



ADVANCED MATERIALS & TECHNOLOGY FOR ENERGY



Advanced Materials &  
Technology for Energy

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# CEO Greeting 인사말

AMTE Co., Ltd was established in 2009 as a venture company. We specializes in various functional coating and Nano material that are used in display coating, electric industry and thermal barrier coating. The idea of creating new business area by developing new technology gave us a successful result to produce Energy-Efficient Materials and Functional Coating Films that are applied in display, electronics, energy, automobile, and building. Based on our high technique of Nano-dispersion, synthesis and compounding skills, we offer a customized material for the customer's needs to create better profit for them. We will provide the best service to become a world's leading company in the material field.

(주)엠트는 디스플레이용 코팅제, 전자산업용 코팅제, 열차단용 코팅제 등의 각종 기능성 코팅제 및 관련 나노 소재를 연구 개발, 생산하는 벤처기업으로서 2009년 설립하였습니다. 신 기술 개발을 통하여 다양한 용도의 소재활용을 창출하고 에너지 절감형 소재 및 필름 개발에 성공하여 전자, 에너지, 자동차, 건축 등의 분야에 적용 가능한 기능성 소재 및 필름을 제조하고 있습니다.

고도의 나노 소재의 분산기술 및 소재의 합성과 배합기술을 바탕으로 고객의 요구에 따른 맞춤형신소재를 공급 함으로서 고객에게 더 나은 가치창출을 가능하게 하는 소재분야의 세계 일류 강소기업이 되기 위해 매진하고 있습니다.

AMTE Co.,Ltd. CEO Nam-Hoon Kim

Ansan R&D Center  
Ansan-si, Gyeonggi-do,  
Korea

Head Office & Yesan Factory  
Yesan-gun,  
Chungcheongnam-do, Korea

# History of Company 회사연혁

- 2009.01.19 - Established "AMTE Co., Ltd." (주) 엠트 법인 설립
- 2009.05 - Venture Business Certificate(Technology Guaranteed Fund) 벤처기업 등록
- 2009.08 - Registration of R&D Center(Korea Industrial Technology Promotion Association) 기업부설연구소 등록
- 2011.02 - Registration of ISO 9001:2008(KMAR) 품질경영시스템 ISO 9001:2008 인증(KMAR)
- 2012.08 - Operated Hwasung Plant 화성공장 가동
- 2015.05 - Yesan Plant Construct 예산 공장 신축
- 2016.04 - Development of organic-inorganic composite plastic materials 유기 복합 플라스틱 소재 개발
- 2018.07 - Moved & Extension Ansan R&D Center 안산연구소 확장이전
- 2019.03 - Guangzhou Sales Office Opened in China 중국 광저우 연락사무소 설립
- 2019.09 - Yesan Plant Extension 예산공장 증축

## Major intellectual property rights:

19 patent applications, 14 patent registrations, 3 trademark registrations  
주요 지적재산권 : 특허출원 19건, 특허등록 14건, 상표등록 3건

# Product Classification

## 제품분류

### 1. TERACOAT (Functional Coating Materials) 기능성 코팅소재



- Anti-Fouling Coating 방오 코팅
- Anti-Glare Coating 눈부심 방지 코팅
- Transparent Anti-Static Coating 투명대전방지 코팅
- Blue Light Cut Coating BLC 코팅
- UV Curable Organic/Inorganic Hybrid High Hardness Coating UV경화형 고경도 하드코팅
- Durable Sol-Gel Hard Coating 고내구성 Sol-Gel 하드코팅
- Anti-Fogging Coating 김서림 방지(방담)코팅
- Stretchable, Self-Healable, Anti-Fouling Coating for TPU TPU 기재용 고신율 자가복원성 방오 코팅

### 2. TERASOL (Functional Nano Materials) 기능성 나노소재



- Nano Dispersions of Al<sub>2</sub>O<sub>3</sub>(Alumina) for Improved Hardness & Scratch Resistance 경도 내스크래치 증진용 알루미늄 나노분산액
- Nano Dispersions of ZrO<sub>2</sub> (Zirconia) for High Refractive Index 고굴절용 ZrO<sub>2</sub> 나노분산액
- Nano Dispersions of Metal Oxide for Anti-Static/Conductive Coating 대전방지 / 전도성 코팅용 금속산화물 나노분산액
- Nano Dispersions of Organic/Inorganic Pigment for Color Matching 조색용 유/무기 안료 나노분산액
- Nano Dispersions for UV Shielding 자외선 차단 나노분산액
- Nano Dispersions for Infrared Ray Shielding 적외선 차단 나노분산액

### 3. TERAFIL (Functional Films) 기능성 필름



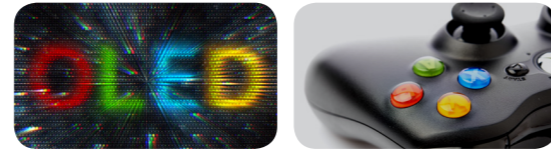
- PDLC Film 고분자분산액정필름
- PPF(Paint Protection Film) 차량용 도장 보호필름
- IR (Infrared) Ray Shielding Film 적외선 차단 필름
- Anti-Fog Film 김서림 방지 필름
- Functional Film [Anti-Fouling, Anti-Static, High Hardness] 기능성필름 [방오필름, 대전방지필름, 고경도필름]
- Anti-Glare Film 눈부심 방지 필름
- Protection Film & Released Film 보호필름 & 이형필름

# TERACOAT (Functional Coating Materials) 기능성 코팅소재

## Anti-Fouling Coating \_ 고경도 방오코팅

### Application [응용분야]

- Protective coating for mobile phone, game console, display of LCD, OLED, etc LCD, OLED 등 디스플레이용, 스마트폰, 게임콘솔 등의 오염방지 코팅
- Protective coating and water-repellent coating for surface of plastic, glass, ceramic, metal, packaging film, etc. and also, prevent oxidation of the metal surface 플라스틱, 유리, 세라믹, 금속 등의 외장 오염방지 코팅, 발수코팅, 포장용 필름, 금속의 산화방지 코팅



