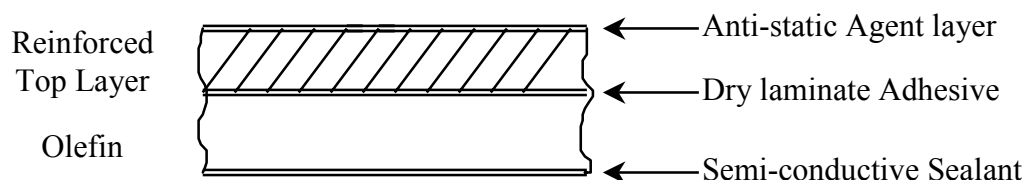


SUMICARRIER

## TECHNICAL REPORT

COVER TAPE

**CSL - Z7302**STRUCTUREPHYSICAL PROPERTIES

ITEMS	Test Method	CSL-Z7302	Brand X	Brand Y	
Thickness (mm)	Microgauge	0.050	0.056	0.044	
Tensile strength (MPa)	ASTM D638 (JIS K6734)	92	78	83	
Tensile impact strength (kJ/m <sup>2</sup> )	ISO 8256	2034	1435	1442	
Luminous Transmittance(%)	ASTM D1003 (JIS K7105)	88	90	88	
Haze(%)	ASTM D1003 (JIS K7105)	15	60	30	
Surface Resistivity (ohm/square)	PET	ASTM D257	10 <sup>9</sup>	10 <sup>10</sup>	10 <sup>9</sup>
	Sealant	(23°C×50%RH)	10 <sup>9</sup>	10 <sup>10</sup>	10 <sup>9</sup>
	PET	ASTM D257	10 <sup>11</sup>	10 <sup>12</sup> <	10 <sup>12</sup> <
	Sealant	(23°C×15%RH)	10 <sup>9</sup>	10 <sup>12</sup> <	10 <sup>12</sup> <

*Typical Laboratory Tests data only.*Note

- Excellent tough cover tape in the world
- Excellent transparency
- Stable surface resistivity on sealant side under any condition

