill Customers expectation when it comes to luxury brands

We can offer a complete toolbox for luxury packaging

- ✓ **ESACOTE® PU 900 series:** waterborne inherently matt polyurethanes
- ✓ **DECOSPHAERA®:** polyurethane beads for deep matt and texturizing effect
- ✓ **SPHEROMERS®:** monomodal acrylic beads for deep matt and texturizing effect
- ✓ **ADIWAX:** wax dispersions for enhancing scratch resistance and slippery effect
- ✓ **CROSSLINKERS:** free & blocked isocyanate crosslinkers

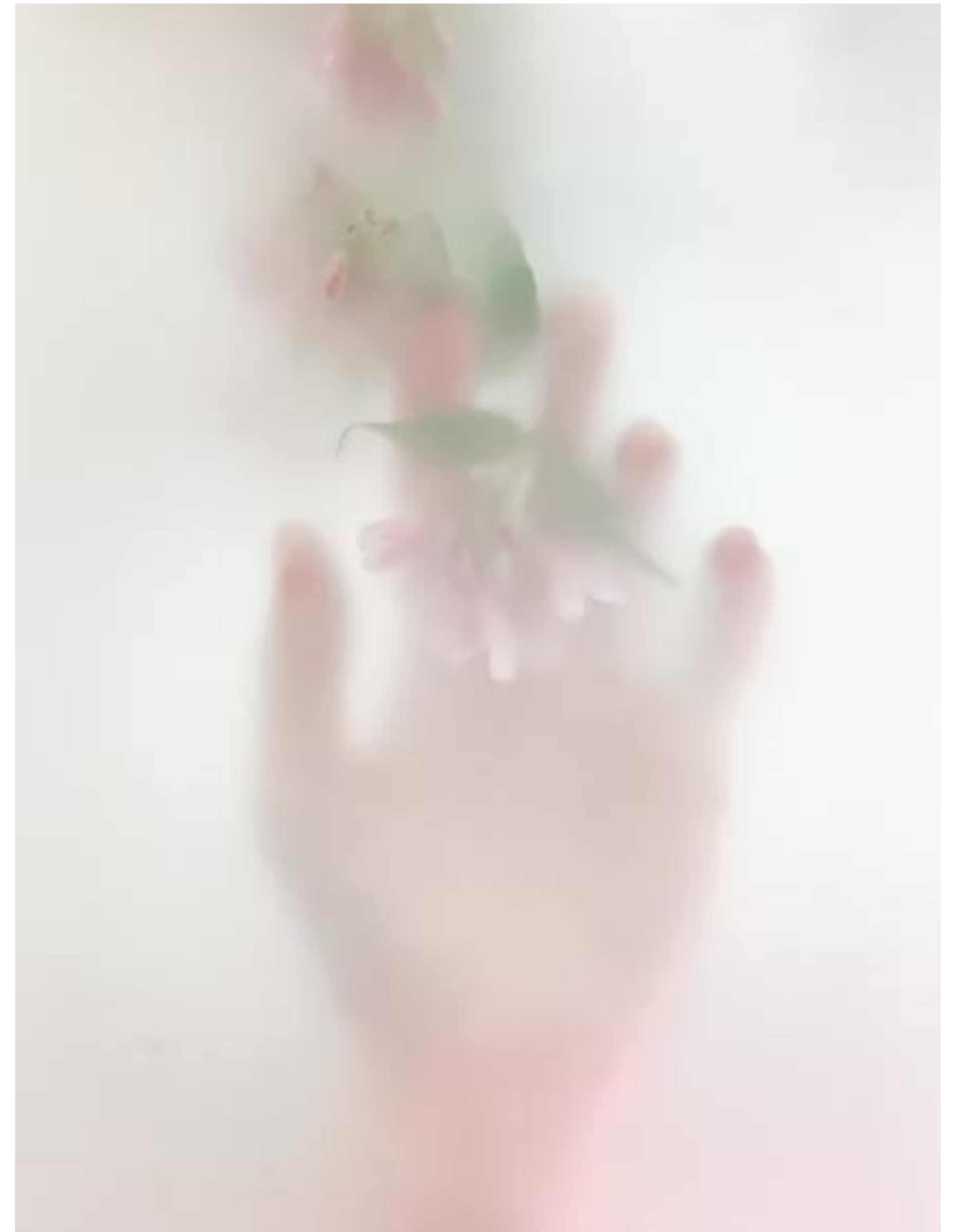
ESACOTE[®] PU 900 series

Waterborne inherently matt PUD

ESACOTE®

PU 900 series

- ✓ Inherently matt waterborne polyurethane
- ✓ Cosolvent free
- ✓ No filler inside
- ✓ Different haptic profiles
- ✓ Suitable for gravure, flexo, and roller applications
- ✓ Suitable for spray application and air knife applications





