

코팅/라미네이팅 기술 및 제품



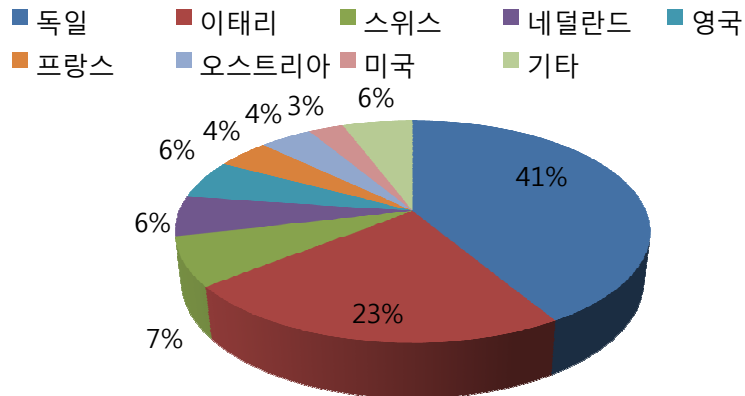
한국염색기술연구소
연구개발본부 송 병 갑

코팅 및 라미네이팅 관련 출품업체현황

	Coating 업체	Coating & Laminating 업체	Laminating 업체
설비업체	20	37	13
필름업체	-	-	43
코팅제품	116	75	47
텐트	55(5)	-	-
Tarpaulin	57(8)	-	-
일반제품	118	-	-
기타(포장 등)	70(9)	-	-

Coating & Laminating 설비업체 분포

국가별 설비출품업체 분포



Your product ideas - unlimited with COATEMA plants

The following substrates, coating raw materials and additives can be processed on COATEMA plants:

Substrates	Coatings	Additives	Coated Products		
Textiles paper Cardboard Foil knitted fabrics Nonwovens Foams Metal foils Membranes Grids Sheets Panels Others	PVC PUR PVDF Rubber Acrylic Silicon Pharmaceutical agents Tarnishing agents Nano particles Charcoal Glass beads Abrasives Hotmelts -Duroplaste -Thermoplastics Solutions -water-based -Solvents Others	Fillers Grip modifying agents Dilutors Thickeners Pigments -colour -metal Bonding agents Absorbers -UV -IR -radioactive -electromagnetic Brilliance activators Plasticisers Stabilisers Strengtheners Fragrances Antibacterial agents Expanding agents Antistatics Lubricants Flame retardants PCM Matting Agents Pharmaceutical agents Nanoparticles Charcoal Glass beads Hotmelts -Duroplaste -Thermoplastics Solvents -water-based Others	Construction Isolating material Reinforcement material Sun protection Sunblinds Reinforcement materials Roof membranes Tent materials Energy Technology Fuel cells Batteries Separators Circuit boards Supercapacitors Solar cells Horticulture, Civil engineering Foils for road construction Soil sealings Drainage systems Mats for dyke construction Foils for horticulture Foils for ponds Protective sheets Industry Conveyor belts Textile reinforcements Tubes Gaskets Sound insulation Filter pads Nano coating Clothing Rubber boots Sports shoes Fashion fabrics Sportswear Artificial leather -Shoe inserts	Protective Clothing Heat protection clothes Cold protection clothes Rain protection clothes Bulletproof clothes Protection clothes against chemicals Surgical clothes Protection clothes against radiation Spacesuits Living Fabrics for upholstery Decorative fabrics Curtains Table cloths Anti slipmats Bath mats Laminates Floor coverings Wallpapers Health care Wound treatment Surgical mats Transdermal systems Surgical auxiliary material Incontinence products First aid material Automotive Engineering Roof equipment for inside of vehicles interior Furnishings for inside of vehicles interior Upholstery Airbags Safety belts	Sports Fabrics for Hot-air balloons Fabrics for parachutes Sport shoes Thermo pads Fabrics for tents Canvas Hunting equipment Rubber boats Air beds Artificial turf Packaging Technology Packaging materials Packing straps Decorative foils Rubbish bags Transportation bags Release films Protective foils Pressure Sensitive Technology Tapes Labels Siliconized paper, Films, Foils Coated foils Laminated foils Siliconized foils Release papers Insulation materials Membranes Sun protection

