



Green Vision for Happiness

Technology and service leading company with endless innovation.



Introduction of Company

VIX Business

Polyurethane: 4,000MT/year

- Solvent based PU, Water based PU, Hot-melt PUR, FR PU, Additives

PU OEM in China: 2,000MT/year

Surfactant: Solvay OEM 3,000MT/year

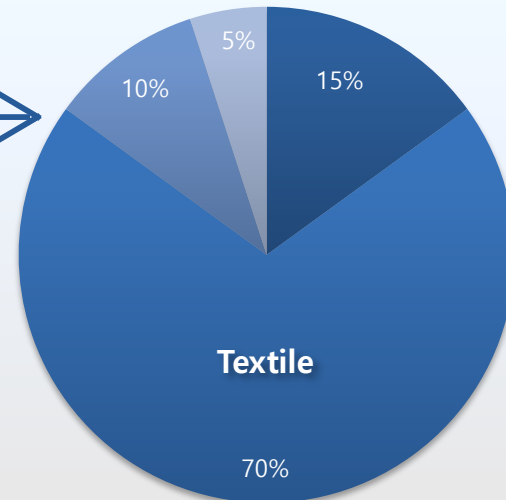
SURFACTANT

- Monoester
- Diester

POLYURETHANE

- Classic PU, PUD, PUR
 - Textile PU
 - Synthetic Leather
 - Industrial Material
 - Non Textile Application

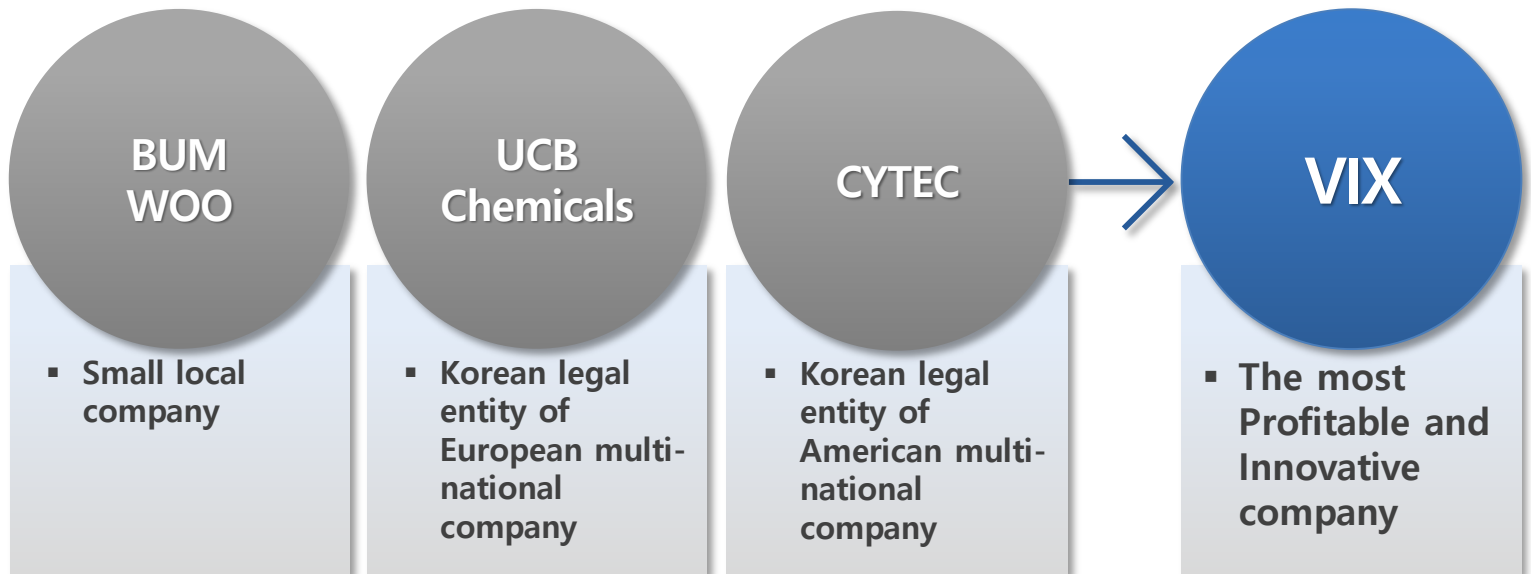
- Synthetic Leather
- Textile
- Industrial Materials
- Non-Textile Applications