ESACOTE[®] PU 900 series

Product	Description	Solids	Gloss 60°	Features
PU 900	Very soft & elastic	~32%	0.6 – 1.0	Low gloss @ high angles Antifingerprint effect
PU 940	UV resistant soft & slippery	~32%	0.6 – 1.0	Matt stability when heated or exposed to sunlight
PU 960	Soft & velvety	~40%	< 2.0	Enhance velvet touch sensation
PU 980	Silky smooth	~32%	< 0.9	High transparency on dark substrates
PU 9539	Silky smooth	~36%	< 1.0	Excellent rotogravure printability IPA compatible
BIO 9001	Soft & elastic	~32%	< 0.9	Biobased content of ~66%

ESACOTE® PU 900

Enhanced antifingerprint effect and excellent matt efficiency even at high viewing angles

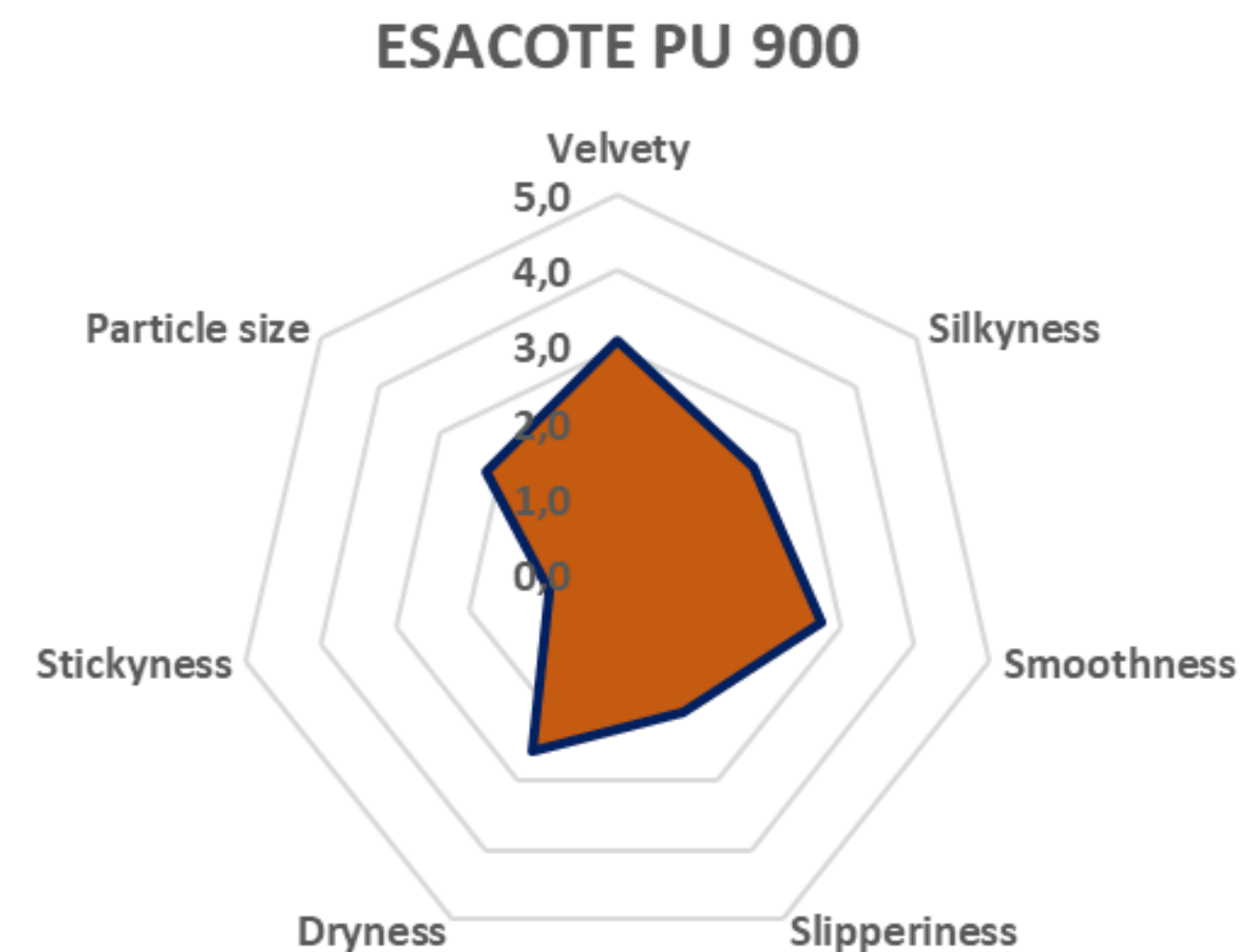
Typical values

Appearance at 25 °C:	milky liquid
pH: (at 25°C on supplied product, ASTM E 70):	7.00-9.00
Viscosity (cPs) (Brookfield RVT @ 25 °C, 50 rpm spindle 3)	500-900
Solid content, %:	31-33
Gloss unit, 60°:	<1.5

Product properties

Solvent content, % :	0
Density, @ 25°C g/ml:	1.03 - 1.05
Minimal film forming temperature, °C:	~0
Film aspect:	matt, soft touch, tack free

Please contact our sales representatives for test methods details.



