



# THERMOPLASTIC DIFFUSER GUIDANCE

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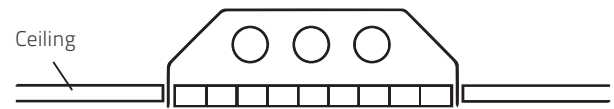
## Dextra Group TP(a) Statement

Dextra group recessed luminaires which are subject to thermoplastic regulations are manufactured with TP(a) diffusers to ensure they offer optimum safety in the event of a fire and to allow installation in a range of installations and configurations without the restrictions applied to TP(b) rated diffusers as per The Building Regulations 2010 Fire Safety Approved Document B, Volume 2: Buildings other than Dwelling Houses.

When TP(a) diffusers are used in a luminaire they only apply to luminaires where the diffuser forms a part of the ceiling surface as shown in the diagram 6.1

Diagram 6.1 - Lighting diffuser in relation to ceiling

a. DIFFUSER FORMING PART OF CEILING



b. DIFFUSER IN FITTING BELOW AND NOT FORMING PART OF CEILING

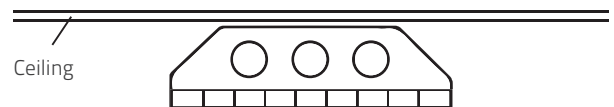
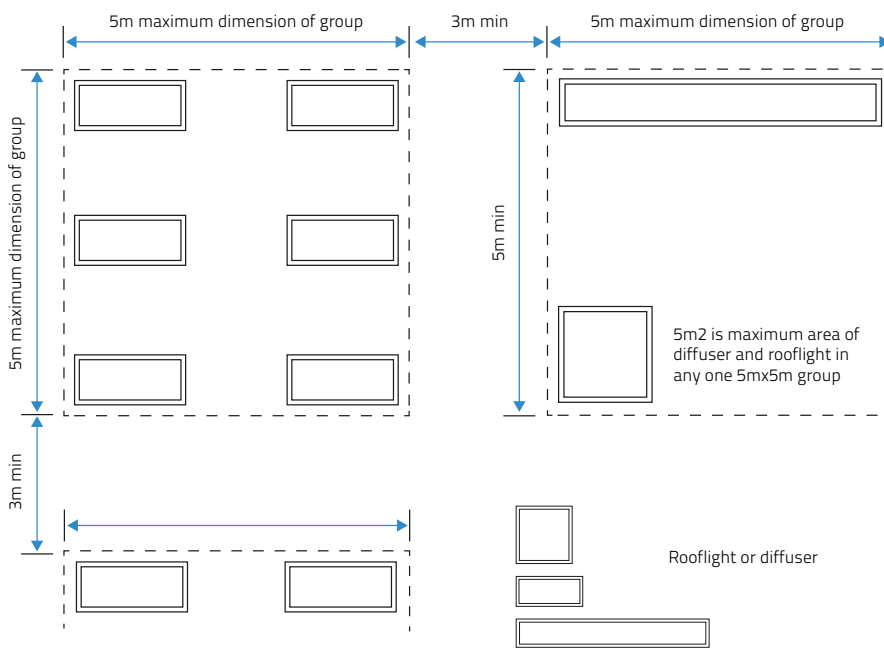


Diagram 6.2 - Layout restrictions on class D-s3, d2 plastic rooflights, TP(b) rooflights and TP(b) lighting diffusers



Diffusers constructed of thermoplastic material may be incorporated in ceilings to rooms and circulation spaces, but not to protected stairways, if both of the following conditions are met.

- a. Except for the upper surfaces of the thermoplastic panels, wall and ceiling surfaces exposed in the space above the suspended ceiling should comply with paragraph 6.1.
- b. Diffusers should be classified as one of the following.
  - i. TP(a) rigid – no restrictions on their extent.
  - ii. TP(b) – limited in their extent (see Table 6.2 and Diagram 6.2).

**NOTES:**

- 1 Upper and lower surfaces of suspended ceiling between plastic panels, to comply with paragraph 6.1.
2. No restriction on class D-s3, d2 diffusers or rooflights in small rooms.
3. See note 4 to Table 6.2.

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Table 6.2 Limitations applied to thermoplastic rooflights and lighting diffusers in suspended ceilings and class D-s3, d2 plastic rooflights (1)

Minimum classification of lower surface	Use of space below the diffusers or rooflight	Maximum area of each diffuser or rooflight (2) (m <sup>2</sup> )	Maximum total area of diffusers and rooflights as a percentage of floor area of the space in which the ceiling is located (%)	Minimum separation distance between diffusers or rooflights(2) (m)
TP(a)	Any except protected stairway	No limit(3)	No limit	No limit
D-s3,d2(4) or TP(b)	Rooms	1	50mm	A distance equal to the largest plan dimension of the largest diffuser or rooflight (see Diagram 6.3)
		5	50mm	3(4)
	Circulation spaces except protected stairways	5	15	3

### NOTES:

- This table does not apply to products that meet the provisions in Table 6.1
- Smaller rooflights and diffusers can be grouped together provided that both of the following satisfy the dimensions in Diagram 62 or 63.
  - The overall size of the group
  - The space between one group and any others.
- Lighting diffusers of TPfa) flexible rating should be used only in panels of a maximum of 5m each. See paragraph 6.18.
- There are no limits on the use of class D-s3, d2 materials in small rooms See Table 6.1.
- The minimum 3m separation given in Diagram 62 between each 5m group must be maintained. Therefore, in some cases, it may not be possible to use the maximum percentage quoted.
- Class D-s3, d2 rooflights to rooms in industrial and other non-residential purpose group buildings (purpose groups 3 to 7) may be spaced 1800mm apart provided both of the following conditions are met.
  - The rooflights are evenly distributed.
  - The total area of the rooflights does not exceed 20% of the area of the room.

**Diagram 6.3**  
 Layout restrictions on small class D-s3, d2 plastic  
 rooflights, TP(b) rooflights and TP(b) lighting diffusers

TP(a) diffusers, typically manufactured from polycarbonate are generally self extinguishing and will limit the spread of fire across a ceiling surface. Alternative materials such as acrylic or polystyrene typically do not self extinguish and can assist in the spread of fire and transmission of fire to the floor surface below as well as having strict limitations applied to installation methods. Consideration for safety and building regulations is critical when installing any recessed luminaire with thermoplastic diffusers.