Introduction of Company

Company history

1985. 01 BUMWOO established
 2002. 09 UCB S.A. acquired BUMWOO
 2005. 03 Cytec acquired the Surface Specialties business of UCB SA
 2009. 04 VIX Co., Ltd. established
 2010. 01 Bluesign system partner



Introduction of Company

Overseas Branch

Establish a high level of technology and international sales network

- China, Taiwan, Thailand, Indonesia Export
- Exports ratio: 20%



Certification

Technology and Quality

INNO-BIZ, ISO9001, Venture company, R&D center, ATC research center

Safety Health and Environment

ISO14001, PSM (S grade), bluesign® SYSTEM PARTNER

Patent

"Method of manufacturing dry-porous typed casting film with moisture permeable-water proof" and 23 others

***bluesign®**

International certification for environmentally friendly textile products

→ First registration in the Polyurethane resin field



Production Capacity

Polyurethane: 15,000 ton/year

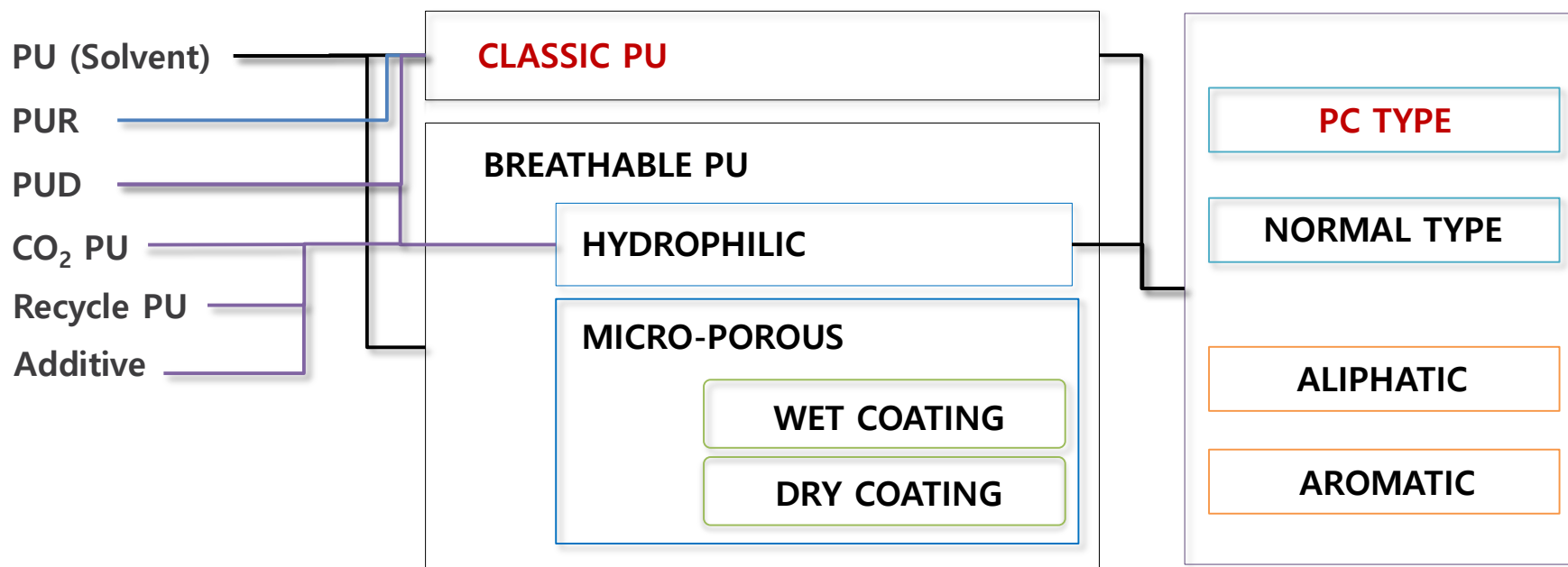
Polyol: 3,000 ton/year

Surfactant: 6,000 ton/year



Introduction of Product(PU)

