TECHNICAL STATEMENT

UK Building Regulations - Fire Safety - Spread of flame Use of Thermoplastic Materials & TP(a)/TP(b) rating

CONTENTS

INTRODUCTION

When considering the fire safety of a new or refurbished building two main aspects should be considered with respect to lighting;

1. **Spread of flame** - Related to the safe and correct use of thermoplastic materials, such as lighting diffusers.

2. **Penetration of a fire barrier** - Related to the use of correctly certified luminaires (e.g. fire rated downlights) within fire-rated ceilings and compartments.

This technical statement considers the spread of flame and use of thermoplastic materials.

Considerations regarding penetration of a fire barrier, fire-rated ceilings and fire rated downlights are described in a separate LIA Technical Statement (see LIA TSxx - *in preparation*).

The UK Building Regulations place certain legal requirements upon the use of thermoplastic materials within building.

To aid in complying with these legal requirements national guidance documents expand upon the requirements and describe strategies in the use of thermoplastic materials within building that are deemed to comply. These guidance documents are listed below for each country within the United Kingdom;

1.	England	Approved Document B (volume 1:domestic, volume 2:non-domestic)
2.	Northern Ireland	Technical Booklet E
3.	Scotland	Technical Handbook (domestic; non-domestic)
4.	Wales	Approved Document B (volume 1:domestic, volume 2:non-domestic)

The principle of the restrictions are common across all documents but the detail of implementation varies. Therefore these are described further below.

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It should be remembered at all times that the requirements only apply to thermoplastic optical controllers that form part of the ceiling. Therefore they do not apply to surface mount or suspended lighting solutions. This is illustrated in each of the guidance documents using the graphic shown below;

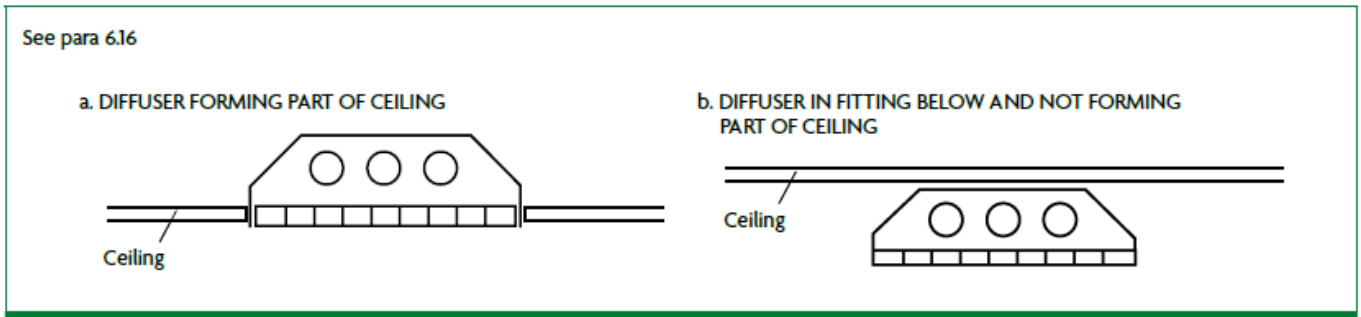

Diagram 6.1 Lighting diffuser in relation to ceiling

Note that this is extracted from the English Approved Document B Volume 2 document. Whilst the graphics across all of the documents are the same the number of the diagram/figure will vary between documents.

NATIONAL GUIDANCE DOCUMENTS

1. England – Approved Document B

Approved Document B for England has the concept of a "Protected stairway". This is defined in Annex A: Key terms and the definition from Annex A is shown below.

> **Protected stairway** - A stair that leads to a final exit to a place of safety and that is adequately enclosed with fire resisting construction. Included in the definition is any exit passageway between the foot of the stair and the final exit.

This definition uses the term "Final exit" which is also defined in Annex A as

> **Final exit** - The end of an escape route from a building that gives direct access to a street, passageway, walkway or open space, and is sited to ensure that people rapidly disperse away from the building so that they are no longer in danger from fire and/or smoke.
>
> NOTE: Windows are not acceptable as final exits.

The key points to note are;

- It contains stairs,
- It contains the final exit out of the building.

Note that in Scotland this restriction is different.

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Table 4.2 (domestic) or table 6.2 (non-domestic) shows the limitations placed upon thermoplastic materials.

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^2)	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	50[5][6]	A distance equal to the largest plan dimension of the largest diffuser or rooflight (see Diagram 6.3)
		5	50[5][6]	3[6]
	Circulation spaces except protected stairways	5	15[5]	3

NOTES:

1. This table does not apply to products that meet the provisions in Table 6.1.
2. Smaller rooflights and diffusers can be grouped together provided that both of the following satisfy the dimensions in Diagram 6.2 or 6.3.
   a. The overall size of the group.
   b. The space between one group and any others.
3. Lighting diffusers of TP(a) flexible rating should be used only in panels of a maximum of $5m^2$ each. See paragraph 6.18.
4. There are no limits on the use of class D-s3, d2 materials in small rooms. See Table 6.1.
5. The minimum 3m separation given in Diagram 6.2 between each $5m^2$ group must be maintained. Therefore, in some cases, it may not be possible to use the maximum percentage quoted.
6. 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.
   a. The rooflights are evenly distributed.
   b. The total area of the rooflights does not exceed 20% of the area of the room.