Main applications:

Electronic packaging
Spirits
Book covers
Stationery
Labels

Best substrates:

Paper
Cardboard

Suitable substrates:

BOPP
BOPET

Best printing techniques:

Flexo
Rotogravure
Spray

ESACOTE® PU 940

Excellent resistances to chemicals, heat and UV radiation exposure for long lasting packaging solutions

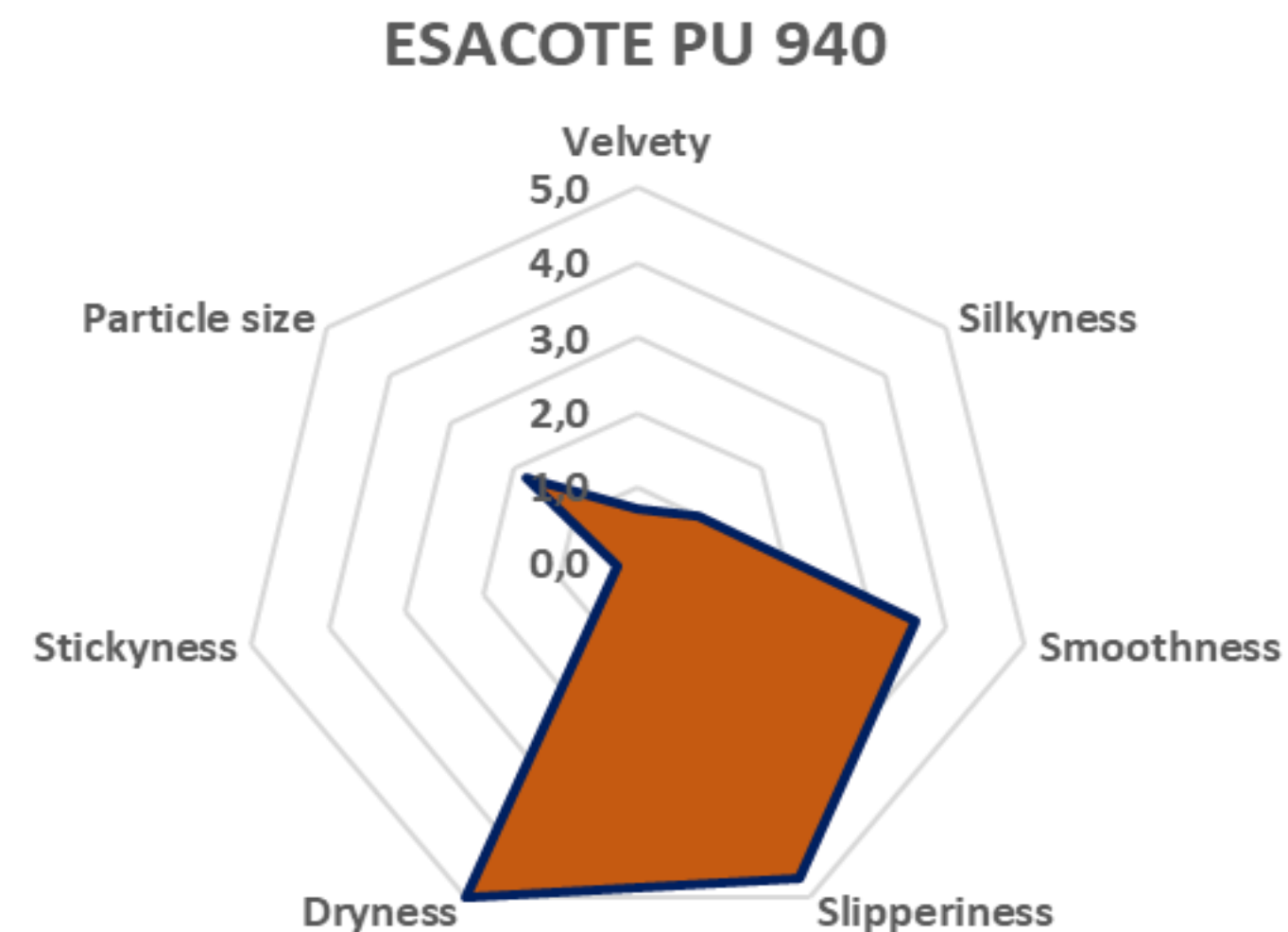
Typical values

Appearance at 25 °C:	milky liquid
pH: (at 25°C on supplied product, ASTM E 70):	7.0-9.0
Viscosity (cPs) (Brookfield RVT @ 25 °C, 50 rpm spindle 3)	800-1200
Solid content, %:	27.0-29.0
Gloss unit, 60°:	<1.0

Product properties

Solvent content, % :	2% (DPGDME)
Density, @ 25°C g/ml:	1.03 - 1.05
Minimal film forming temperature, °C:	~0
Film aspect:	matt, tack free

Please contact our sales representatives for test methods details.