### Key Features [특성]

- Suitable for optical films due to excellent anti-fouling properties, easy removal of various contaminants like fingerprints, and excellent transparency and hardness  
오염방지 성능이 우수하고 지문 등 다양한 오염 성분의 제거가 용이하며 투명성 및 경도가 우수하여 광학용 필름 코팅에 장점을 갖는다
- UV curing or Thermal curing UV 경화 및 열경화 가능
- Excellent light transmittance, hardness and adhesion 투과율 및 경도, 부착력 우수

### Specification [사양] \_ TERACOAT UAP Series

Properties	Result	Test Method
Pencil Hardness	>2H	JIS 5600-5-4 (750gf loaded)
Substrate Adhesion, Cross Hatch	Pass(100/100)	JIS 5600
Transmittance	>91%	JIS K7105
Haze	<1%	JIS K7105
Anti-scratch, Steel wool	1Kgf	Steel wool #0000/3000 cycles
Contact Angle	Water	105~115°
	Hexadecane	65~75°

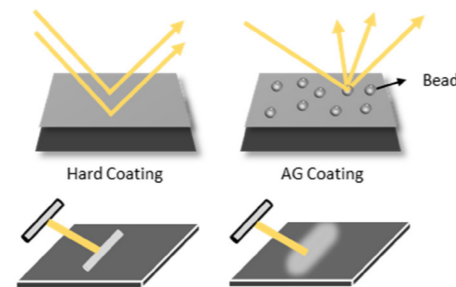
## Anti-Glare Coating \_ 고휘도 눈부심방지 코팅

### Application [응용분야]

- Display of touch panel, LCD, OLED 터치패널, LCD, OLED 등의 고휘도 디스플레이용

### Key Features [특성]

- Excellent hardness, adhesion and durability 우수한 경도 및 부착력
- Outstanding anti-glare effect 탁월한 눈부심 방지 효과
- Available to coat on various materials (PET, PMMA, PC, etc) PET, PMMA, PC 등 다양한 기재에 코팅 가능



### Specification [사양]

Product	Main Resin	Curing Method	Applicable Substrate	Haze
TERACOAT UAG Series	Acrylate	UV Curable (200~800mJ/cm <sup>2</sup> )	Film (PET, TAC, etc.), Sheet (PMMA, PC, PVC, G-PET, etc.), other plastic.	1 ~ 50%
TERACOAT TAG Series	TEOS	Thermal Curable (200~250°C/30min)	Glass	0.5%~6%

## Transparent Anti-Static Coating \_ 투명대전방지 코팅

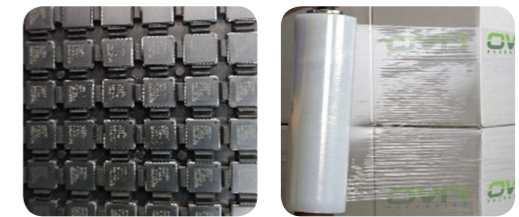
### Application [응용분야]

- Transparent partitions or windows in clean room and display of LCD, OLED, etc LCD, OLED 디스플레이, 클린룸의 투명 파티션
- Packaging film, Protection coating of mobile phone, Semiconductor tray 포장용 필름, 핸드폰 보호 필름, 반도체 트레이



### Key Features [특성]

- Excellent storage stability by improving the dispersion of conductive materials 분산액 향상을 통한 뛰어난 저장안정성
- Excellent transparency, surface hardness 우수한 투과율 및 표면경도
- Excellent solvent resistance and chemical resistance 뛰어난 내용제성 및 내화학성



### Specification [사양]

Properties	UNIT	TERACOAT UAS Series			TERACOAT TAS Series			
		UAS-AT1001	UAS-100	UAS-IF4003	TAS-CN01	TAS-PD301	TAS-HE402	STAS-PD501
Conductive Material	-	Inorganic Oxide (ATO)	PEDOT:PSS	Ionic Liquid	CNT	PEDOT:PSS	PEDOT:PSS	PEDOT:PSS
Surface Resistance	ohm/sq	10E+08~09	10E+06~08	10E+10~11	10E+05~06	10E+05~06	10E+04~05(ε=0%) 10E+06~08(ε=370%)	10E+04~05
Transmittance	%	85~90	90~91	90~91	> 90	89~91	89~90	88~90
Haze	%	< 1.5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.5
Curing Condition	-	UV 400mJ/cm <sup>2</sup>			80~100°C/2~3min			180°C/30min

## Blue Light Cut Coating \_ BLC코팅

### Application [응용분야]

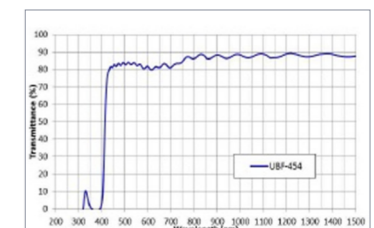
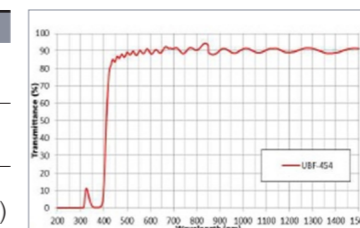
- Display of LCD, OLED, etc LCD, OLED 등의 디스플레이용

### Key Features [특성]

- Blocks the blue light (in the 380~500nm wavelength) that emitted from mobile phone, laptops, TVs, etc. and cause dry eye syndrome and sleep disorders 휴대폰, 노트북, TV 등의 디스플레이에서 발생하는 380~500nm 파장대의 안구건조증이나 수면장애를 일으키는 푸른빛(블루라이트)을 차단
- Can be blocked by various wavelength 다양한 파장대 별로 차단 가능

### Specification [사양]

Product	Unit	UBF-404	UBF-454	Test Method
Color	-	Transparent yellow	Transparent Blue	Visual Inspection
Transmittance	%	>90%	>80%	JIS K7105
Haze	%	<1%	<1%	
Pencil Hardness	-	H	H	JIS 5600 (750gf Loaded)