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**TECHNICAL REPORT**

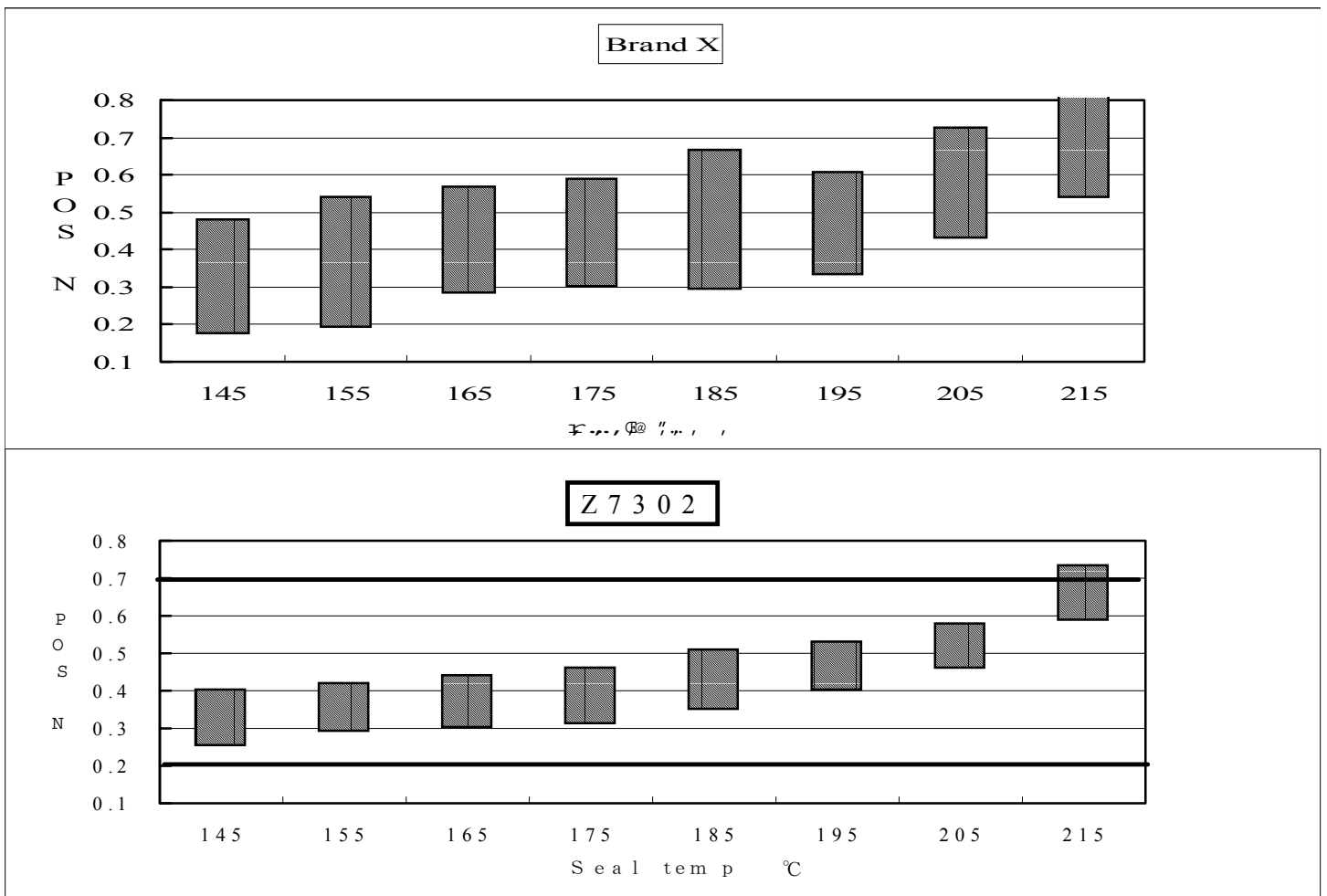
COVER TAPE

**CSL - Z7302**

GRAPH OF P.O.S Vs TEMPERATURE

Carrier Tape : CEL-E980A(Conductive PS)

POS required by customers : 0.2 ~ 0.7 N



SEALING CONDITIONS :

Sealing Machine : Tesec Bim #2  
 Shoe Width : 0.55 mm  
 Shoe Length : 50 mm  
 Mode : Stamping  
 Wide of carrier tape : 16 mm

Note

- Wide operation window
- Sealing availability at low temperature
- Smaller deviations at different temp.



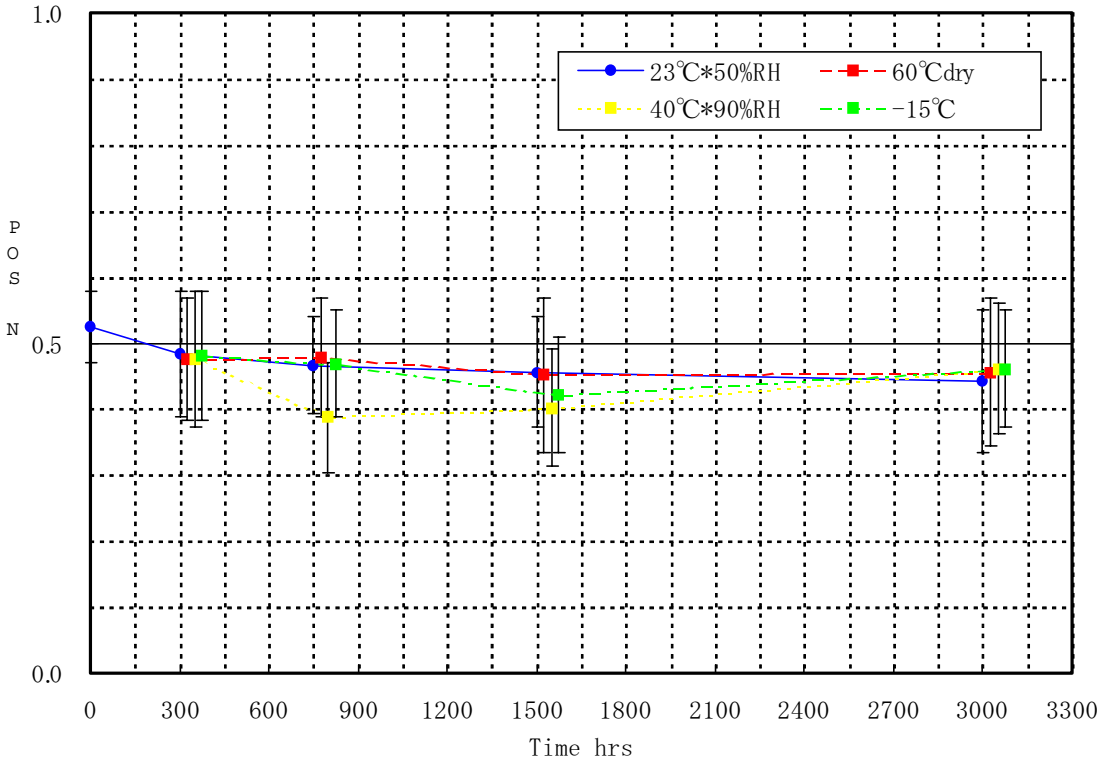
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**TECHNICAL REPORT**

