



元太科技工業股份有限公司
PRIME VIEW INTERNATIONAL CO., LTD;

CAS & INSPECTION STANDARD

NO. _____

APPLICATION

This inspection standard is applicable to the following product from Prime View International CO., LTD.

PRODUCT: ED060SC4,ED060SC4C1,ED060SC4H1,ED060SC4H2

The content of this information is subject to be changed without notice.

Please contact PVI or its agent for further information.

Date of issue: _____

<p>YOUR APPROVAL</p>

Issued by:

Chia-Hsien Lan

Section Manager:

Dean Wong

Please sign back this standard as soon as possible.



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CAS & Inspection Standard

1. Appearance inspection standard

1.1 Cosmetic specification

This cosmetic inspection shall be applied to 6"EPD module that supplied by Prime View International CO., LTD.

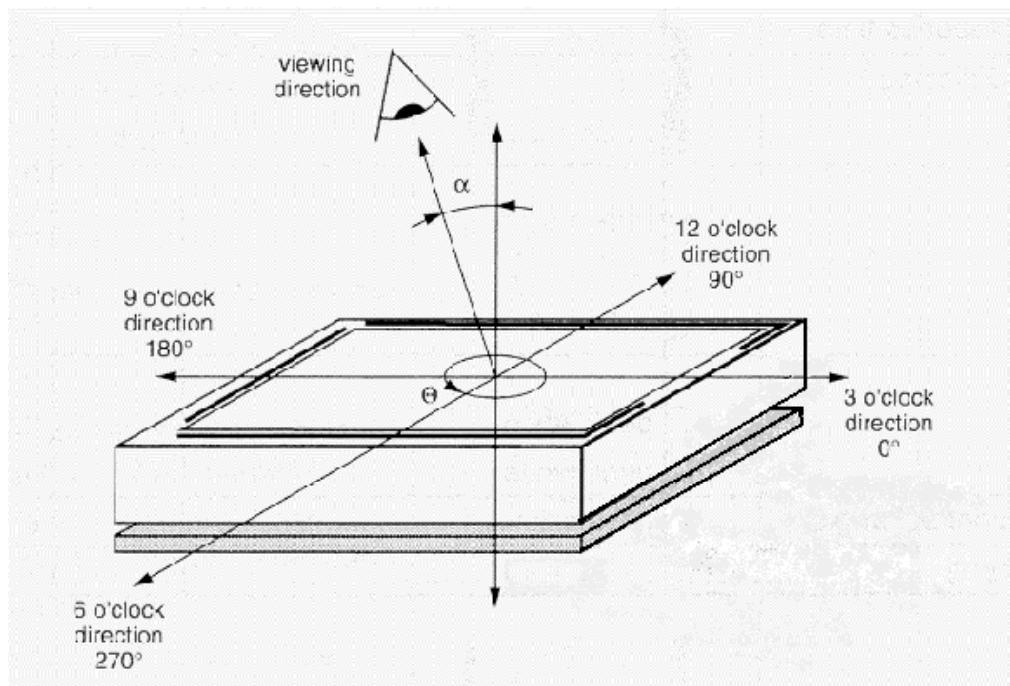
1.2 Inspection condition

1.2.1 Viewing Angle (Major axis x)

1.2.1.1 The inspection shall be conducted within viewing angle range.

$\alpha = \pm 45^\circ$ inspection under non-operating condition.

$\alpha = \pm 45^\circ$ inspection under operating condition.



1.2.2 Environment condition

1.2.2.1 Ambient Temperature : $25 \pm 5^\circ\text{C}$

1.2.2.2 Ambient Humidity: 40 – 70%RH

1.2.2.3 Due date of storage: 12 months

1.2.2.4 ESD should be control under $\pm 200\text{V}$

1.3 Sampling condition



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1.3.1 Lot size: Quantity of shipment lot per model.

1.3.2 Sampling type: Normal inspection, single sampling.

1.3.3 Inspection Level: Level II

Sampling table: ISO2859 (Also known as MIL-STD-105E II), unless otherwise agreed in writing.

1.4 Acceptance Quality Level (AQL)

1.4.1 Major defect: 0.65

1.4.2 Minor defect: 1.5

1.5 Classification of defects

Defects are classified as either a major or minor defect defined as below.

1.5.1 Major defect

It is a defect that is likely to result in failure or to reduce materially the usability of the product for the intended function.

1.5.2 Minor defect

It is a defect that will not result in functioning problem with deviation classified.

1.6 Inspection Instrument:

1.6.1 Ionizer-FAN

1.6.2 Microscope 10x ~ 100x

1.6.3 EPD design test jig

2. Quality criteria

2.1 Inspection condition

Ambient Luminance ··· 1000lux ~ 1300lux; Typical is setting around 1150lux +/- 150.

Temperature : 23°C±5°C

Humidity: 40 – 70%

Supply Voltage: Typical value described on a specification

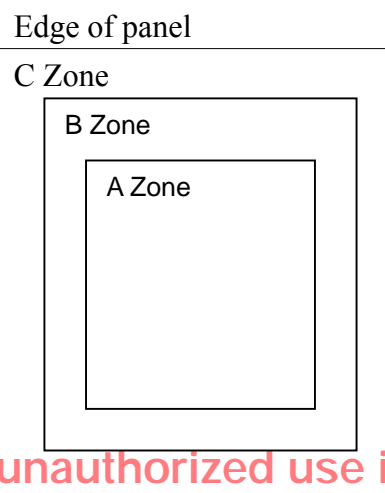
Viewing Distance and Angle : 30 +/- 10cm, $\theta\phi = +/-45\text{deg.}$

2.2 Zone Definition

A Zone: Active area
(Defined in specification)

B Zone: Border area
(0.8mm from A Zone edge.)