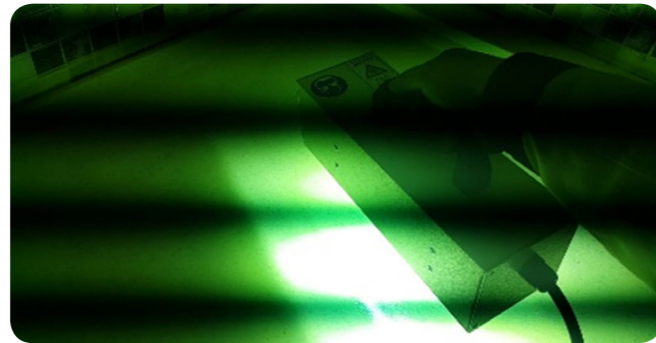


# TERACOAT (Functional Coating Materials) 기능성 코팅소재

## UV Curable Organic/Inorganic Hybrid High Hardness Coating \_ UV 경화형 고경도 하드코팅

### Key Features [특성]

- Low curl, excellent hardness and transmittance  
낮은 컬, 경도 및 투과율 우수
- Excellent solvent durability and chemical resistance  
우수한 내용제성과 내화학성



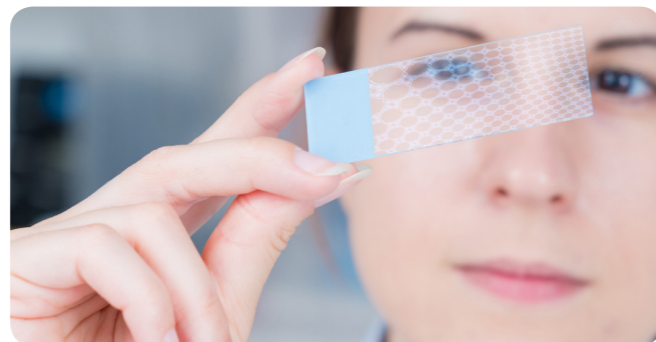
### Specification [사양]

Product	Curing Method	Applicable Substrate	Pencil Hardness	Transmittance (%)	Haze (%)	The Curl Level	Water Contact Angle
TERACOAT UHHC-4501	UV curable (200~400mJ/cm <sup>2</sup> )	Film (PET, TAC, etc.)	>2H/Kgf	>91	<1	<10mm	60~110°
TERACOAT UHHC-4502	UV curable (200~400mJ/cm <sup>2</sup> )	Film (PET, TAC, etc.)	>3H/Kgf	>91	<1	<10mm	60~110°

## Durable Sol-Gel Hard Coating \_ 고내구성 Sol-Gel 하드코팅

### Key Features [특성]

- Low curl, excellent hardness and transmittance  
낮은 컬, 우수한 경도 및 투과율
- Thermal shock resistance to high temperature(300~500°C)  
고내열성(300~500°C)
- Roll to Roll, Spin, Dip Coating available  
롤투롤, 스프인, 딥 코팅 등 다양한 코팅방식에 적용 가능



### Specification [사양]

Product	Curing Method	Applicable Substrate	Pencil Hardness	Transmittance (%)	Haze (%)	Coating Thickness(μm)
TERACOAT STCH-1501	10~30min at 150~250°C	Glass, Ceramics, etc	9H /kg	>90	<0.5	0.5~1
TERACOAT STCH-3702	10~120min at 110~150°C	Glass, Ceramics, etc	9H /kg	>90	<0.5	3~10
TERACOAT STCH-3704	10~120min at 110~150°C	Glass, Ceramics, etc	9H /kg	>90	<0.5	3~10

## Anti-Fogging Coating \_ 김서림방지(방담)코팅

### Application [응용분야]

- Bathroom & Shower Mirrors, Architectural Window Film  
욕실용 거울, 건축용 윈도우 필름
- Automotive Window Film, Car Side mirror  
차량용 윈도우 필름, 차량용 사이드 미러



### Key Features [특성]

- Long term anti-fog performance 장기적인 김서림방지 효과
- Chemical and abrasion resistance, outstanding optical clarity  
내화학성 및 내마모성, 우수한 광 투명성
- Chemical resistance and stability 화학적 내구성과 안정성



### Specification [사양]

Product	Curing Method	Water Contact Angle	Pencil Hardness	Transmittance	Applicable Substrate
TERACOAT UAAG-2001	UV Curing	<10°	H/500gf	>90%	100μm PET

## Stretchable, Self-Healable, Anti-Fouling Coating for TPU \_ TPU 기재용 고신율 자기복원성 방오코팅

### Application [응용분야]

- Available for shoes, leather, electronics and automobiles protection coating  
신발, 가죽, 전자제품, 자동차 보호코팅에 적용가능

### Key Features [특성]

- Self-healing (Recovery within 1 minute)  
자기복원성 (복원속도 < 1분)
- Excellent scratch resistance and anti-fouling performance  
뛰어난 내스크래치성과 내오염성
- Good workability and adhesion  
작업성과 기재부착성 우수
- Excellent bending and stretching characteristics  
우수한 굽힘성과 신축성



### Specification [사양]

Properties	TPU-T3701 (M)	TPU-T3701 (H)
Appearance	Transparent	Transparent
Viscosity (@25°C)	6±2cP	45±3 cP
NVC (2hr@105°C)	25±3%	70±3 %
Media	PGMEA etc.	BA etc.