COVER TAPE

**CSL - Z7302**

COVER TAPE AGING BEFORE SEALING  
-- PEEL OFF STRENGTH CHARACTERISTICS

Carrier Tape :CEL-E980A(Conductive PS)



SEALING CONDITIONS :

- Sealing Machine : Systemation ST-50 (960 min/mm)
- Peeling Machine : GPD 856V (at 300 mm/min)
- Temperature : 150°C
- Pressure : 20 psi
- Shoe Width : 0.45 mm
- Shoe Length : 48 mm
- Mode : Continuous

Note  
- Stable p.o.s. under various storage conditions

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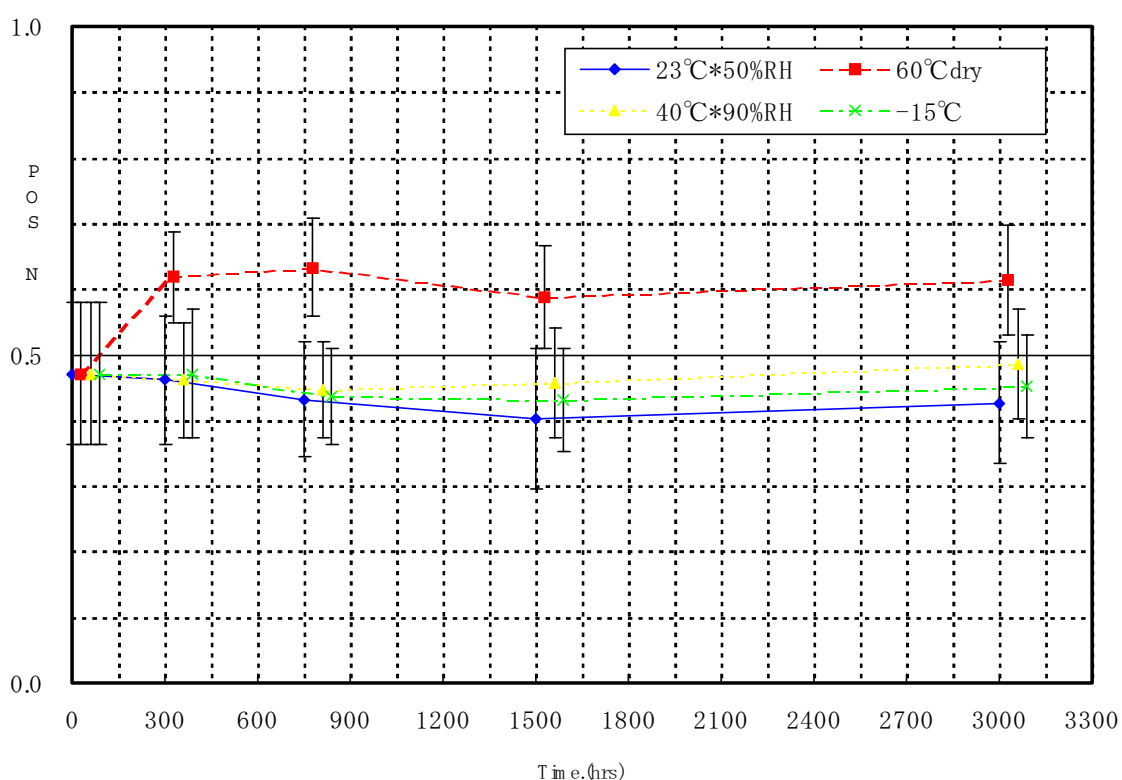
## TECHNICAL REPORT