Main applications:

Electronic packaging
Spirits

Best substrates:

Paper
Cardboard

Suitable substrates:

BOPP
BOPET

Best printing techniques:

Flexo
Rotogravure
Spray



ESACOTE® PU 960

Enhanced velvet touch and rubbery feeling for premium quality solutions

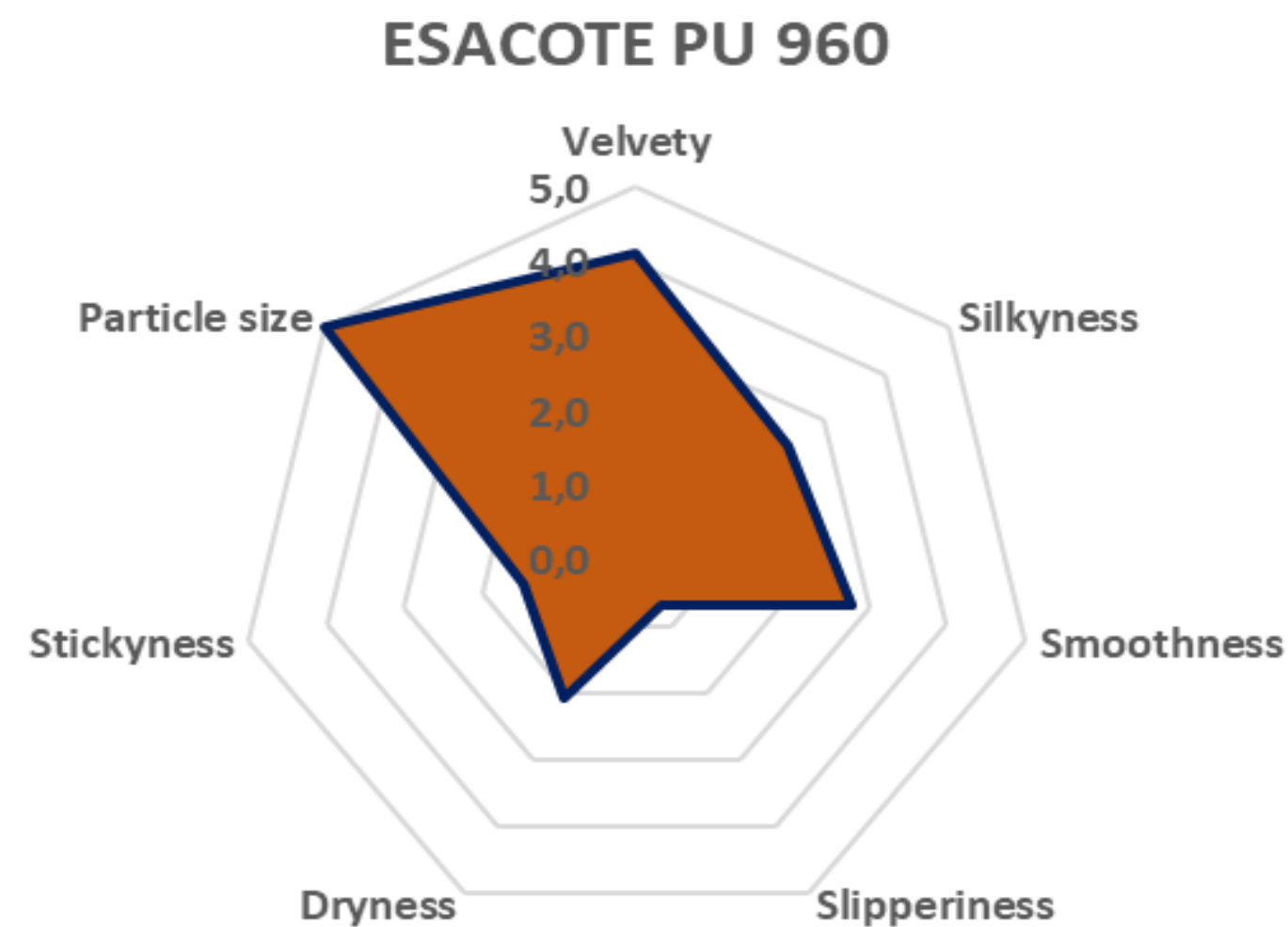
Typical values

Appearance at 25 °C:	milky liquid
pH: (at 25°C on supplied product, ASTM E 70):	7.00-9.00
Viscosity (cPs) (Brookfield RVT @ 25 °C, 50 rpm spindle 3)	<1500
Solid content, %:	38-40
Gloss unit, 60°:	<2