# TERASOL (Functional Nano Materials) 기능성 나노소재

## Nano Dispersions of Al<sub>2</sub>O<sub>3</sub>(Alumina) for Improved Hardness & Scratch Resistance - 경도 / 내스크래치 증진용 알루미나 나노분산액

### Application [응용분야]

- Protective coating for mobile phone, game console, display of LCD, OLED, etc  
LCD, OLED 등의 디스플레이용 스마트폰 및 게임 콘솔 보호필름용
- LCD display backlight LCD의 디스플레이 백 라이트용



### Key Features [특성]

- Improved hardness and scratch resistance 높은 경도와 내스크래치성 증진

### Specification [사양]

Properties	TERASOL ALM-HS40
Material	Alumina (Al <sub>2</sub> O <sub>3</sub> )
Viscosity (25°C)	10±3cPs
Solid Content	40±3%
Average Particle Size	110nm~120nm
Specific Gravity	1.238
Solvent	PGMEA (Propylene glycol monomethyl ether acetate)

## Nano Dispersion of ZrO<sub>2</sub> (Zirconia) for High Refractive Index - 고품질용 ZrO<sub>2</sub> 나노분산액

### Application [응용분야]

- High resolution LCD display backlight 고휘상도 LCD의 디스플레이 백 라이트용

### Key Features [특성]

- The ZrO<sub>2</sub> nanoparticles are dispersed in organic solvents and can be used to adjust the refractive index of UV and thermal curable coating agents  
유기용매에 ZrO<sub>2</sub> 나노 분말이 분산되어 있어 UV 및 열경화 코팅제의 굴절률 조절 시 적용 가능한 고품질용 나노분산액



### Specification [사양]

Properties	TERASOL ZOS-20(MOH)	TERASOL ZOS-20(MEK)	TERASOL ZOS-65NS	TERASOL ZOS-67NS
Viscosity(cPs)	<50	<50	<1,000	<3,000
ZrO <sub>2</sub> Contents (%)	20	20	47	55
Refractive Index	1.366	1.42	1.65	1.67
Solvent	Methanol	Methyl Ethyl Ketone(MEK)	High Refractive Index Acrylate (Halogen, Sulfur-Free)	

## Nano Dispersions of Metal Oxide for Anti-Static/Conductive Coating - 대전방지 / 전도성 코팅용 금속산화물 나노분산액

### Application [응용분야]

- Clean Room, Semiconductor, Electronics, Medical equipment & LCD/PDP Display assembly lines  
클린룸, 전자기기, 의료기기, 각종 디스플레이 적용



### Key Features [특성]

- Uniformly dispersing the electrically conductive nanoparticles in organic solvent into nano size  
전도성 나노입자를 유기용매에 균일하게 나노사이즈로 분산

### Specification [사양]

Properties	Unit	TERASOL ATO-AS30(A)	TERASOL ATO-AS20(W)	TERASOL GTO-AS17	TERASOL ITO-AS30(MEK)
Material	-	Antimony doped Tin Oxide	Antimony doped Tin Oxide	Surface Modified ATO	Indium doped Tin Oxide
Viscosity (25°C)	cP	<5	<5	<10	<5
Nanoparticle Content	%	30	20	17	30
Particle Size (nm)	nm	30~50	30~50	30~50	30~50
Solvent	-	Alcohol	Water	Ethyl Alcohol	Methyl Ethyl Ketone

## Nano Dispersions of Organic/Inorganic Pigment for Color Matching - 조색용 유/무기 안료 나노분산액 : TERASOL P Series

### Application [응용분야]

- Paint colorant 페인트 안료
- Screen ink 스크린 잉크
- Ink for plastic coating 플라스틱 코팅용 잉크



### Key Features [특성]

- Nano-dispersion for color matching, nano-sized organic, inorganic pigment particles uniformly dispersed in organic solvent  
유/무기 안료 입자를 유기용매에 균일하게 나노사이즈로 분산시킨 조색용 나노 분산액

### Specification [사양]

Properties	TERASOL P-Red-10	TERASOL P-Green-10	TERASOL P-Blue-10	TERASOL P-Violet-10	TERASOL P-Yellow-10	TERASOL P-Black-10	TERASOL TNS-10
Material	Anthraquinone	Cu-phthalocyanine	Cu-phthalocyanine	Dioxazine	Benzimidazolone	Carbon black	Titanium Nitride
Viscosity(cPs)	<10	<10	<10	<10	<10	<10~40	<10
Pigment Contents (%)	10	10	10	10	10	10	10
Solvent	Butyl Acetate					Methyl Ethyl Ketone	

# TERASOL (Functional Nano Materials) 기능성 나노소재

## Nano Dispersions for Ultraviolet Ray Shielding - 자외선 차단 나노분산액

### Application [응용분야]

- Protective coating for mobile phone, game console, display of LCD, OLED, etc  
LCD, OLED 등의 디스플레이용 스마트폰 및 게임 콘솔 보호필름용

### Key Features [특성]

- Nanoparticles that can block wavelengths below 360nm are uniformly dispersed in organic solvent  
360nm 이하의 파장대를 차단할 수 있는 나노 입자를 유기용매에 균일하게 분산시킨 분산액으로, 코팅제에 혼합하여 사용한다
- High transmittance and UV blocking 높은 투과율 및 UV 차단율
- Excellent UV blocking rate compared to organics 유기물에 비해 뛰어난 UV차단 지속율

### Specification [사양]

Properties	TERASOL ZNO-UV35(MOH)	TERASOL ZNO-UV35(MEK)
Viscosity(cPs)	<5	<5
ZnO Contents(%)	35	35
Average Particle Size	20~30nm	20~30nm
Solvent	Methanol	Methyl Ethyl Ketone(MEK)

## Nano Dispersions for Infrared Ray Shielding - 적외선 차단 나노분산액

### Application [응용분야]

- Application of Infrared Ray Shielding film for building, vehicle and Display device 건축용, 차량용 열차단 필름 및 디스플레이 적용

### Key Features [특성]

- High Transparency, IR shielding, Anti-static, Heat Storage 고투명성, IR 차폐, 대전방지, 축열
- Ultra fine 30nm particle and outstanding dispersibility 30nm의 초미세 입경 및 우수한 분산성
- Excellent Infrared (780 ~ 1200nm) shielding characteristic 우수한 적외선(780~1200nm) 차폐성
- Possible to customize by adjusting the content of the dispersion according to the target properties (visible light transmittance and IR cut-off)  
목표 물성 (가시광 투과율 및 열차단율)에 따라 분산액의 함량을 조절하여 Customizing 가능

### Specification [사양]

Properties	UNIT	TERASOL ANCP	TERASOL ATO-IR30(W)
Appearance	-	Dark Green	Dark Blue
Solid Content	%	20	35
Viscosity	cP	<10	<10
VLT/IRC	%	40/95	60/90
Media	-	MIBK	MIBK/EA/WATER