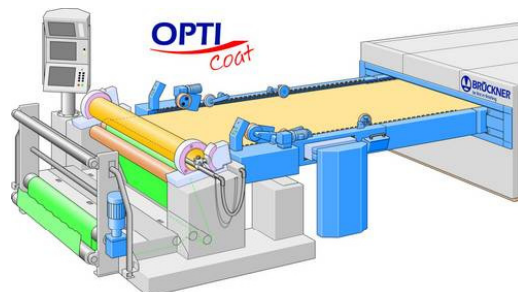
코팅 및 라미네이팅 설비업체

- ❖ 코팅 및 라미네이팅 설비 수출업체는 특이사항없음
- ❖ Drying공정에서의 에너지 절감
- ❖ 공정의 단일화

- Lacom AG
- Schaetti
- Brueckner
- Coatema
- Jakob Weiss & Soehne
- Cavitec AG

Brueckner(독일)

- Stork과 공동으로 신축니트직물의 코팅기술개발
- Stenter입구에 로타리 프린팅기계 설치
- 장력조절가능
- 선택적 폭과 길이방향의 열고정



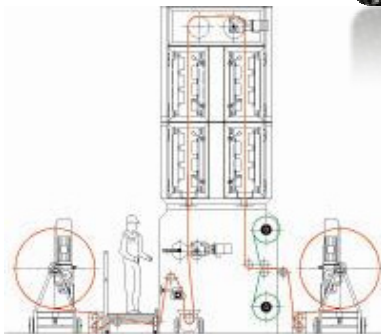
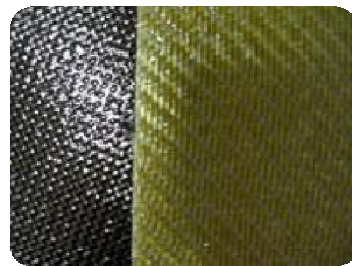
- Knife-over-air 혹은 Knife-over-cylinder 방법에 의한 코팅에 비하여
- 코팅공정중에 뒤틀림현상과 표면손상방지
 - 도트코팅과 프레임코팅으로 직물의 촉감 부분개선가능

Coatema(독일)

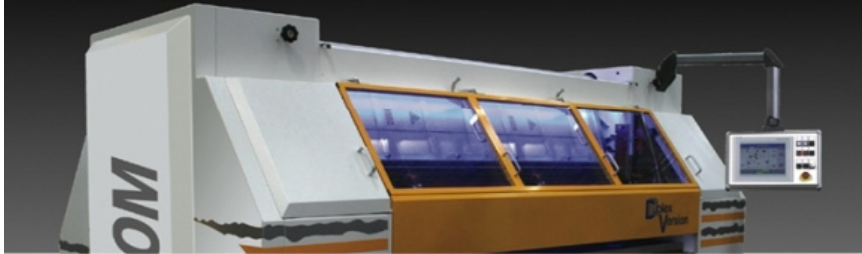
38종의 Coater 보유
Lab, pilot, Production 설계에 까지 폭이 5100mm 가능
연료전지, 재생에너지제품에 응용



Vertical coating line for prepregs and composites(Coatema)



Lacom(스위스)



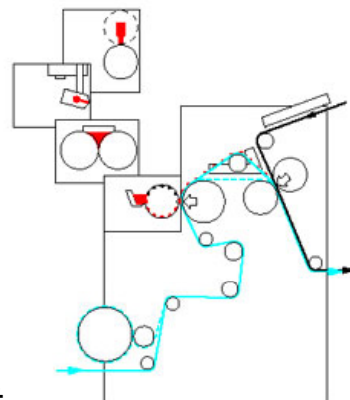
부가적인 module로 3가지의 다른방법에 의한 라미네이팅이 가능

2000mm, Thermo-oil에 의한 Heating 방법

응용범위

자동차내장재, 신발, 의료용제품에 적합

Cavitec(스위스)



현재 한국에 제일 많이 보급

Prepreg 등 composite에 관한 코팅기계가 따로 있음

Film 생산업체

Film Producer

- PTFE film: W.L. Gore
- TPU film: Elastogran(BASF), Epurex
- PET & Polyolefin film: baby and personal care(RKW Group)

접착제

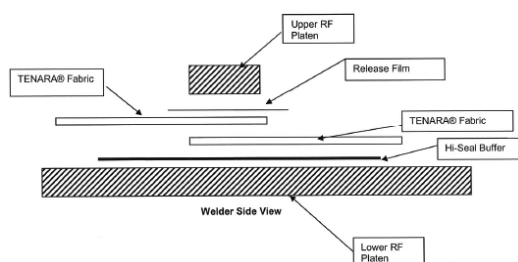
- Jowat
- Henkel

W.L.Gore

Tenara(sewing thread)

