

COSMETIC SPECIFICATION FOR LAMINATED LIGHT DIFFUSERS.**SCOPE**

This document is intended to specify the cosmetic and inspection criteria for laminated light diffusers. This document is intended to serve as a default specification when a formal customer specification is not referenced or available.

Performance and cosmetic characteristics for laminated light diffusers due to the nature of manufacture i.e. opaque grey or white interlayer may have some slight shading affect that is normal.

Customer furnished material for incorporation into a Zytronic light diffuser must be accompanied by a formal written cosmetic specification. If no formal specification is available, then the cosmetic specification will default to that of this document.

However, Zytronic cannot be held responsible for defects in the final light diffuser, which are as a direct consequence of the quality of customer furnished material.

INSPECTION METHOD

The light diffuser shall be held or supported in front of a fluorescent light, to represent its application.

The person must direct his/her vision onto the light diffuser surface.

The light diffuser shall be viewed by a person without visual aids other than spectacles if these are normally worn. The light diffuser must be viewed through the front face.

The minimum viewing distance shall be 2-metres and the ambient lighting shall be normal factory lighting.

Any defect in the light diffuser which is not visible under these conditions shall be deemed acceptable.

The total observation time shall not exceed 20 secs.

OPTICAL SPECIFICATION

a) Linear Defects, Opaque and Translucent.

This class of defects covers scratches, surface blemishes, lint or hairs, which are generally long and thin in nature.

These types of defects are to be examined at their widest points. For lint and hairs: -

Defect Description	Defect Allowance
Width (W) > 0.15mm (0.0060")	None.
W > 0.05mm (0.002") < 0.15mm (0.0060")	Individual lengths not exceeding 10mm and no more than 3 per laminate.
W > 0.049mm (0.0019")	Disregard.

For hairs / fibres which are not straight, then the hair or fibre should fit within 6 – 1mm squares on transparency template Rev 1c (see figure 1).

For surface blemishes and scratches: -

Defect Description	Defect Allowance
Width (W) > 0.15mm (0.0060")	None.
W > 0.05mm (0.002") < 0.15mm (0.0060")	Maximum accumulated length shall not exceed 25% of the diagonal length up to a maximum of 30mm.
W > 0.049mm (0.0019")	Disregard.

a) Circular Defects.

This class of defects includes digs, bubbles, foreign matter, coiled hairs/lint which are generally round or circular in nature.

The diameter equivalent (D) of irregular shaped defects shall be taken as the arithmetic mean of the defect length (L) and width (W), that is $D = (L+W)/2$.

Defect Description.	Defect Allowance.
Mean Diameter (D) > 1.52mm (0.060")	None.
D > 0.76mm (0.030") < 1.51mm (0.059")	3 per 100mm Ø circle.
D > 0.75mm (0.029")	Disregard.

* Defects must be separated by a minimum of 100mm, with no more than 4-defects per light diffuser from any combination of the above will be allowed.

c) Edge Chips

No edge chips are acceptable on laminated light diffusers.

Note: Should the application for the light diffuser be high in the air, i.e. train carriage display, then a "Fit for Purpose" approach shall be taken.

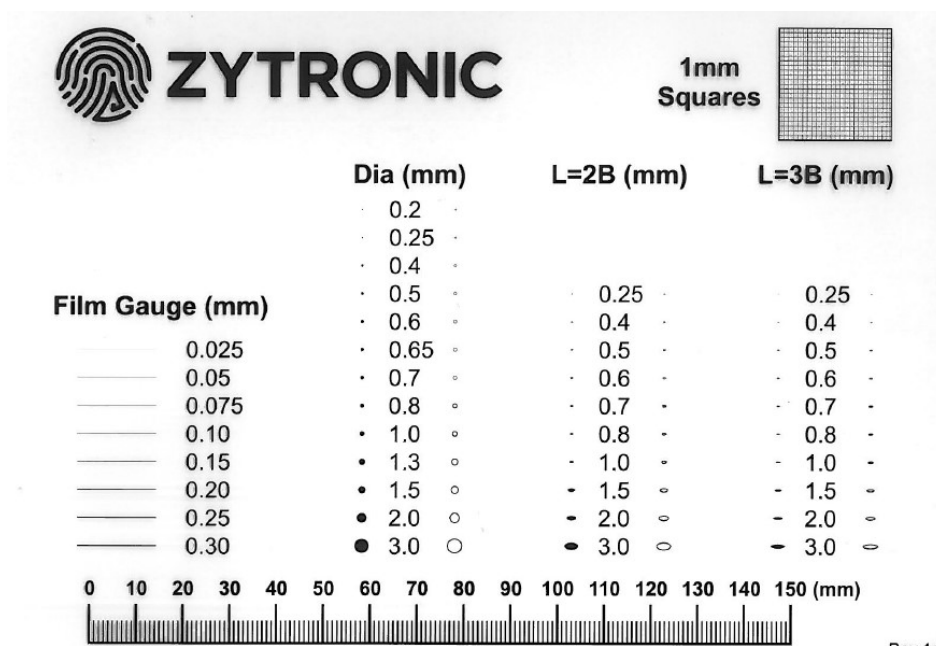


FIGURE 1

TITLE: QADoc-QF-062 - CS LAMINATED LIGHT DIFFUSER**ISSUE: 02****DATE: 16/1/2017****Created & Approved By: C. Thompson**

Issued by:
Quality Manager.

CHANGE LOG

CHANGE	Date	REQUESTED BY	ITEM/SECTION	MODIFICATION OR REASON
1	16/11/2016	C Thompson	All Sections	Initial Document Creation/Approval
2	16/01/2017	K Gleghorn	All Sections	Document reformatted