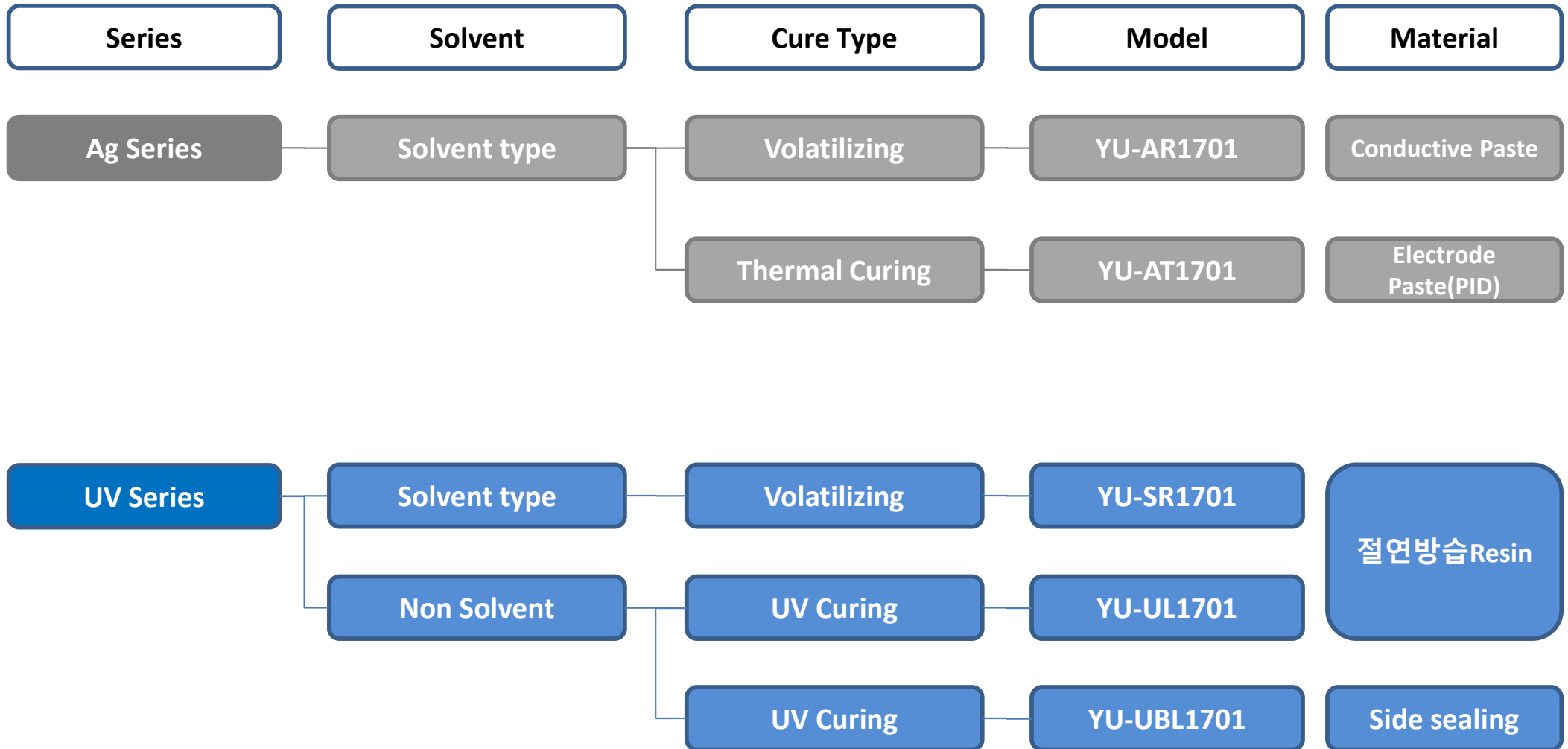




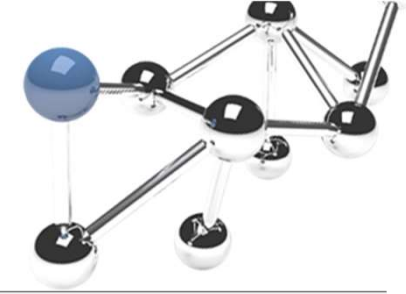
YUJIN Chemical

LCD Module 재료 소개

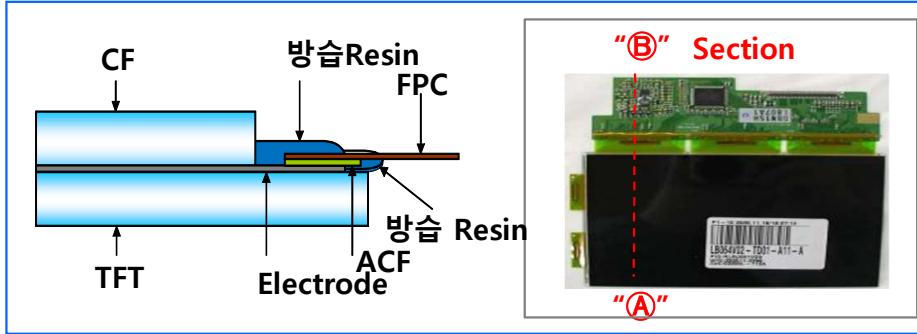
1. Display Module Materials



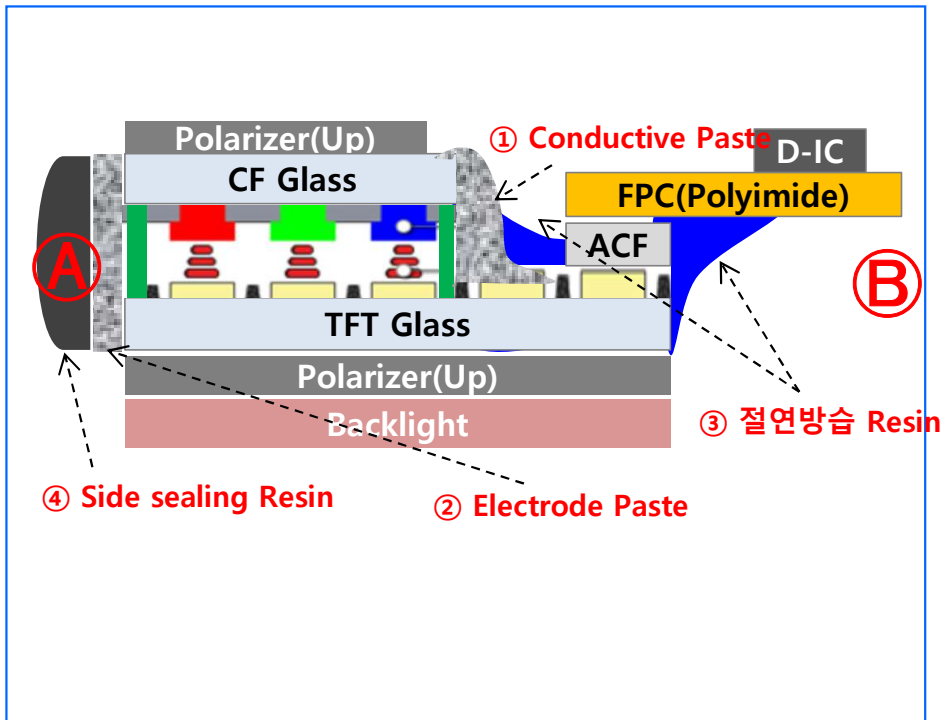
2. LCD Module Application



Cross-section Structure



G2 Structure



Product List

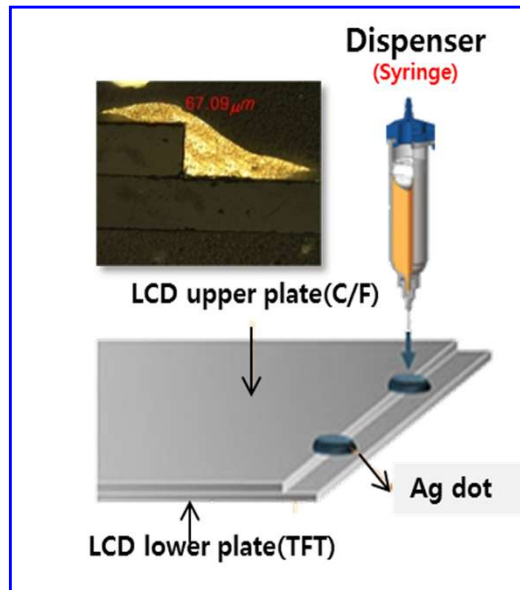
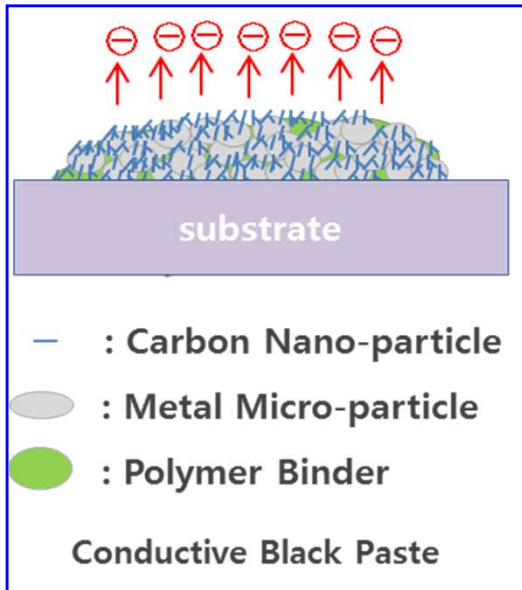
No	Product 1	Product 2	P/No.	Specification
①	Conductive Paste	Silver Paste	YU-AR1702	<ul style="list-style-type: none"> • Viscosity (cPs) : 5,250 • Appearance : Gray • Cure Type : Volatilizing