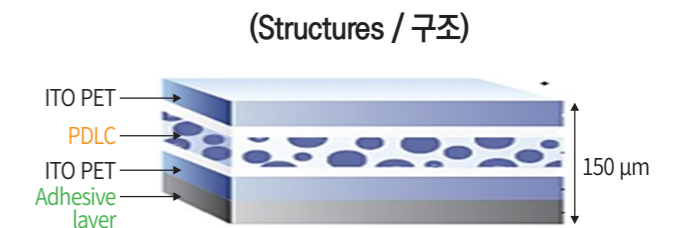
# TERAFIL (Functional Films) 기능성 필름

## PDLC Film - 고분자분산액정필름

- PDLC is a product that change incoming light transmittance of liquid crystal by controlling the direction of liquid crystal molecules through easy electric operation PDLC는 손쉬운 전기 작동을 통해 액정 고분자의 방향을 제어하여 액정의 입사 광선 투과율을 변경하는 제품입니다

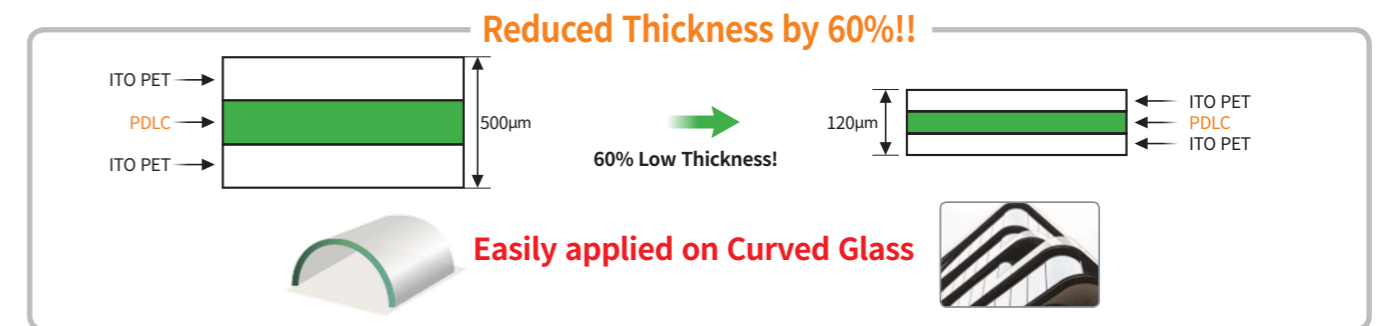
### Application [응용분야]

- Architectural Window Blinds 건축물 블라인드
- Beam Projector, Video Advertisement Screen 빔프로젝터, 영상 광고 스크린
- Window Tinting, Sunroof for Transportations 자동차 섀딩, 섀루프



### Key Features [특성]

- Available to produce, deliver as a Roll Film 롤 필름 형태로 제작, 배송
- Excellent Durability & Transmittance 높은 내구성 및 투과율
- Excellent UV Shielding & Low power consumption 뛰어난 UV 차단율 및 낮은 소비전력(5Wm<sup>2</sup>)



### Specification [사양]

Optical Properties	Parallel Light Transmittance (650nm)	Unit	White	Light Gray	Dark Gray
		On(%)	84	45	25
Haze	Off(%)	1	1	1	
	On(%)	2	2	2	
UV Blocking	Off(%)	92	92	92	
	%	99	99	99	
Electrical Properties	Operating Voltage	Voltage(V)	60	60	60
	Frequencies	Hertz(Hz)	50 ~ 60	50 ~ 60	50 ~ 60
	Response Time	On→Off(ms)	10	10	10
		Off→On(ms)	300	300	300
	Power Consumption	W/m <sup>2</sup>	5	5	5
	Operating Temperature	°C	-20 ~ 80	-20 ~ 80	-100

# TERAFIL (Functional Films) 기능성 필름

## Paint Protection Film(PPF) \_ 차량용 도장 보호필름

### Application [응용분야]

- PPF is a thermoplastic urethane film for protecting automotive surface coatings  
PPF필름은 자동차표면을 보호하기 위한 열가소성 우레탄 필름
- Mainly used in car bonnet and applied to the whole body of the vehicle including door edge guard and door cup  
주로 자동차 보닛에 사용되며 도어 에지 가드와 도어 컵을 포함한 차량의 전신에 적용



### Key Features [특성]

- PPF film maintains the transparency with just one application, it can maintain the transparency and gloss of the surface of the car for a long time and effectively protect it from scratches and stone chips. It also has excellent elasticity and shrinkage to protect even the most difficult corners of the vehicle, such as the edge of a vehicle  
PPF필름은 한번의 시공으로 자동차의 표면의 투명도와 광택을 장기간 유지하고 스크래치나 스톤칩으로부터의 효과적인 보호가 가능 또한 신축성과 수축성이 뛰어나 차량의 모서리와 같이 시공이 어려운 차량 구석까지 보호할 수 있음

#### Scratch resistance 내스크래치성

- Highly transparent, high molecular polyurethane material prevents scratches without losing the flexibility of the film  
고투과율, 고분자 폴리우레탄 소재로 필름의 유연성을 잃지 않으면서 스크래치 방지

#### Self-Healing 자가회복기능

- PPF surface layer has self-healing function, can effectively protect it from scratches and stone chips  
PPF 표면에 자가회복코팅이 되어있어, 스크래치와 스톤칩으로부터 보호

#### Yellowing prevention 황변방지

- Transparency does not change over time and prevents yellowing of the film  
시간이 지나도 투명성의 변함이 없으며 필름의 황변을 방지

#### Antifouling 오염방지

- Excellent antifouling property of coating layer prevents adhesion of dust and contaminants even after long time running  
코팅층의 방오성이 뛰어나며 장시간 운행을 한 뒤에도 먼지 및 오염물의 부착을 방지