COVER TAPE

**CSL - Z7302**COVER TAPE AGING AFTER SEALING

-- PEEL OFF STRENGTH CHARACTERISTICS

Carrier Tape : CEL-E980A(Conductive PS)

SEALING CONDITIONS :

Sealing Machine : Systemation ST-50 (960 min/mm)

Peeling Machine : GPD 856V (at 300 mm/min)

Temperature : 150°C

Pressure : 20 psi

Shoe Width : 0.45 mm

Shoe Length : 48 mm

Mode : Continuous

Note

-Stable p.o.s. at the room

temperature less than 40°C



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## TECHNICAL REPORT

COVER TAPE

**CSL - Z7302**E.S.D CHARACTERISTICS

1. Both sides of cover tape are anti-static treated.
2. Important sealant side has been specially treated to  $10^9$  level of surface resistivity. This was achieved without compromising sealability and transparency.
3. The surface resistivity of the sealant side has been specially designed so that it is stable even under very low humidity condition.
4. Devices are completely protected against triboelectric charges. It is most suitable for taping electrostatic sensitive devices.
5. Device sticking and “Jumping” during peel off which is caused by static electricity are prevented. Even very small devices are possible to be taped without trouble.

STATIC PROPERTIES

Static Properties		Method	CSL-Z7302
Surface Resistivity (ohm/square)	PET	ASTM D257	$2.4 \times 10^9$
	Sealant	(JIS K6911)	$1.0 \times 10^9$
Static Decay Time(sec)	PET	MIL-B-81705C	0.03
	Sealant	(SPEC - < 2.0)	0.02
Triboelectric Charge(nC)		SB Method *1)	1.80
Peel Electrostatic Charge (V)		SB Method *2)	4

\*1) Refer to attachment No. 1

\*2) Refer to attachment No. 2

*Typical Laboratory tests data only.***Sumitomo Bakelite Co., Ltd.**

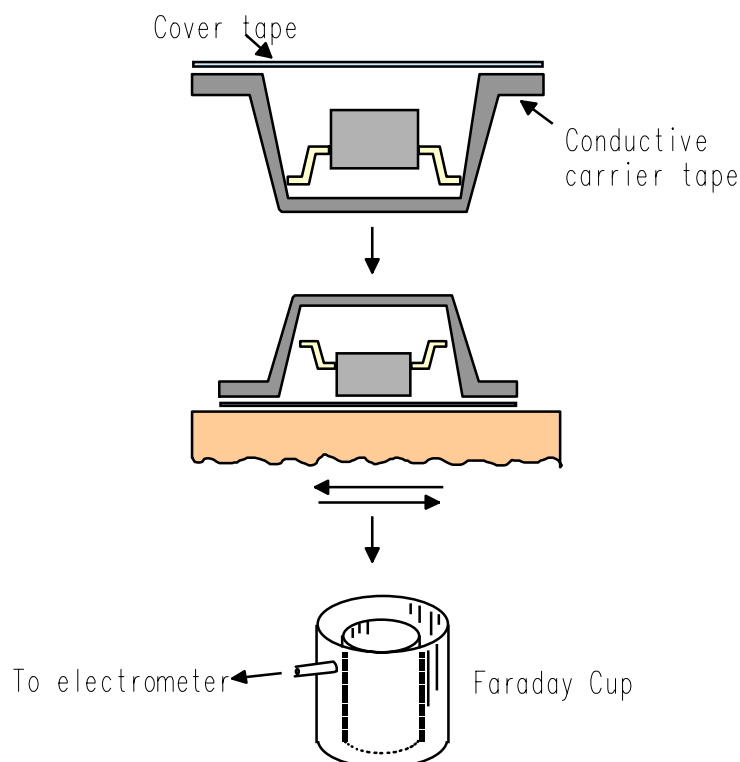
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## TECHNICAL REPORT