		Black Paste	YU-BR1703	<ul style="list-style-type: none"> • Viscosity (cPs) : 6,000 • Appearance : Black • Cure Type : Volatilizing
②	Electrode Paste (PID)	Thermal Curing	YU-AT1701	<ul style="list-style-type: none"> • Viscosity (cPs) : 6,500 • Solids contents : 76% • Curing Condition : 20min@120°C
③	절연방습 Resin	R.T Curing	YU-SR1701	<ul style="list-style-type: none"> • Viscosity (cPs) : 800 • Appearance : Dark Blue • Curing : R.T < 9min
		UV Cure	YU-UL1701	<ul style="list-style-type: none"> • Viscosity (cPs) : 1,545 • Appearance : Clear • Curing : LED Lamp 365/385nm <500mj
④	Side sealing Resin	UV Cure	YU-UBL1701	<ul style="list-style-type: none"> • Viscosity (cPs) : 2,800 • Appearance : Blue Black • Curing : LED Lamp 405nm <4,500mj • Optical Density : 1.0(200um)

1) Conductive Paste(TV/MNT/Mobile)



IPS Panel의 C/F or Top POL 표면에 발생하는 정전기를 ITO층 → TFT 층을 거쳐 Ground 처리를 위한 Conductive Silver Paste

【 Product concept 】

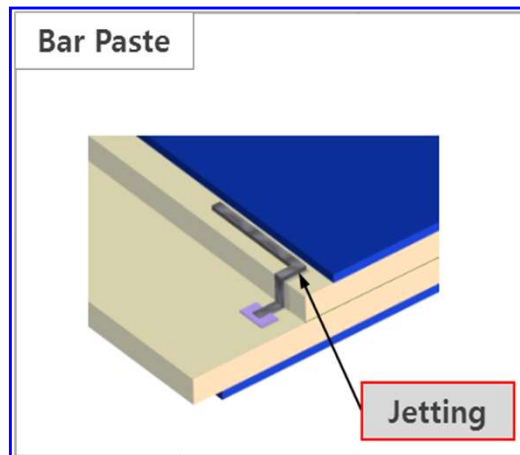
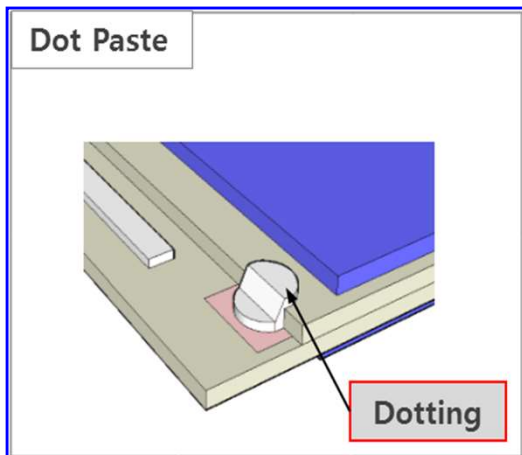