Polyurethane



V-COAT

MELVIX
REACTIVE URETHANE HOTMELT ADHESIVES

ACUVIX WATERBORNE
POLYURETHANE RESINS

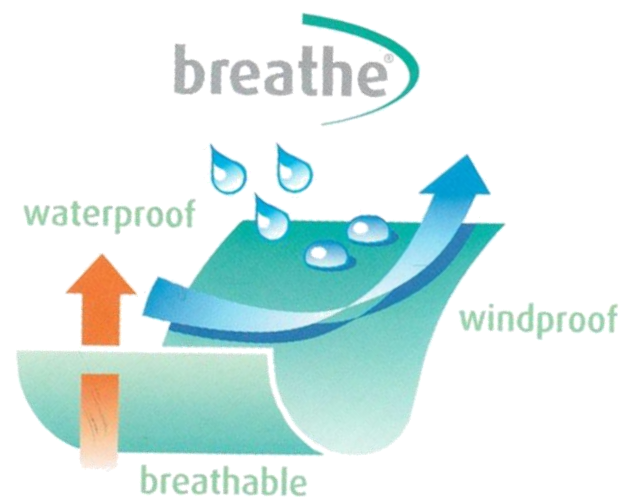


Introduction of Product(PU)

BRETHABLE SYNTHETIC PU RESIN

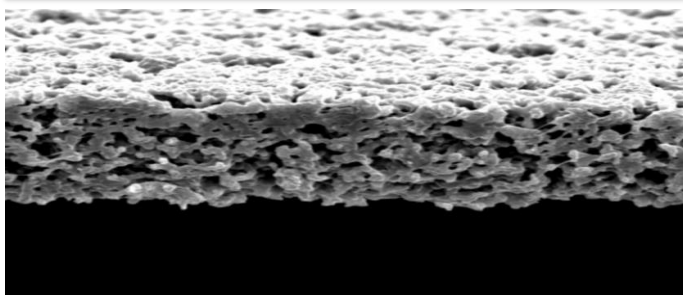
Excellent water vapor permeability
Comfortable
Adhesion property
Water resistance
Flex resistance

**VIX's breathable PU technology is the
leading performance benchmark in textile
coating and leather treating application**



Introduction of Product(PU)

MICRO-POROUS PU RESIN

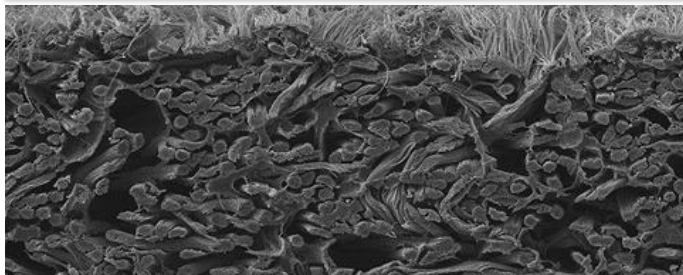


Dry, soft hand feel
Excellent hydrolysis resistance
Excellent water vapor permeability. (JIS L1099 A1)
Uniform pores and surface properties



- Rain drop : $\varnothing 100 \sim 3,000 \mu\text{m}$
- Microporous : $\varnothing 0.1 \sim 10 \mu\text{m}$
- Sweat particle : $\varnothing 0.0004 \mu\text{m}$

WET COAGULATION COATING PU REIN



Soft hand feel
Good dyeing properties
High heat resistance



Introduction of Product(PU)

POLYURETHANE DISPERSION

Eco-friendly product

Classic PUD: high durability

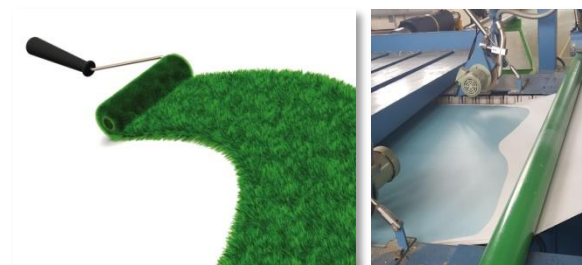
Breathable PUD: high water vapor permeability

Soft hand feel

Good washing resistance, adhesion property

VOC reduction system

Coating system(Base/Top)		PUS/PUS	PUD/PUS	PUD/PUD
Base	Solid contents	15 g	15 g	15 g
	Solvent	34 g	0 g	0 g
	Water	-	19 g	19 g
Top	Solid contents	10 g	10 g	10 g
	Solvent	35 g	< 35 g	0 g
	Water	-	-	45 g
Total solvent		69 g	< 35 g	<u>0</u> g



Introduction of Product(PU)