Product properties

Solvent content, % :	0
Density, @ 25°C g/ml:	1.03 - 1.05
Minimal film forming temperature, °C:	~0
Film aspect:	matt, ultra soft touch, tack free

Please contact our sales representatives for test methods details.



Main applications:

Labels
Book covers

Best substrates:

Paper
Cardboard

Suitable substrates:

BOPP
BOPET

Best printing techniques:

Flexo
Rotogravure
Spray

ESACOTE® PU 980

Low gloss, high transparency and soft touch feeling all together in one single product

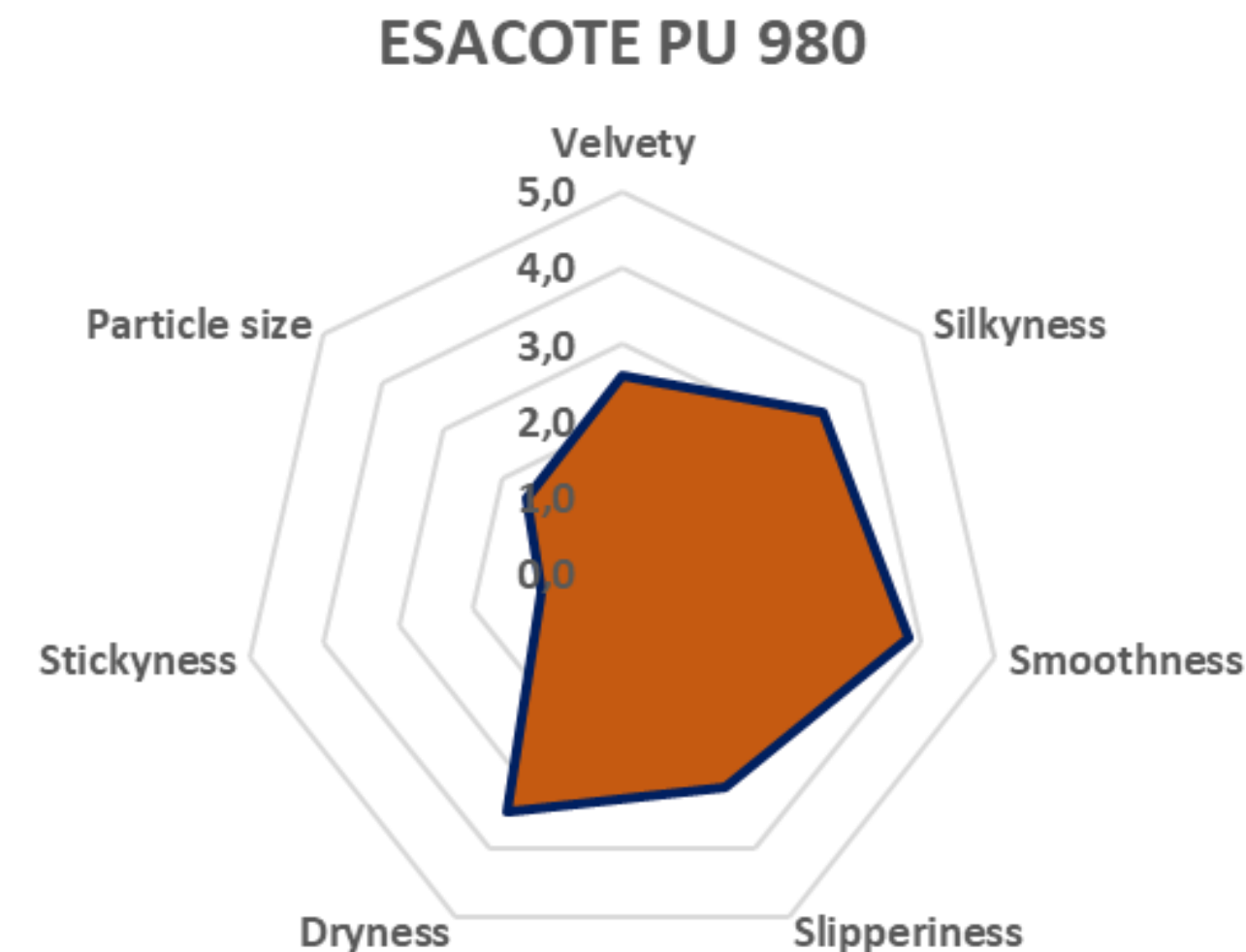
Typical values

Appearance at 25 °C:	milky liquid
pH: (at 25°C on supplied product, ASTM E 70):	7.5-9.5
Viscosity (cPs) (Brookfield RVT @ 25 °C, 50 rpm spindle 3)	600- 1100
Solid content, %:	31-33
Gloss unit, 60°:	<1