【 Challenge Point 】

- ✓ 우수한 전기저항
- ✓ 우수한 내수성 및 접착력
- ✓ **Black paste : 생산량 증대 (Ag 대비 낮은 비중) ESD 효과 증대 (밀도 및 조도 차이)**

【 Product Specification 】

Specification	Silver paste (YU-AR1702)	Black paste (YU-BR1703)
Solids contents (%)	43 ± 1	48 ± 1
Viscosity (cPs)	5,250 ± 500	6,000 ± 500
Jetting	OK	OK
ESD	10kv	12kv ↑
T.I.	5.0	1.6
Electrical Resistance (Ω)	< 1.0	< 1.0
Curing Condition	Surface drying 5min Complete drying 6hour	Surface drying 5min Complete drying 6hour
Storage	1~5°C	1~5°C



【 Safety 】

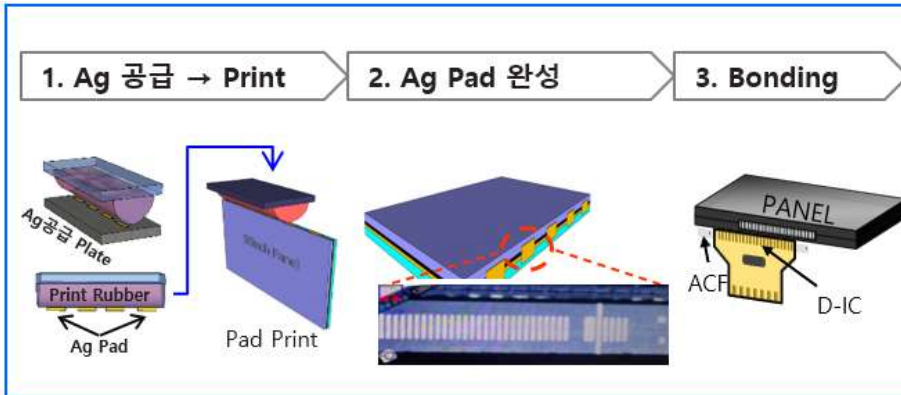
- Warranty : 6 Month

2) Electrode Paste (PID TV)

대화면 Commercial TV용으로 Panel 측면에 Pad Printing을 이용한 Fine Pitch(30 μ m) 전극 인쇄를 위한 Ag paste