POLYURETHANE DISPERSION

For SUEDE dip coating

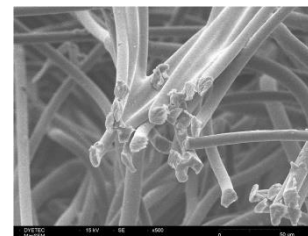
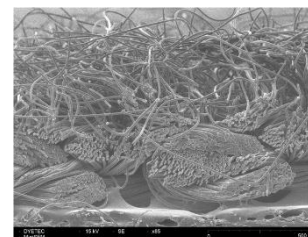
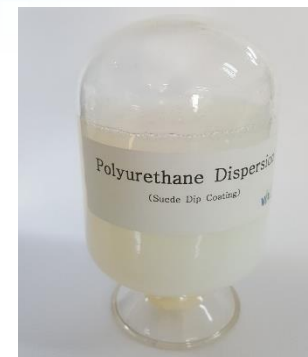
Eco-friendly product

Soft hand feel (good softness)

Good Flexural strength

High durability

PUD for SUEDE dip coating



Spec.	Result	Test method
Solid contents [%]	30±2	KS M 3705
Viscosity [cps/25°C]	< 2,000	KS M 3705
Tensile Strength [Mpa]	20~40	ASTM D 882
Elongation [%]	600~800	ASTM D 882
VOCs (B.T.X) [ppm]	N/D	KS M 0027
Hydrolysis resistance (crack or peeling)	N/D	Jungle test
Light fastness [class]	➤ 4	KSK ISO 105 B2

Introduction of Product(PU)

REACTIVE HOTMELT ADHESIVE

Moisture-curing one-component adhesives

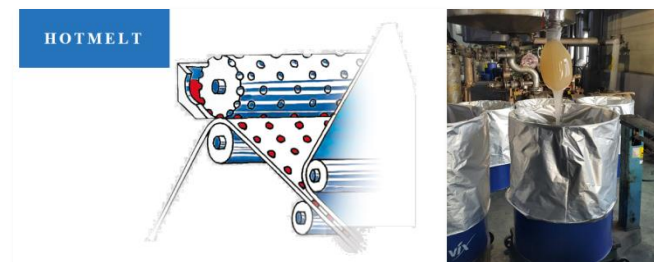
100% solid Eco-friendly adhesive

Excellent adhesive strength and peel strength by chemical curing system

Low application temperature

Property of PUR

Property	PUR	Hot Melt	Theromset	Solvent
Working time	Long/ Hot Short/ Cool	Long/ Hot Short/ Cool	Long/ Slow Set Short/ Fast Set	Long
Initial adhesion, tackiness	<u>Excellent</u>	Excellent	Poor	Medium
High temp. strength	<u>Excellent</u>	Poor	Excellent	Medium
Eco-friendly	<u>Non solvent</u>	Non solvent	Non solvent	Solvent



Introduction of Product(PU)

BIO POLYURETHANE

Eco-friendly product

Bio based carbon $\geq 25\%$, breathable PU resin, adhesive

Reactive hot melt BIO PU adhesives

Breathable BIO PU

		Existing Petroleum Coating Products	Bio PU applied coating products
Raw material:		100% Petroleum-based raw materials	Bio based hydrophobic polyol Bio based chain extender Bio based carbon $> 25\%$
		Bio based carbon=0%	
PUR	Range of viscosity at 100°C: Tensile strength (Mpa) Elongation (%)		4,000~9,000 cP >20 About 600 %
PU Film	Tensile strength (Mpa): Elongation (%) Touch W.V.P (g/m ² ·24hr):	>20 >300 Soft >10,000	>30 500~600 Soft 15,000
Breathable fabric	H.S.H (mmH ₂ O): W.V.P (g/m ² ·24hr): Washing durability (mmH ₂ O)	>8,000 >8,000 >5,000	>10,000 7,000 7,000

- Biobased Carbon 32%, 45% (USDA certification)
- ECO-Mark
- Diversification of products such as outdoor, shoes, and supplies



**Bio-PU
resin**



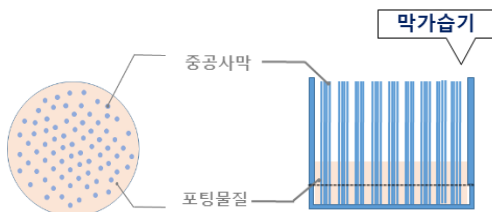
Introduction of Product(PU)

FORMULATE TYPE POLYURETHANE ADHESIVE

- Membrane humidifier module porting resin
 - Eco friendly resin
 - Two component type
 - High Mechanical properties
 - Heat resistance, hydrolysis resistance
 - Bubble control and improvement of cutting properties

Property	Result
Hardening shrinkage rate (%)	-0.02
Tensile strength (shore D/25°C)	85
Hardening (shore D/25°C)	83
Pot life (min)	15
Heating resistance (Mpa)	53
Heat deflection temperature (°C)	63
Detecting hazardous substances (As, Cd, Pb, Hg, Cr ⁶⁺)	검출한계 미만