COVER TAPE

**CSL - Z7302**MEASUREMENT METHOD FOR TRIBO-ELECTROSTATIC CHARGE  
TYPICAL AT 23°C \* 15%RH

1. Devices are put into carrier tape and then sealed by cover tape.
2. The sealed carrier tape (with the device inside) is put on the vibration test equipment with the cover tape side facing downwards. It is then vibrated at 700 rpm for 5 minutes.
3. The cover tape is then peeled off from the carrier tape.
4. Devices are taken out from the carrier tape and put into a Faraday cup.
5. Measurement is repeated 12 times and the maximum value of the static electricity each time is recorded. (per EIA-541)



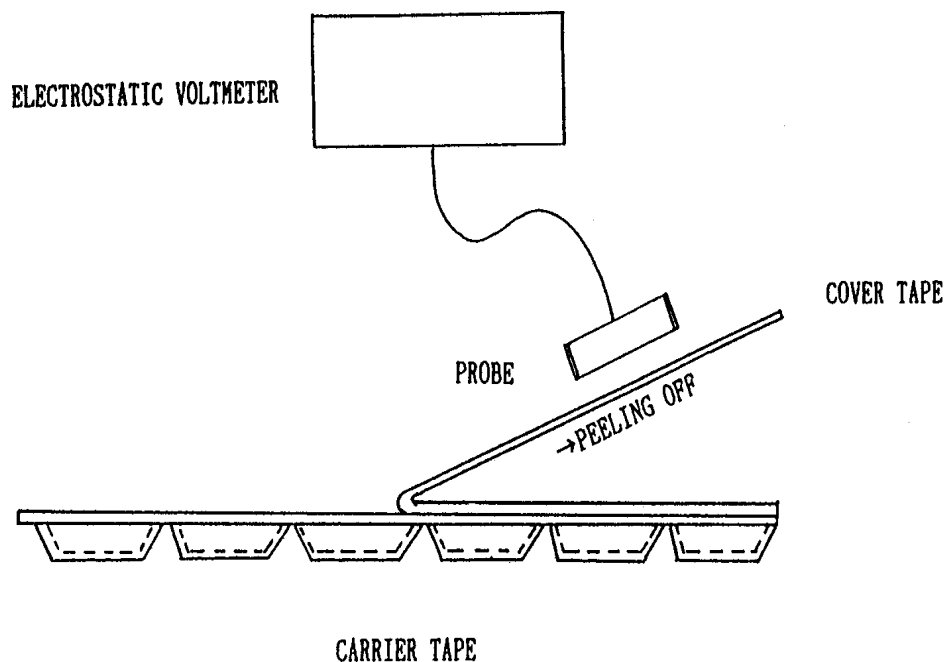
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**TECHNICAL REPORT**

COVER TAPE

**CSL - Z7302****MEASUREMENT METHOD OF PEEL ELECTROSTATIC CHARGE**

1. The carrier tape is sealed with the cover tape.
2. The bottom part of the pocket is cut out and both side of cover tape are neutralized in an ionizer for more than 1 minute.
3. Cover tape is peeled off from the carrier tape.
4. Measurement of static electricity is performed.
5. Measurement is repeated 5 times and then the average value is calculated from them.

**NOTE :**

Peeling off Speed : 300 mm/min

Probe / specimen distance : 5 mm