【 Product concept 】

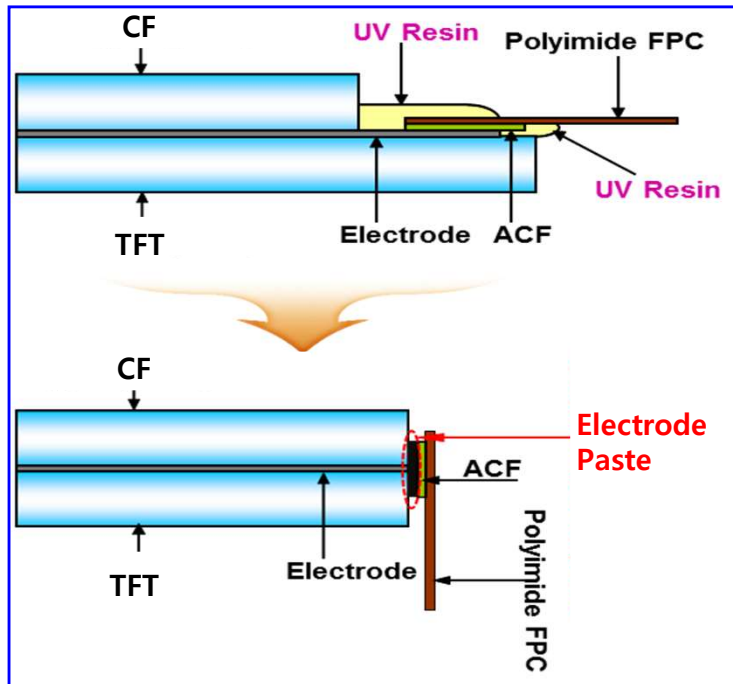


【 Challenge Point 】

- ✓ 우수한 전기저항
- ✓ 패턴의 정밀성
- ✓ 우수한 내수성 및 접착력

【 Product Specification 】

Specification	Electrode Paste YU-AT1701	Remarks
Solids contents (%)	72 \pm 2	TGA
Viscosity (cPs)	850 \pm 100	Brookfield LVDV-II+Pro, #14 Spindle @ 200 rpm @ 22 $^{\circ}$ C
비중(g/ml)	2.0 \pm 0.5	
T.I	1.30 \pm 0.5	2rpm / 20rpm
Adhesion (on Glass)	5B (100/100)	ASTM D3359-B
Specific resistance (Ω)	< 2.5 \times 10 $^{-4}$	Micro Multimeter
Curing Condition	20min @ 120 $^{\circ}$ C	-
Storage	1~5 $^{\circ}$ C	미 개봉 상태 냉장보관



【 Safety 】

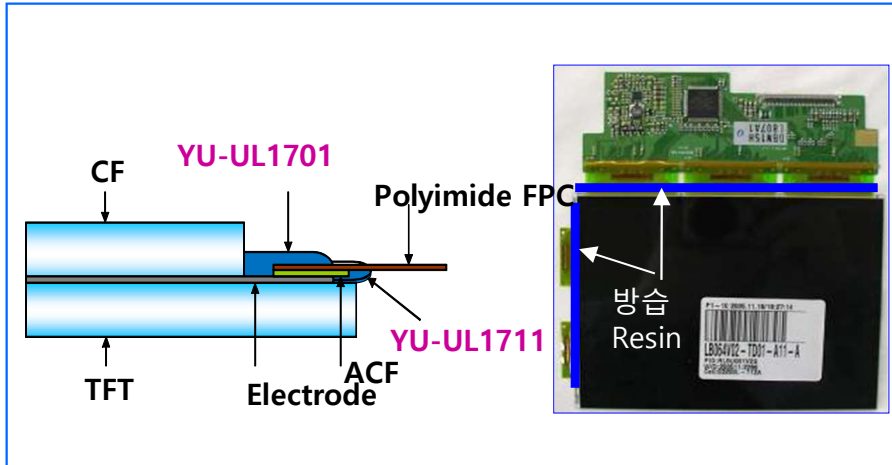
- Warranty : 3 Month

3) 절연방습 Resin(TV/MNT/Mobile)

절연방습액은 LCD, OLED, TSP 패널의 ITO, 전극 부위 등을 외부 습기, 오염, 충격으로부터 보호



【 Product concept 】



【 Challenge Point 】

- ✓ Low moisture absorption
- ✓ High Photo Speed (LED Lamp Cure)
- ✓ Excellent heat stability
- ✓ Excellent Reliability

【 Product Specification 】

Specification	자연건조 YU-SR1701	UV Cure YU-UL1701	UV Cure YU-UL1711
Binder	Styrene	Urethane	Urethane
Appearance	Dark Blue	Clear	Yellow
Viscosity(cPs)	800±300	1,545±300	1,770±300
Curing	R.T <9min	LED 365/385nm	LED 365nm
UV Intensity	-	200~500mJ	1,500mJ
Young's Modulus	-	-	300Mps
Elongation(%)	1,300	387	260
Adhesion(Glass)	30(gf/mm)	158(gf/mm)	86(gf/mm)
Solid Content(%)	30	100	100
Water Absorption(%)	0.3	0.31	0.3