#### Ease of use 시공 용이성

- Maintains the inherent high flexibility of the film while improving the initial adhesion during construction, so that the film can be smoother even in complex curved areas  
시공 시 초기 점착력을 향상시키면서 필름의 고유한 높은 유연성을 유지하므로 복잡한 곡선 영역에서도 필름을 보다 부드럽게 시공할 수 있음

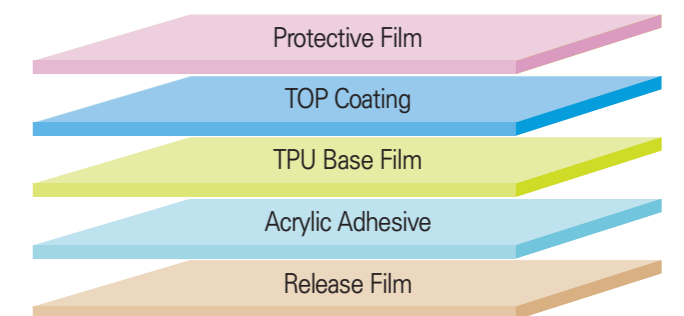
## TERAFIL PPF-1006(H) Hard Type

### Specification [사양]

Properties		Unit	Result
Film	Base	μm	TPU(150)
	Liner		PET Release Film
Self healing & AP coating		μm	10
Adhesive		μm	Acrylic (30)
Wide		mm	1524
Length		m	15
Haze		%	<2 ↓
Transmittance		%	90
Water Contact Angle		°C	105 ±5 °
TPU Hardness		Shore A	93±3
Adhesion	SUS	gf/inch	1,200



#### Film Structure



## TERAFIL PPF-1006(S) Soft Type

### Specification [사양]

Properties		Unit	Result
Film	Base	μm	TPU(150)
	Liner		PET Release Film
Self healing & AP coating		μm	10
Adhesive		μm	Acrylic (30)
Wide		mm	1524
Length		m	15
Haze		%	<2 ↓
Transmittance		%	90
Water Contact Angle		°C	105 ±5 °
TPU Hardness		Shore A	87±3
Adhesion	SUS	gf/inch	1,000

# TERAFIL (Functional Films) 기능성 필름

## IR (Infrared) Ray Shielding Film - 적외선 차단 필름

### Application [응용분야]

- Excellent weather resistance and light stability while maintaining excellent visible light transmittance and high infrared ray shielding properties, making it a heat shield films for automobiles, smart buildings, displays and electronics
- 우수한 가시 광선 투과율과 높은 적외선 차폐 특성을 유지하면서 내후성 및 내광성이 뛰어난 자동차, 스마트 빌딩, 디스플레이 및 전자 제품용 열차폐 필름으로 적용



### Key Features [특성]

- Simultaneous high visible light transmittance (VLT) and high infrared ray cut off (IRC)-at VLT 55%, IRC 93%  
높은 가시광 투과율(VLT), 높은 적외선 차단율(IRC)을 동시 구현- VLT 55%기준, IRC 93%
- High weatherability and light stability: 85 ° C / 85% RH, 1000 hours, Xe Lamp 50 W / m<sup>2</sup>, 1000 hours  
높은 내후성 및 내광성 : 85 °C/85 %RH, 1000시간, / Xe Lamp 50 W/m<sup>2</sup>, 1000시간

### Specification [사양]

Properties	VLT	VLR(In.)	VLR(Ex.)	IRR	TSER	UVR
TERAFIL - ANCP	55	6.9	7.3	93	66	99.9

## Anti-Fog Film - 김서림 방지 필름

### High Durability Anti-Fog Coating Film : TERAFIL AFG-0502

고내구성 김서림 방지(방담) 코팅 필름 : TERAFIL AFG-0502

### Application [응용분야]

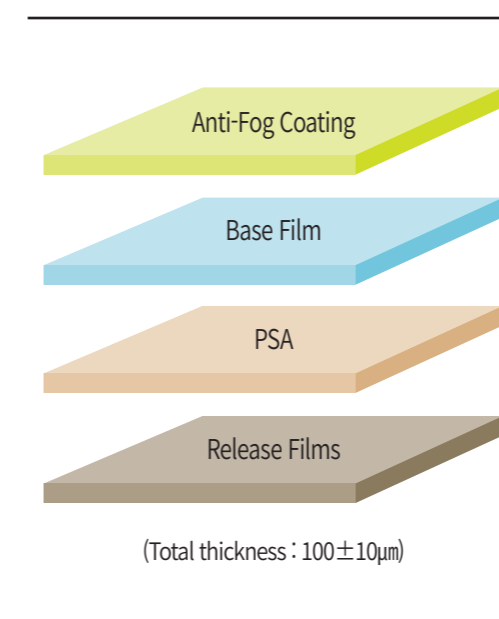
- Sports eyewear including sunglasses and goggles 선그라스, 고글 등 스포츠용 안경
- Car glass, display, instrument panel, interior/exterior glass for construction (window, mirror) 자동차유리, 디스플레이, 건축용 내/외부 유리(창문 및 거울)



### Key Features [특성]

- Excellent anti-fog properties 뛰어난 김서림 방지 성능
- Excellent solvent durability and chemical resistance 내화학성 및 내용제성
- Excellent transmittance 우수한 투과율

### Structure [구조]



### Specification [사양]

Properties	Result	Test Method	
Pencil Hardness	>H	JIS 5600-5-4 (500gf loaded)	
Substrate Adhesion, Cross Hatch	Pass (100/100)	JIS 5600	
Transmittance	>90%	JIS K7105	
Haze	<1%	JIS K7105	
Contact Angle (Water)	Initial	<10°	Auto Contact Angle Analyzer
	after abrasion test	<10°	Rubber / 100 Time / 500g
	after scratch test	<10°	Steel wool #0000 / 100 Time / 500g
	after hot water test	<10°	80°C Water bath / 1hr



# TERAFIL (Functional Films) 기능성 필름

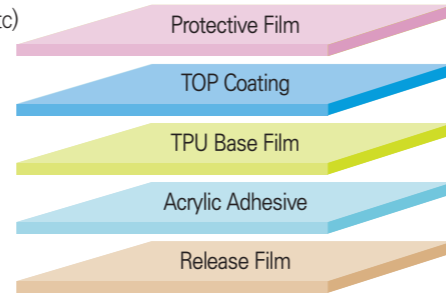
## Anti-Fouling Hard Coating Film \_ 방오(오염 방지) 필름