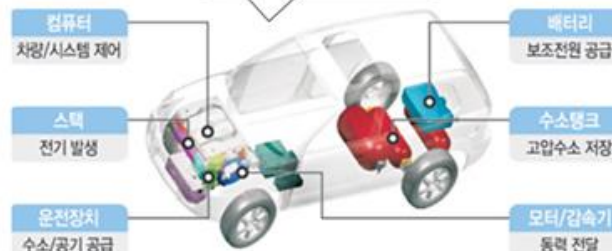
막가습기(Membrane humidifier)



스택에
가습공기 공급

스택에 흡수율 유지 가능

수소연료전지차



막가습기 모듈 포팅용 친환경 폴리우레탄 formulate resin



Introduction of Product(PU)

CO₂ based
polyurethane

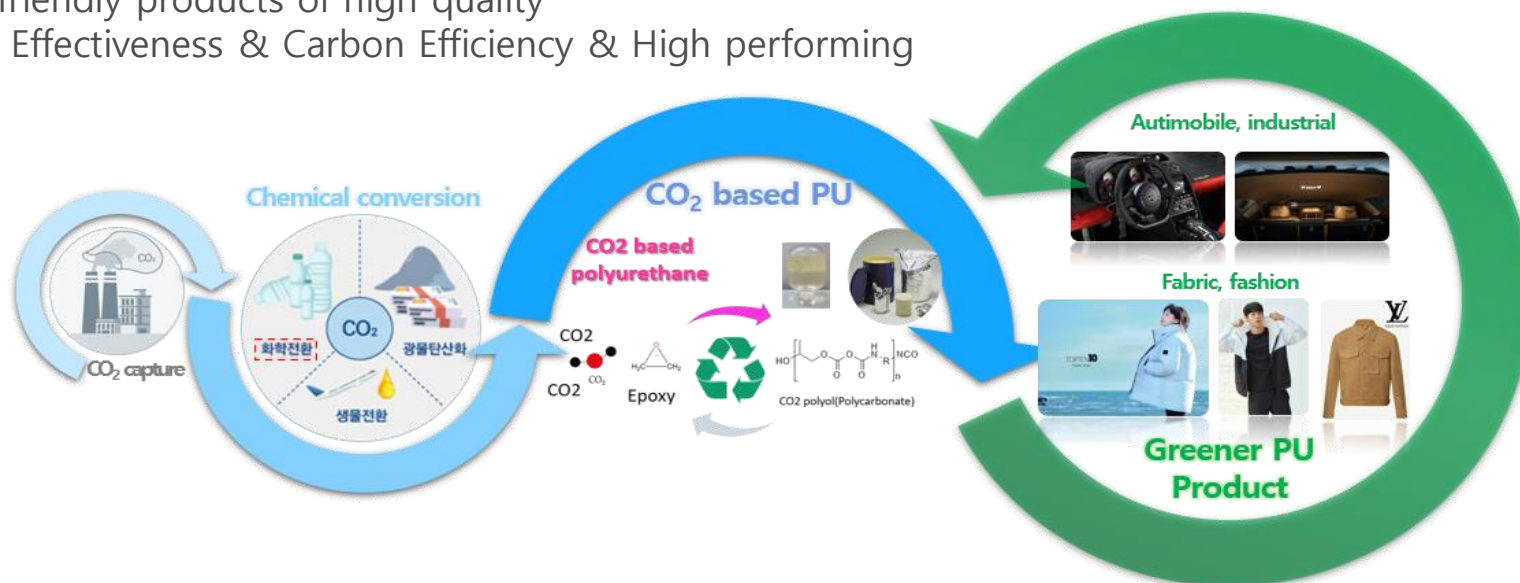


CCU(Carbon capture & Utilization) technology
Make effective of the high concentrations of CO₂ emitted

Synthetic technology using 40% CO₂ based polyol
Polycarbonate type high properties polyurethane

• CO₂ based polyurethane synthetic process development

- Stable synthetic reaction of application of CO₂ based polyol.
- High properties (Hydrolysis, strength, abrasion resistance..)
- Eco-friendly products of high quality
- Cost Effectiveness & Carbon Efficiency & High performing