【 Storage and Safety 】

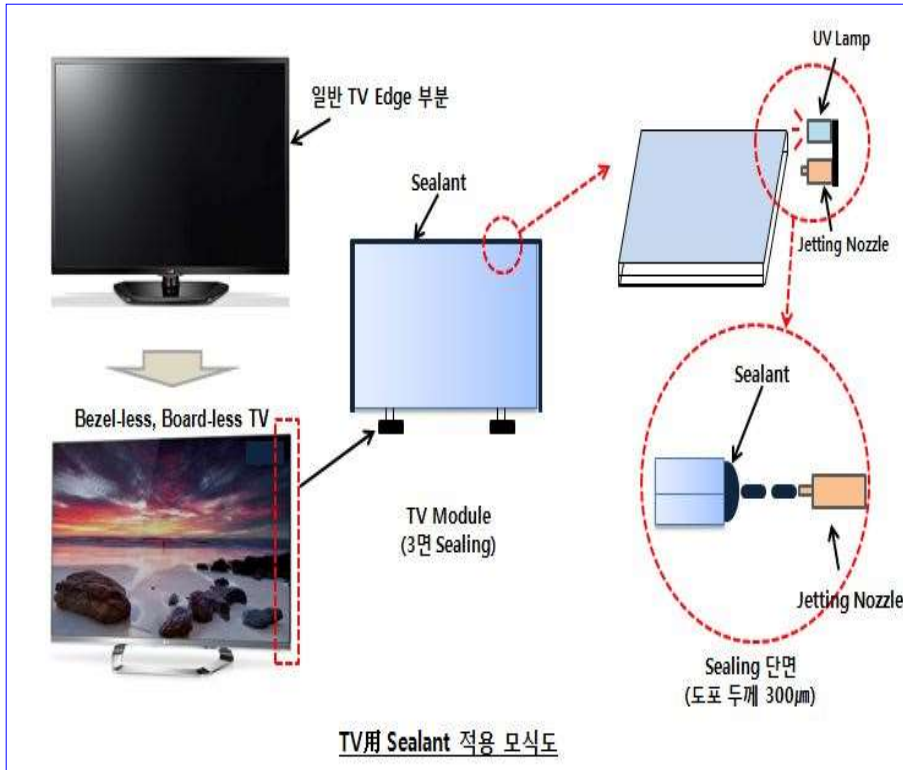
- Storage : Optimal Storage Temp. : 3°C to 30°C
- Warranty : 6 Month

4) Side Sealing Resin(LCD/OLED TV/MNT)

TV, Monitor제품의 Bezel-less type은 Backlight에서 발생하는 빛샘을 차단. 외부로부터 충격을 완화시키는 역할, Oligomer에 Flexible 특성을 첨가 하여 Re-Work이 용이 함



【 Product concept 】



【 Storage and Safety 】

- Storage : Optimal Storage Temp. : 3°C to 30°C
- Warranty : 6 Month

【 Challenge Point 】

- ✓ Light Leakage Prevention : Optical Density >0.5 (Block Rate > 95%)
- ✓ Minimizing Panel Bezel-less
- ✓ Non-Carbon Type

【 Product Specification 】

Specification	UV Cure YU-UBL1701	UV Cure YU-UBL1711	UV Cure YU-UBL1731	Remark
부착면	Panel	Panel	Panel	
Binder	Urethane	Urethane	Urethane	
Appearance	Blue Black	Blue Black	Blue Black	
Viscosity(cPs)	2,800 ± 300	1,500 ± 300	7,000 ± 300	
O.D	0.5	0.7	1.6	200um
90° Peel strength	1.30 N/mm	1.60 N/mm	1.60 N/mm	50mm/min 폭5mm
UV Lamp Thermal	LED 405nm	LED 405nm	LED 405nm	
UV Intensity	500mj	4,500mj	4,500mj	
Water Absorption	0.4%	0.3%	0.3%	at 25°C/24hr
WVTR(g/m ² .1day)	54	55	53	At 60°C/90% 24hr



THANK YOU