Product properties

Solvent content, % :	0
Density, @ 25°C g/ml:	1.01 - 1.05
Minimal film forming temperature, °C:	~0
Film aspect:	matt, silky touch, tack free

Please contact our sales representatives for test methods details.



Main applications:

Electronic packaging
Cigarette packaging
Spirits

Best substrates:

Paper
Cardboard

Suitable substrates:

BOPP
BOPET

Best printing techniques:

Air knife
Flexo
Rotogravure
Spray

Line speed:

70 - 100 m/min

Dry conditions:

100 - 120 °C 10 sec

Suggested thickness:

3.0 - 10.0 dry micron (Paper)
1.0 - 3.0 dry micron (BOPP/BOPET)

ESACOTE® PU 9539

A matt & soft touch coatings with enhanced printability and excellent scratch resistance for classy packaging

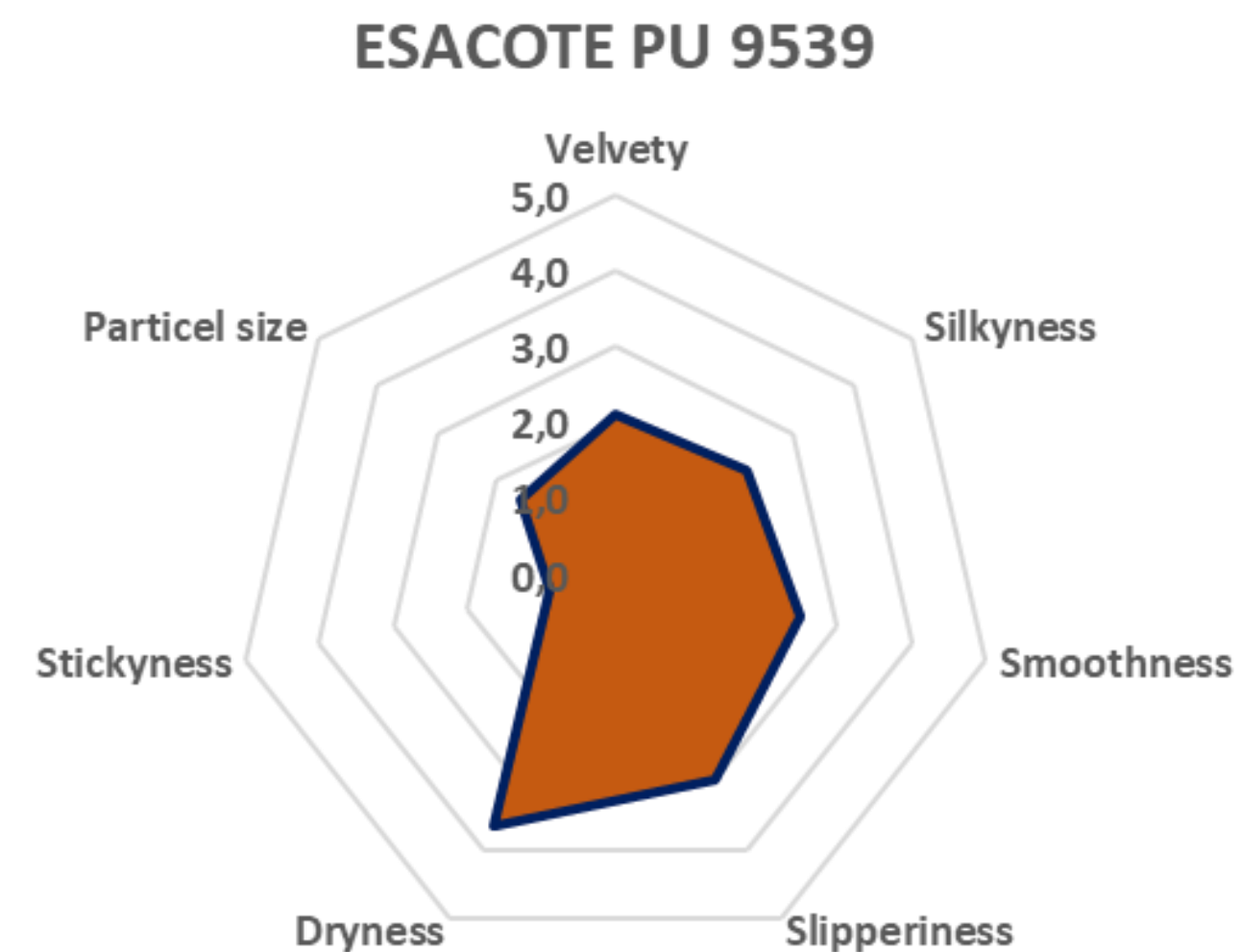
Typical values

Appearance at 25 °C:	milky liquid
pH: (at 25°C on supplied product, ASTM E 70):	8.5-9.5
Viscosity (cPs) (Brookfield RVT @ 25 °C, 50 rpm spindle 3)	400- 1200
Solid content, %:	34.5 - 36.5