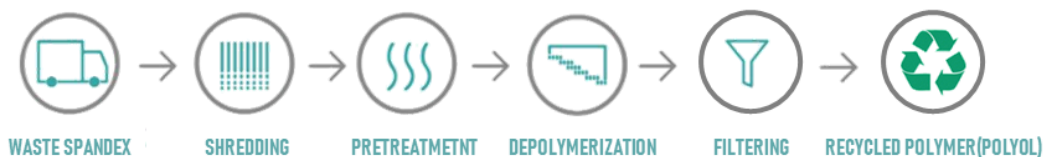
Introduction of Product(PU)

**Recycle
polyurethane**

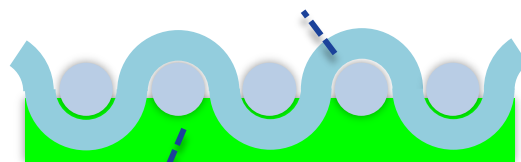


- Sustainable polyurethane using recycling spandex
 - Eco friendly resin
 - Waste resource circulation (Pre-post consumer waste management)
 - Breathable PU
 - High Mechanical properties
 - Recycle content of 30% or more

Property	Result
Viscosity (cP at 25°C)	50,000~80,000
Tensile strength (kgf/cm ²)	90~110
Elongation (%)	550~650
Recycle ratio (%)	30~50
H.S.H (mmH ₂ O)	1,500~3,000
W.V.P (g/m ² ·h)	4,000~5,000



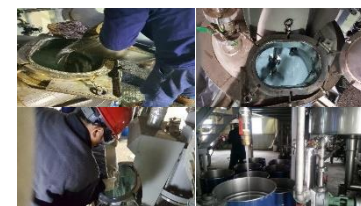
Recycle fabric, yarn



Recycle PU



< Depolymerization >

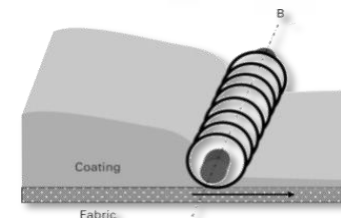


< Polyurethane synthesis >

Introduction of Product(PU)

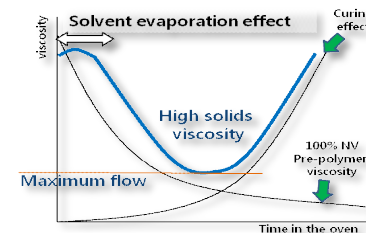
ONE COMPONENT ADHESIVE

Moisture-curing one-component adhesives
Eco-friendly solvent
Excellent adhesive strength and peel strength



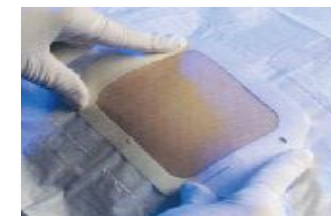
HIGH SOLID PU RESIN

Polyether-based PU
Solid content >90%
Eco-friendly solvent
Available to foam molding



MEDICAL PU RESIN

Excellent W.V.P and H.S.H property
Low swelling
Good mechanical property





thank you



Product List

Polyurethane dispersion
Reactive hot melt adhesive
Classic skin coating
Base coating
Tie coating
Wet coagulation coating
Breathable skin coating
Aliphatic skin coating

Introduction of Product(PUD)

Polyurethane – Polyurethane dispersion

Product Name	Application	Characteristics
4500	Base/Garment	Breathable water based PU for base coating
4614	Top/Garment	Breathable water based PU for top coating
2004	Base/Garment	Classic type water based PU for direct base coating
5105	Top/Garment	Classic type water based PU for direct top coating

Introduction of Product(PUR)

Polyurethane - Reactive hot melt adhesive

Product Name	Application	Characteristics
9007	Textile	PUR for post-FC treatment
9010	Textile	High viscosity adhesive for post-FC treatment fabric
9007LV	Textile	Adhesive for pre-FC treatment fabric
9007RT	Textile	Adhesive for pre-FC treatment fabric



Introduction of Product(PU)

Polyurethane – Classic skin coating

Product Name	Application	Characteristics
TC246	Garment	Soft top coat, excellent HF-weldability & hydrolysis
ME30	D/C, Garment	Non tacky, excellent hydrolysis
TL307S	Garment/Furniture	PC type , excellent hydrolysis & abrasion resistance
6530	D/C, Garment	Soft silky touch for direct coating
775	D/C, Garment	Classic skin resin
780	D/C, Garment	Soft touch classic low yellowing skin resin
790	D/C, Garment	Hard touch classic skin resin
972DF	D/C, Garment	Stiff touch classic skin resin
750L	D/C, Bag	High glossy and solid contents skin resin