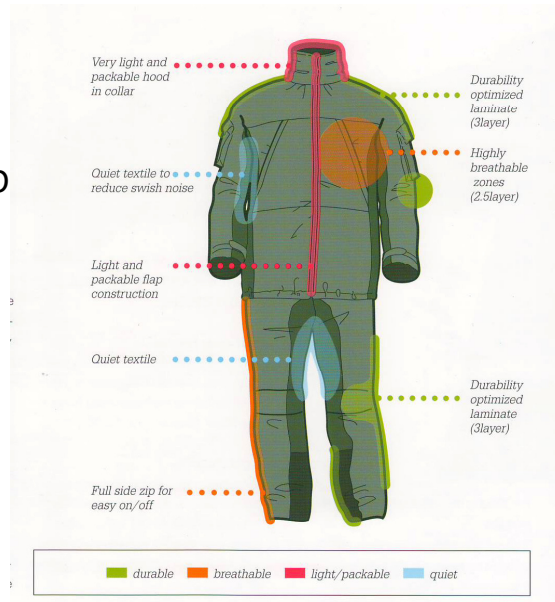
- 독일 Amman사에서 염색가공

- UV-weather-resistant
- Chemical-resistant
- Fade-resistant
- 산과 알칼리에 대한 영향이 없음
- -212에서 288도 까지 극한온도 저항성이 좋음
- 고강도
- 내마모성
- 고온수축저항성
- 습기에 민감하지 않음



Performance Zone Concept For Gore-Tex Technical Garments

- Durable
- Breathable
- Light weight/packable
- Quiet



TPU films(smith&nephew)

종류	두께	MVTR	강도	폭
TPU	27	14000	900	50-1300
TPU	32	14000	900	50-1300
TPU+Ag	32	14000	900	50-1300

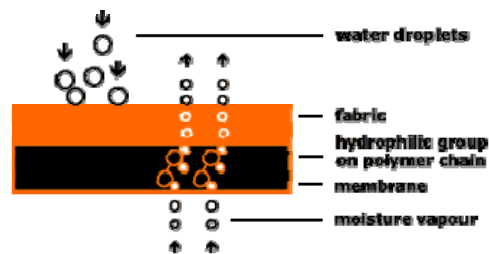


Medical films
Laminated Pads & Nets

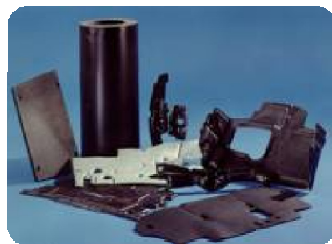
TPU(porelle and Aquatex)

Fuction	Porell(2-layer)	Coated fabrics
Breathability	80+	60
Waterproofness	700+	700+
Durability	700+	140
Endurance	700+	70
Dry-cleanability	700+	350
Resilience	700+	560

Polyester film(다공성)
친수성라미네이팅(12-40 μ m)



TPU(Epurex)



NOVOTEX(이태리)

- CYTEC 인수(세계에서 가장 큰 PU 생산업체)
- DING-ZING(대만); 유럽 판매회사
 - ❖ Polyurethane solvent based
 - ❖ Polyurethane water based
 - ❖ High solid polyurethane
 - ❖ Breathable polyurethane

Prochimir(프랑스)

- Thermobonding film:
- Barrier film
- Breathable film



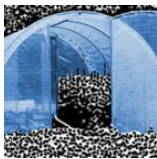
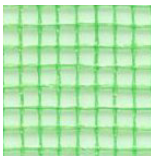
응용제품



코팅 및 라미네이팅 응용제품분야

(Agrotech)

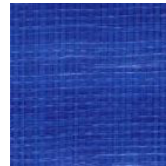
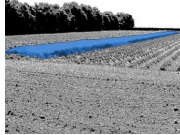
Greenhouse Cover

	
직물구조	leno weave
소재	warp / weft HDPE / PP
첨가제	warp / weft UV stabiliser C2020
Yarn type	warp / weft folded tapes
Yarn Count	warp / weft 1200D (2x) / 1750D
Construction	warp / weft 2,4 per inch ²
Yarn colour	warp / weft green
Lamination/coating	
type	top / bottom extrusion / film
소재	top / bottom LDPE
첨가제	top / bottom UV stabiliser C2020
Thickness	top / bottom 85 / 135 micron

코팅 및 라미네이팅 응용제품분야

(Agrotech)

Crop Cover



직물구조	plain weave
소재	HDPE
Yarn type	folded tapes
Yarn Count	warp / weft 1000 D
Construction	warp / weft 3 per inch ²
Yarn colour	natural
Lamination/coating	
type	PE tape fabric, laminated, 150 g/m ²
Tensile strength	warp / weft 750 N per 5 cm
Tear strength	warp / weft 185 N
Thickness	35 micron

코팅 및 라미네이팅 응용제품분야

(Buildtech)



코팅 및 라미네이팅 응용제품분야 (BASF)

(BASF)

Rollender Wassertropfen
Trägermatrix
Nanopartikel
Luftpolster
Textile Oberfläche

- Wie auf einem Nagelbett halten Milliarden winziger Nanopartikel (<100 nm), eingebettet in eine Trägermatrix, Wasser und Schmutz auf Abstand.
- Aufgrund ihrer minimalen Kontaktfläche werden die Schmutzpartikel von den rollenden Wassertropfen spurlos weggespült.