### Application [응용분야]

- It is mainly applied for protective coatings on plastic film & sheet (PET, TAC, PMMA, PC, PVC etc)  
PET, TAC, PMMA, OC, PVC 등의 플라스틱 기재 및 시트를 사용한 보호필름

### Key Features [특성]

- Anti-Finger Print and Anti-Fouling Function  
내지문, 내오염  
- Excellent solvent durability and chemical resistance  
우수한 내용제성과 내화학성



### Specification [사양] \_TERAFIL AP-0504

Properties	Unit	Result	Test Method
Transmittance	%	>91	JIS K7105 (NDH-2000N)
Haze	%	<2	JIS K7105 (NDH-2000N)
Pencil Hardness	-	3H	ASTM D1003
Water Contact Angle	°	110~111	Automatic Contact Angle Analyzer
Anti - Scratch	Cycle	2000	Steel Wool Test / 1kgf (#0000)

## Anti-Static Film with Scratch Resistance \_ 내스크레치용 대전방지 필름

### Application [응용분야]

- Protective Hard-coating film for OLED Manufacture OLED 공정용 보호필름  
- Optical Release Film 광학용 보호필름

### Key Features [특성]

- Excellent Hardness and Scratch Resistance with antistatic 우수한 경도와 내스크레치성  
- Good adhesion and Flexibility 우수한 부착력과 유연성  
- Excellent Transmittance and Low Haze 높은 투과율과 낮은 헤이즈

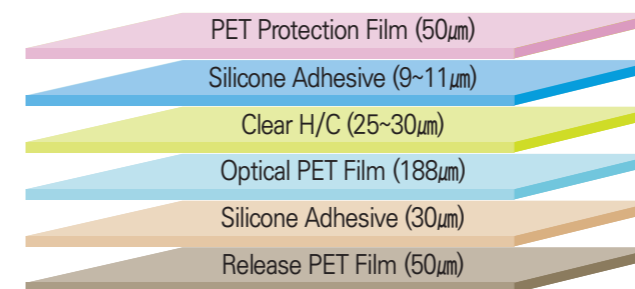


### Specification [사양] \_TERAFIL AS-SR Series

Properties	Result		Test Method
	1~2μm Coating	2~3μm Coating	
Transmittance	> 90%	> 90%	JIS K7105 (NDH-2000N)
Haze	< 1%	< 1%	JIS K7105 (NDH-2000N)
Pencil Hardness	1H	2H	JIS 5600 (750gf loaded)
Surface Resistance	10E+7.0 Ω/■	10E+6.0 Ω/■	Worksurface Tester ST-4
Anti-Scratch	100 times Pass	300 times Pass	Steel Wool test (#0000/500gf)

## High Hardness Film \_ 고경도 필름

### AMHC-18830 [고경도 Clear H/C 필름]



### Application [응용분야]

- Laptop, Navigation, GPS mobile phone liquid crystal  
노트북, 네비게이션, GPS 휴대폰 액정  
- Liquid crystal for touchscreen 터치스크린용 액정  
- Anti-shock protective film 충격방지용 보호필름

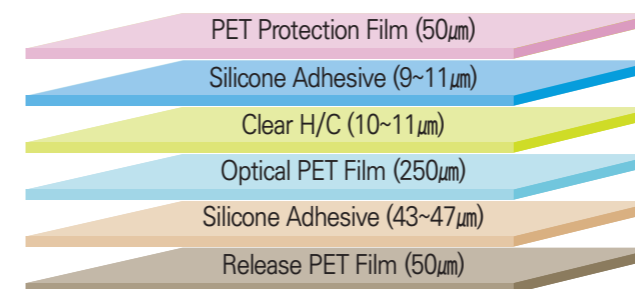
### Specification [사양]

Properties		Unit	Result
Film	Base	μm	PET(188)
	Liner		PET both sides(50)
UV Hard coating		μm	30~40
Adhesive(1 <sup>st</sup> )		μm	Silicone(30)
Adhesive(2 <sup>nd</sup> )		μm	Silicone(10)
Wide		mm	1040
Length		m	200
Haze		%	2 ↓
Transmittance		%	90 ↑
Surface hardness		H	9
Adhesion (rear)	SUS	gf/inch	2~4
Adhesion (protect)	SUS	gf/inch	2~3

### Key Features [특성]

- Excellent Surface Longitude 9H 탁월한 표면경도 9H (UV Hard coating)  
- Superior Adhesion, Wettability 탁월한 젖음, 부착, 밀착성  
- High transparency 고투명성  
- Excellent durability (No PSA transition) 우수한 내구성(점착제 전이 없음)

### AMHC-25045 [고경도 Clear H/C 필름]



### Application [응용분야]

- Laptop, Navigation, GPS mobile phone liquid crystal  
노트북, 네비게이션, GPS 휴대폰 액정  
- Liquid crystal for touchscreen 터치스크린용 액정  
- Anti-shock protective film 충격방지용 보호필름

### Specification [사양]

Properties		Unit	Result
Film	Base	μm	PET(250)
	Liner		PET both sides(50)
UV Hard coating		μm	10~11
Adhesive(1 <sup>st</sup> )		μm	Silicone(45)
Adhesive(2 <sup>nd</sup> )		μm	Silicone(10)
Wide		mm	1040
Length		m	200
Haze		%	2 ↓
Transmittance		%	90 ↑
Surface hardness		H	5 ↑
Adhesion (rear)	SUS	gf/inch	2~4
Adhesion (protect)	SUS	gf/inch	2~3