Introduction of Product(PU)

Polyurethane – Base coating

Product Name	Application	Characteristics
CS38	Base coating/Garment	Soft, polyether based resin, excellent hydrolysis, peeling strength & HSH
435	Base coating	Soft touch, excellent acrylic compatibility and peeling strength
4401	Base coating	Excellent acrylic compatibility, peeling strength and HSH
477	Base coating	Excellent acrylic compatibility and soft one-component type
6640	Base coating	Excellent peeling strength, low yellowing and hydrolysis one-component
966	Base coating	Super soft touch classic resin
TD93	Base coating/Garment	Excellent cold weather flexibility one-component type
3440	Base coating/Garment	Excellent washing durability, peeling strength and Ret breathable type
3455	Base coating/Garment	Excellent washing durability, peeling strength and Ret breathable type
6250	Uni-coating	Breathable type for one time coating



Introduction of Product(PU)

Polyurethane – Tie coating

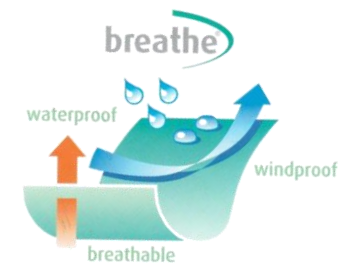
Product Name	Application	Characteristics
CS38	Garment	Excellent hydrolysis, HSH, peeling strength and cold weat her flexibility
6040	Garment	Excellent peeling strength classic type
8011	Bonding	Excellent initial peeling strength for bonding
SV353	Bag/Ball	High solid and friendly environment type
SV201	Bag/Ball	High solid and friendly environment hard touch type
6360A	Garment	Breathable adhesive for pre FC treatment fabric
9040	Garment	Breathable adhesive for transfer coating
9450	Garment	Excellent breathability soft adhesive for transfer coating



Introduction of Product(PU)

Polyurethane – Wet coagulation coating

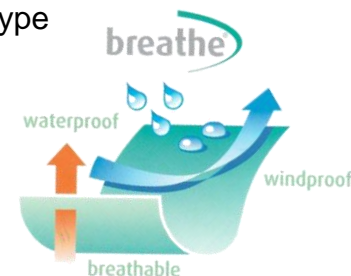
Product Name	Application	Characteristics
1108	Dipping	Excellent dyeing type for non-woven micro fiber
5055	Dipping	Excellent dyeing type for non-woven micro fiber
TL307S	Dipping/Furniture	Polycarbonate type
4088W	Breathable Fabric	High HSH and WVP soft type for non-base coating
4055W	Breathable Fabric	High HSH and WVP dry touch type for non-base coating



Introduction of Product(PU)

Polyurethane – Breathable skin coating

Product Name	Application	Characteristics
5112	Garment	Soft touch, breathable skin type, excellent PVC seam tape-ability
5858	Garment	Soft touch, low sewing skin type, excellent hydrolysis
7400	D/C,Garment	Soft touch, breathable skin type, excellent PVC seam tape-ability, matt type
7300	Garment/Film	Hard touch, high breathable skin type
7350	Garment/Film	Hard touch, high breathable skin type, matt type
7233	Garment/Film	High breathable skin for transfer coating
7212	Garment/Film	High breathable skin for transfer coating, matt type
6430	D/C,Garment	Silk touch breathable skin, excellent hydrolysis, matt type
7250	Garment/Film	High breathable skin, excellent coating face slip
8041	Garment/Film	Low-swelling breathable skin
2000 SPECIAL	Garment/Film	Micro-porous type resin
5454LV	Medical patch	Breathable skin resin for medical patch



Introduction of Product(PU)

Polyurethane – Aliphatic skin coating

Product Name	Application	Characteristics
FN101	Top coating	Non yellowing, excellent water proof
FN995	Top coating	Non yellowing, PC type excellent hydrolysis for skin
FNB950	Top coating	Non yellowing, breathable type
NPU2307	Top coating	Swelling type for transfer coating
NPU523	Top coating	Non-swelling type for transfer coating

Introduction of Product(Additive)

Additive – Cross-linker, Catalyst

Product Name	Application	Characteristics
500	Normal type	Cross linking agent
T81	Normal type	Cross linking agent
CRL100	Non yellowing type	Cross linking agent
523	Melamine	Cross linking agent
IT131	Amine	Cross linking agent
T202B	Acid	Catalyst
A002	Normal type	Accelerator, tin free
STM	Silicon	Silicon resin for slip agent
B3203	White Toner	High solid white pigment
230M	PU	Additive for improving peeling strength