Gloss unit, 60°:	<1.2

Product properties

Solvent content, % :	4% (DPM)
Density, @ 25°C g/ml:	1.02 - 1.04
Minimal film forming temperature, °C:	~0
Film aspect:	matt, silky touch, tack free

Please contact our sales representatives for test methods details.



Main applications:

Flexible packaging

Best substrates:

BOPP
BOPET

Suitable substrates:

Paper
Cardboard

Best printing techniques:

Flexo
Rotogravure
Spray

ESACOTE® BIO 9001

A sustainable matt & soft touch coating for a sustainable «look & feel» packaging

Typical values

Appearance at 25 °C:	milky liquid
pH: (at 25°C on supplied product, ASTM E 70):	8.0-9.0
Viscosity (cPs) (Brookfield RVT @ 25 °C, 50 rpm spindle 3)	600- 1000
Solid content, %:	31.0-33.0
Gloss unit, 60°:	<1

Product properties

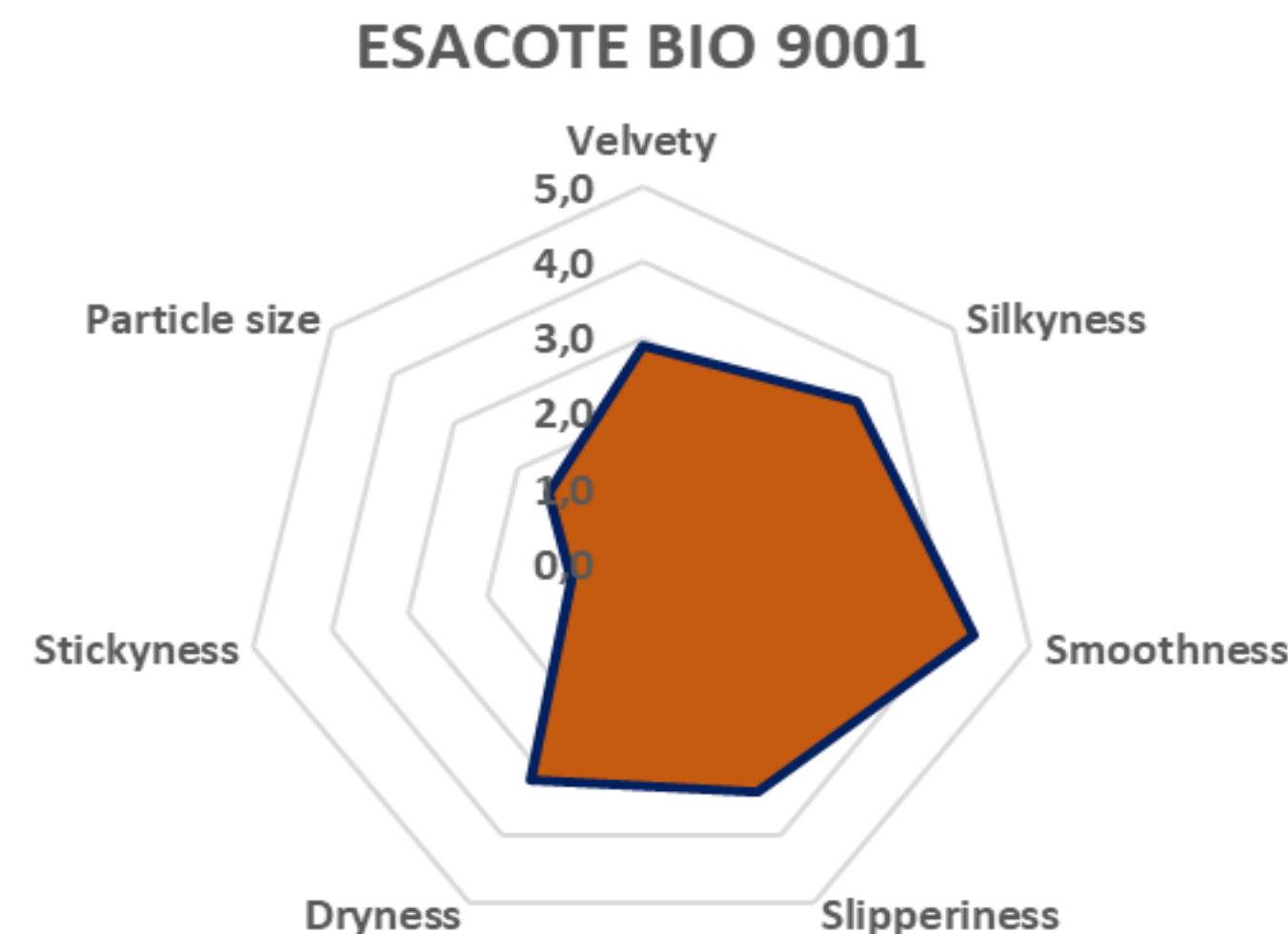
Solvent content, % :	0
Density, @ 25°C g/ml:	1.01 - 1.05
Minimal film forming temperature, °C:	-0
Film aspect:	matt, silky touch, tack free