### Key Features [특성]

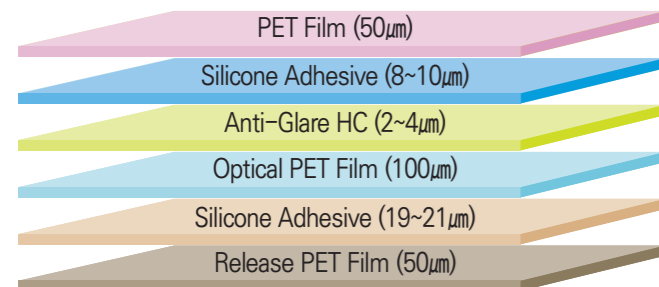
- Excellent Surface Longitude 5H 탁월한 표면경도 5H (UV Hard coating)  
- Superior Adhesion, Wettability 탁월한 젖음, 부착, 밀착성  
- high transparency 고투명성  
- Excellent durability (No PSA transition) 우수한 내구성(점착제 전이 없음)

# TERAFIL

## (Functional Films) 기능성 필름

### Anti-Glare Film - 액정 보호 필름

#### AMG20-10020 [Anti-Glare HC 액정 보호용 필름]



#### Application [응용분야]

- For the protection of liquid crystal in the manufacturing process of mobile phones 휴대폰 제조공정 액정 보호용
- For touch screen liquid crystal protection 터치스크린 액정 보호용
- LCD liquid crystal protection LCD 액정 보호용

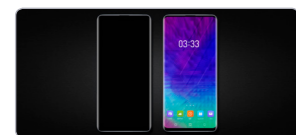
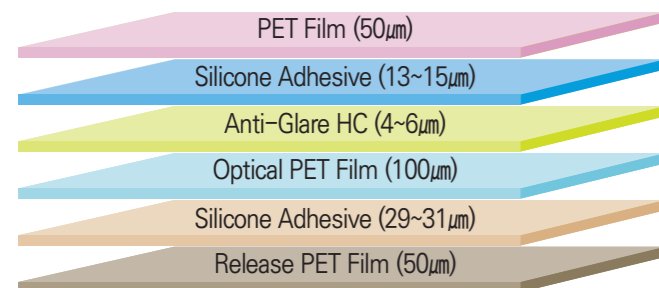
#### Specification [사양]

Property	Unit	Result
Film	Base	PET(100)
	Liner	PET(both-side) (50)
UV Hard coating	µm	Anti-glare H/C
Adhesive(1 <sup>st</sup> )	µm	Silicone(20)
Adhesive(2 <sup>nd</sup> )	µm	Silicone(10)
Wide	mm	1040
Length	m	200
Haze	%	18~22
Transmittance	%	90 ↑
Surface hardness	H	2 ↑
Adhesion (rear)	SUS gf/inch	2~4
Adhesion (protect)	SUS gf/inch	2~3

#### Key Features [특성]

- Anti-glare effect 눈부심 방지 효과
- Transparent Anti-glare 투명한 Anti-glare
- Anti-Fingerprint protection effect 지문방지 효과
- Excellent durability (No PSA Transition) 우수한 내구성(점착제 전이없음)

#### AMG30-10030 [Anti-Glare HC 액정 보호용 필름]



#### Application [응용분야]

- For the protection of liquid crystal in the manufacturing process of mobile phones 휴대폰 제조공정 액정 보호용
- For touch screen liquid crystal protection 터치스크린 액정 보호용
- LCD liquid crystal protection LCD 액정 보호용

#### Specification [사양]

Property	Unit	Result
Film	Base	PET(100)
	Liner	PET(both-side) (50)
UV Hard coating	µm	Anti-glare H/C
Adhesive(1 <sup>st</sup> )	µm	Silicone(30)
Adhesive(2 <sup>nd</sup> )	µm	Silicone(14)
Wide	mm	1040
Length	m	200
Haze	%	28~32
Transmittance	%	90 ↑
Surface hardness	H	2 ↑
Adhesion (rear)	SUS gf/inch	2~4
Adhesion (protect)	SUS gf/inch	2~3

#### Key Features [특성]

- Excellent wetting 탁월한 Wetting성
- Anti-glare HC 눈부심 방지 하드코팅
- Excellent durability (No PSA Transition) 우수한 내구성(점착제 전이없음)

### Surface Protection Film (Acrylic & Silicone) - 보호필름(아크릴 & 실리콘점착)

#### Application [응용분야]

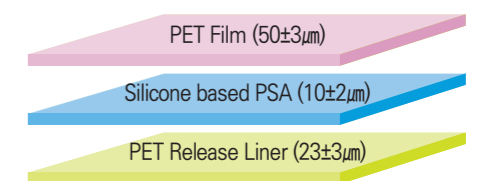
- For glass processing, shipping (for Display) 디스플레이용 유리 가공 및 운송시 보호
- Display suite for surface protection 표면 보호용 디스플레이 제품군
- Special surface protection film, Temporary fixing of electronic products 전자제품 임시고정용

#### Key Features [특성]

- Excellent Wetting properties and Leveling and heat resistance 우수한 레벨링과 내열성
- Easily removed without residue adhering 잔류물 없이 용이한 부착력

#### Specification [사양]

Properties	Unit	Result	Test Method
Transmittance	%	> 90	ASTM D1003
Haze	%	< 2	
Peel Strength	SUS304 gf	15±5	KS A 1107 (After 30min on SUS304, 180°peel test to 300mm/min)



### Matte Release PET Film - 매트이형필름

#### Application [응용분야]

- It is applied as release film for PPF, Window film, etc PPF(차량용도장보호필름), 윈도우 필름용 이형필름

#### Key Features [특성]

- Excellent slip and good dimensional stability over a wide temperature range 넓은 온도 범위에서 탁월한 슬립성과 우수한 치수 안정성
- High strength, flexibility, and chemical resistance 높은 강도, 유연성 및 내 화학성
- Ease to peeling of PSA 점착제와 용이한 박리

#### Specification [사양]

Properties	Unit	Result	Test Method
Total Thickness	µm	75 ± 5µm	JIS B7503
Transmittance	%	> 70	ASTM D1003
Haze	%	> 85	
Release Force	gf/25mm	10 ± 5	TESA7475 180°peel test to 300mm/min
Heat Shrinkage	MD	%	30 min. at 150°C
	TD	%	