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코팅 및 라미네이팅 응용제품분야 (Clothtech)

PCM

THE BODY IS COOLED
OUTSIDE: WARM
INSIDE: BODYTEMP.

THE BODY IS HEATED
OUTSIDE: COLD
INSIDE: BODYTEMP.

PIGMENT PRINTING

PLASMA > DRUCK > TROCKNEN > DÄMPFEN > WASCHEN > TROCKNEN >

NEU: PIGMENTDRUCKPROZESS:

1. 2. 3. 4. 5. 6. 7. 8.

PIGMENTDRUCK AUF POLYOLEFIN-FASERN

Pigmentdruck auf Polypropylen

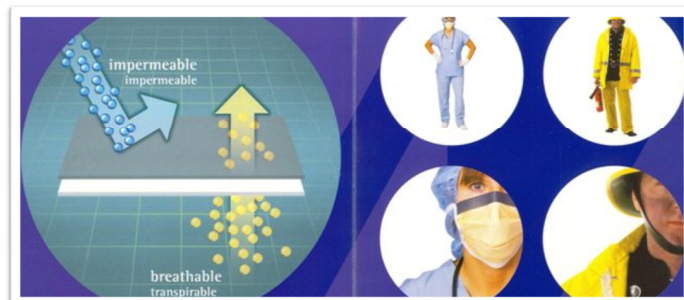
Pigmentdruck auf Polystyrolen

코팅 및 라미네이팅 응용제품분야 (Clothtech)

투습방수 필름



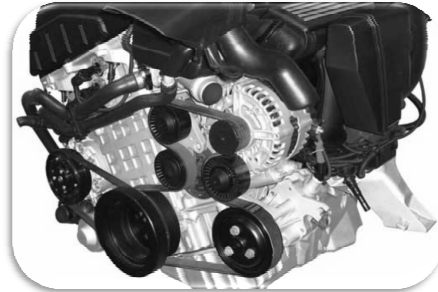
코팅 및 라미네이팅 응용제품분야 (Hometech)



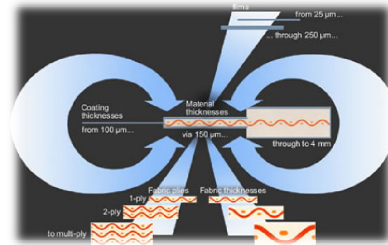
코팅 및 라미네이팅 응용제품분야

(Indutech)

고분자코딩이외에 유리섬유 및
탄소섬유강화코드가 사용됨
Cordus(독일)



Elastomer reinforced fabric



코팅 및 라미네이팅 응용제품분야

(Meditech)



코팅 및 라미네이팅 응용제품분야

(Mobiltech)



독일 Contitech사의 fuel tank



폴리에스테르, PVC, 라킹된 Tarpaulin

코팅 및 라미네이팅 응용제품분야

(Oekotech)

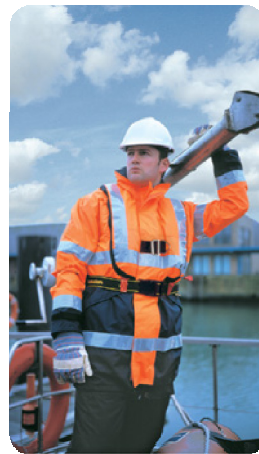


화력발전소, 소각로, 폐기물처리장 등의 제품(필터제외)

코팅 및 라미네이팅 응용제품분야 (Packtech)



코팅 및 라미네이팅 응용제품분야 (Protech)



EN 123
Schutz gegen
schlechtes Wetter



EN 468 / EN 13637
Feuerwiderstandsfähigkeit
und Schutzleistung



EN 471
Hochsichtbare
Warnkleidung



EN 1168
Antistatische
Schutzkleidung



EN 1364
Schutzhülfsgeräte
für Schutzhülfsgeräte



EN 12770
OP-Maschinen
und
Anlagen



EN 342
Schutz gegen Kälte



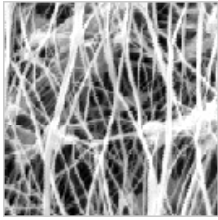
Motorradbekleidung



Freizeit- und Sport-
bekleidung

코팅 및 라미네이팅 응용제품분야

(Sporttech)



e-PTFE 필름구조