Please contact our sales representatives for test methods details.

Sustainability features

ESACOTE® BIO 9001 is made with raw materials from vegetal sources, obtained from plant-derived substances.

Biobased Carbon content C^{14}/C_{total} according to ASTM D6866: **66 % ± 3**



Main applications:

Electronic packaging
Cigarette packaging
Spirits

Best substrates:

Paper
Cardboard

Suitable substrates:

BOPP
BOPET

Suggested Printing techniques:

Air knife
Flexo
Rotogravure
Spray

The beads platform

Polymeric matting agents in powder form: DECOSPHERA[®] & SPHEROMERS[®]



The beads platform

- ✓ Unique technologies based on PU and AC chemistries
- ✓ Monosized particle distributions & Gaussian distributions
- ✓ Soft & hard beads
- ✓ Transparent & colored
- ✓ Biobased grades available





DECOSPHAERA®

MAIN CHARACTERISTICS

- ✓ Gaussian distributed spherical shaped beads based on PU chemistry
- ✓ Solvent free manufacturing process
- ✓ Deep matt effect with natural appearance and no haziness
- ✓ Excellent scratch and stain resistance with soft & elastic touch
- ✓ Transparent & colored grades
- ✓ Suitable for WB, SB, UV and moisture curable formulations

TYPICAL VALUES

- ✓ Appearance: free flowing dry powder
- ✓ Particle size (D50): 3 μ m - 8 μ m - 15 μ m - 30 μ m
- ✓ Dry content: > 99%



SPHEROMERS®

MAIN CHARACTERISTICS

- ✓ Monosized perfectly spherical shaped crosslinked PMMA beads
- ✓ Solvent free manufacturing process
- ✓ High matting efficiency even at high angles
- ✓ Excellent scratch and stain resistance with hard and dry touch
- ✓ Suitable for WB and SB. UV formulations might be developed upon compatibility check

TYPICAL VALUES

- ✓ Appearance: white powder
- ✓ Particle size (D90): 6µm - 10µm - 15µm - 20µm
30µm - 40µm - 60µm
- ✓ Dry content: > 99%
- ✓ Particle density: 1,2 g/m³

ADIWAX & CROSSLINKERS

Additives for enhancing packaging sensorial experience & scratch resistance



ADIWAX

Product	Description	Solids	pH	Features
ADIWAX H05 B	PE emulsion	~35.5%	8.0 – 10.0	Scratch & stain resistance
ADIWAX H15	PE emulsion	~50.0%	8.5 – 9.5	Blocking reduction
ADIWAX H16 FC	PE emulsion	~35.0%	7.5 – 8.5	Blocking reduction Food contact
ADIWAX BIO H30	Carnauba emulsion	~30.0%	5.0 – 7.0	Biobased content ~85%



CROSSLINKERS

Product	Description	Solids	Viscosity	Features
CROSSLINKER 08	Free isocyanate Transparent liquid	~70%	<300 cps @50rpm	~11.4% free NCO ~30% Propylene carbonate
CROSSLINKER 08LM	Free isocyanate Transparent liquid	~70%	<300 cps @50rpm	~11.4% free NCO ~30% Propylene carbonate Free Diisocyanates < 0.1%
CROSSLINKER 013	Free isocyanate Transparent liquid	~70%	<300 cps @50rpm	~11,4% free NCO ~30% DPGDME
CROSSLINKER 021	Carbodimide Slightly yellow liquid	~50%		Solvent free
CROSSLINKER BK13	Blocked isocyanate Opalescent liquid	~30%	<200 cps @50rpm	~11,4% NCO content 3% DPGDME MEKO/DMP free
CATALYST AT5/N	Polyaziridine	~64%		~35% DPGME



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