C Zone: From B Zone edge to
panel edge.





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2.3Cosmetic criteria

The items are shown a table blow. Other items and standard values, applicable zones are to be decided by agreement. A limited sample shall be made to decide standards.

Major Defects:

Item	Description	Classification
No display	No display show on screen due to malfunction	Major
Line defect	Line missing or unusual appear when display	Major
Abnormal display	Unusual pattern or function displayed	Major

Minor Defects:

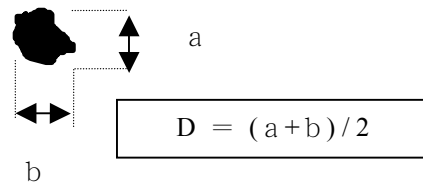
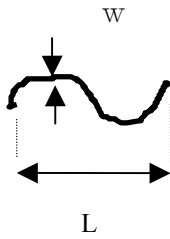
Item		Criteria	Specific Zone	
Name	Causes		A Zone	B & C Zone
Spot	B/W spot in glass or protection sheet, foreign mat. Swell. Dot defect	Spot Size	A Zone	B & C Zone
		$D \leq 0.20\text{mm}$	Ignore	Ignore
		$0.20\text{mm} < D \leq 0.60\text{mm}$	≤ 15	
		$D > 0.60\text{mm}$	0	
Pin hole Swell	Pin hole /Swell in glass or FPL, or protection sheet	$D \leq 0.3 \text{ mm}$	Ignore	Ignore
		$0.3 \text{ mm} < D \leq 1.0 \text{ mm}$	8	
		$D > 1.0\text{mm}$	0	
Scratch or line defect	Scratch on glass or Scratch on FPL or Particle is Protection sheet.	Length	Width	A Zone
		$L \leq 2.0 \text{ mm}$	$W \leq 0.2 \text{ mm}$	Ignore
		$2.0 \text{ mm} < L \leq 8.0\text{mm}$	$0.2 \text{ mm} < W \leq 0.5 \text{ mm}$	≤ 8
		$L > 8.0 \text{ mm}$	$W > 0.5 \text{ mm}$	0
Air bubble	Air bubble	$D1, D2 \leq 0.5 \text{ mm}$	Ignore	Ignore
		$0.5 \text{ mm} \leq D1, D2 \leq 1.0 \text{ mm}$	8	
		$D1, D2 > 1.0 \text{ mm}$	0	
Water Mark	The mark caused by seal glue	Not across to A zone is allowed	0	Ignore
Chatter and Streak	Weak line visible at gray pattern	Not allowed if visible at full white and black pattern	Follow Criteria	Ignore
Image Sticking Ghosting 殘影		$-1.0 \leq \text{Ghosting} \leq 1.0$		

Remarks:

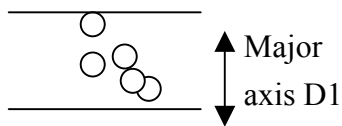
- Spot define: That only can be seen under WS or DS defects.
- Any defect which is visible under gray pattern or transition process but invisible under black and white is disregarded.
- Here is definition of the “Spot” and “Scratch or line defect”.
Spot: $W > 1/4L$
Scratch or line defect: $W \leq 1/4L$
- Definition for L/W and D (major axis)
- “Water Mark”: EC glue overflow along border area(Minor defect)
Water mark exists inner side of B zone to the center line of B zone: not allowed
Water mark exists from the center line of B zone to the outer side of B zone: ignored



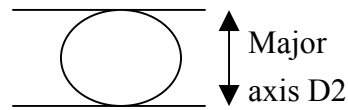
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Aggregate of small air

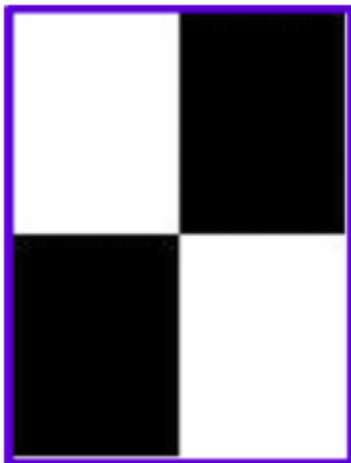


Big air bubble



● Ghosting Test

(1) Test Pattern



At least 1sec. spacing → White State

(2) Display Sequence: Init → White(GC) → White(GC) → 4-checkerboard Pattern(GC) → White(GC)

(3) Measuring the reflectance of all 4 checkerboard areas when final white state by Eye-One device.





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Rw: reflectance of area transited from white state

Rb: reflectance of area transited from dark state(black state)

(4) Calculating averages of WS-to-WS and DS-to-WS transitions

$$Rw(ave)=(Rw1+Rw2)/2$$

$$Rb(ave)=(Rb1+Rb2)/2$$

(5)Calculation Ghosting

$$Ghosting=Rw(ave)-Rb(ave)$$

2.4 Outline criteria

2.4.1 Curl for Panel (a part of glass)

- Method -

1, to prepare the flat stage.

2, to put a panel on it (below figure).

3, to use a thickness gauge to measure the high value "t" on every corner of panel

- Criteria -

$$t \leq 1.0\text{mm}$$





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2.4.2 Glass Chipping and Crack

Item	Size(Unit:mm)		Number	Remark
Chipping	$W \leq 10 \text{ mm}$	$L \leq 1.0 \text{ mm}$	Negligible	Thickness is ignored
		$L > 1.0 \text{ mm}$	None	
	$W > 10 \text{ mm}$	None		
Crack (*)	-		None	V-shaped chipping included
Chipping on the corner	Showing on below figure			

* "Crack" means the one which would progress further. Crack on the corner