Introduction of Product(Additive)

Additive – Micro-porous (V-COAT 2000SP)

Product Name	Application and Characteristics
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UD691	Additive for 2000SPECIAL
R446	Anti-skinning agent
M2	Polyaziridine resin for catalyst
UM651	Fluorocarbonic resin, solvent based
AS41	Defoamer

Bluesign approved components

Bluesign bluefinder for VIX

As of December 07, 2022

21 products were found - page 1/1 (Duration: 0 milliseconds)

Product	Rating	Class	Subcategory	Range	Company
V-COAT BS 3440	brightness_1 grey	B-C	PU resin for solvent coating	V-Coat	Vix Co., Ltd.
V-COAT BS 3455	brightness_1 grey	B-C	PU resin for solvent coating	V-Coat	Vix Co., Ltd.
V-COAT BS 500	brightness_1 grey	B-C	Crosslinker for solvent coating	V-Coat	Vix Co., Ltd.
V-COAT BS 5112	brightness_1 grey	B-C	PU resin for solvent coating	V-Coat	Vix Co., Ltd.
V-COAT BS 5858AC	brightness_1 grey	B-C	PU resin for solvent coating	V-Coat	Vix Co., Ltd.
V-COAT BS 6360A	brightness_1 grey	B-C	PU resin for solvent coating	V-Coat	Vix Co., Ltd.
V-COAT BS 6430	brightness_1 grey	B-C	PU resin for solvent coating	V-Coat	Vix Co., Ltd.
V-COAT BS 6530	brightness_1 grey	B-C	PU resin for solvent coating	V-Coat	Vix Co., Ltd.
V-COAT BS 6640	brightness_1 grey	B-C	PU resin for solvent coating	V-Coat	Vix Co., Ltd.
V-COAT BS 7212	brightness_1 grey	B-C	PU resin for solvent coating	V-Coat	Vix Co., Ltd.
V-COAT BS 7250	brightness_1 grey	B-C	PU resin for solvent coating	V-Coat	Vix Co., Ltd.
V-COAT BS 739	brightness_1 grey	B-C	PU resin for solvent coating	V-Coat	Vix Co., Ltd.
V-COAT BS 7730	brightness_1 grey	A-B-C	PU resin for solvent coating	Products w	Vix Co., Ltd.
V-COAT BS 775	brightness_1 grey	B-C	PU resin for solvent coating	V-Coat	Vix Co., Ltd.
V-COAT BS 7760	brightness_1 grey	B-C	PU resin for solvent coating	V-Coat	Vix Co., Ltd.
V-COAT BS 9450	brightness_1 grey	B-C	PU resin for solvent coating	V-Coat	Vix Co., Ltd.
V-COAT BS 966	brightness_1 grey	B-C	PU resin for solvent coating	V-Coat	Vix Co., Ltd.
V-COAT BS A002	brightness_1 grey	B-C	Accelerator for solvent coating	V-Coat	Vix Co., Ltd.
V-COAT BS CRL-100	brightness_1 grey	B-C	Crosslinker for solvent coating	V-Coat	Vix Co., Ltd.
V-COAT BS STM	brightness_1 grey	B-C	Silicone resin for solvent Coa	V-Coat	Vix Co., Ltd.
V-COAT BS T202B	brightness_1 grey	B-C	Silicone resin for solvent Coa	V-Coat	Vix Co., Ltd.



TO WHOM IT MAY CONCERN:

This is to certify that

VIX Co., Ltd.

281 Gongdan-dong, Gumi, Gyeongbuk 730-906, South Korea

is a bluesign® system partner.



bluesign® system partners are responsibly acting parties of the textile supply chain that are committed to applying the bluesign® system. As such, they are required to meet a high level of safety for both people and the environment, to use resources responsibly, and to continuously improve their environmental performance.

Chemical products carrying the bluesign® approved label meet the strict ecological and toxicological requirements of the bluesign® criteria.



Sustainability is part of their philosophy and they are dedicated to acting on their responsibility.

St. Gallen, September 1, 2014

bluesign technologies ag

Peter Waeber
CEO

Kurt Schlaepfer
Head of CRM

bluesign technologies ag | Hoernlimattstrasse 18 | 9015 St.Gallen | Switzerland
Phone +41 (0)71 272 29 90 | Fax +41 (0)71 272 29 99 | info@bluesign.com | www.bluesign.com