Key points to note are

- Thermoplastic materials may not be incorporated into the ceilings of protected stairways.
- Thermoplastic material designated as TP(a) may be incorporated into ceilings without restriction in any space except protected stairways.
- Thermoplastic material designated as TP(b) may be incorporated into ceilings within spaces other than protected stairways, but must comply with specified layout restrictions.
- Ceiling recessed thermoplastic controllers can take up a total area of not more than 50% of the floor area of the room and only 15% of the floor area of a circulation space.

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For TP(b) the layout restrictions are given in figures 4.2 and 4.3 (domestic) or figures 6.2 and 6.3 (non-domestic). These figures show different options to comply with restrictions , and there is a logical way of applying them.

Initially the configuration of thermoplastic lighting controllers should comply with the requirements given in figure 6.3 (4.3 domestic).

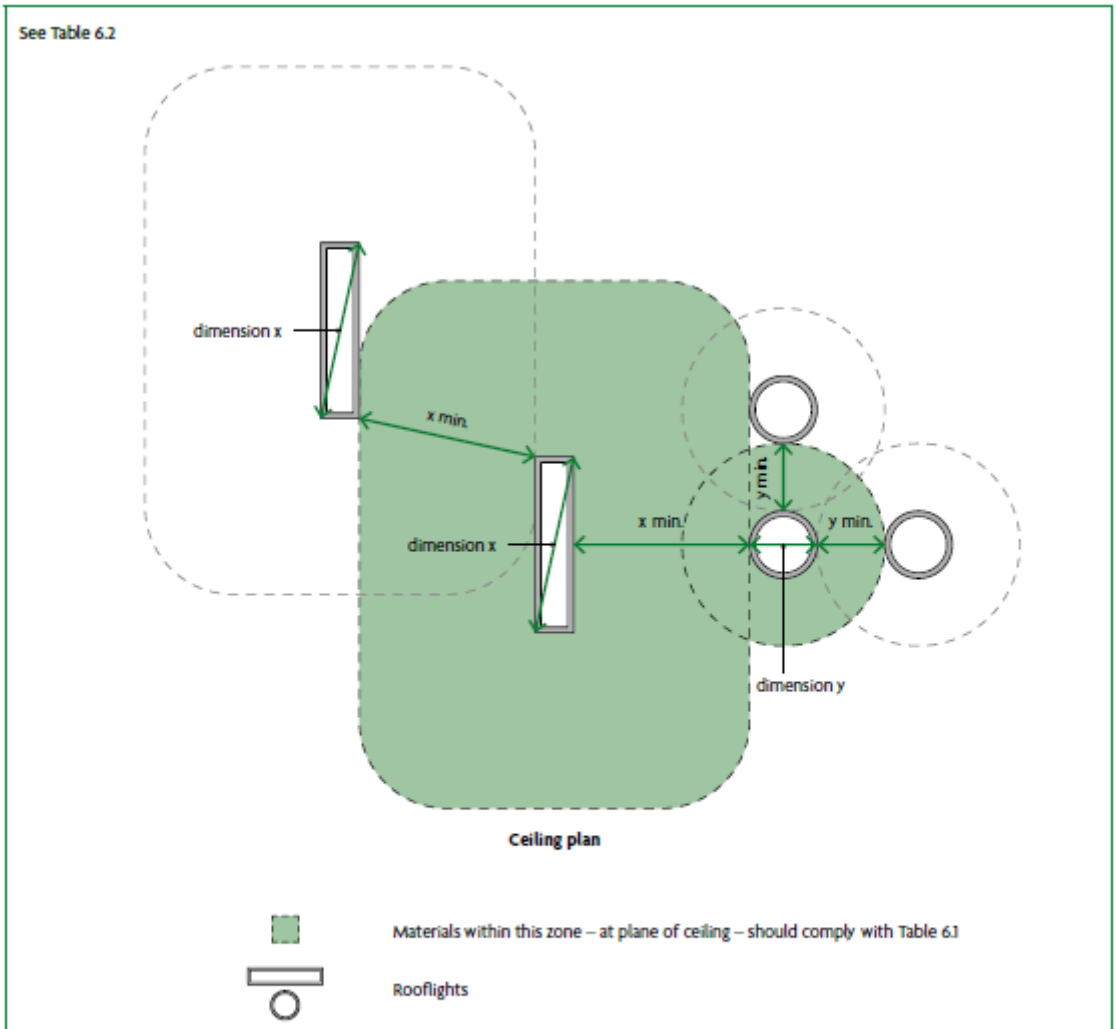

Diagram 6.3 Layout restrictions on small class D-s3, d2 plastic rooflights, TP(b) rooflights and TP(b) lighting diffusers

This means that the spacing of the luminaires should be greater or equal to the maximum dimension of the thermoplastic material (not the luminaire if this is greater).

For example a luminaire containing a 600mm x 600mm thermoplastic diffuser requires a spacing of 848.5mm or greater from the edge of the thermoplastic diffuser in all directions. A luminaire

containing a 1200mm x 300mm thermoplastic diffuser requires a spacing of 1237mm or greater from the edge of the thermoplastic diffuser in all directions.

For the case of the 600mm x 600mm diffuser a spacing of 849mm is not too onerous and the provisions given in figure 6.3 (4.3 domestic) may be applied.

However in the case of the 1200mm x 300mm diffuser a spacing of 1237mm may not be achievable in all directions. In this case the provisions given in figure 6.2 (4.2 domestic) should be applied.

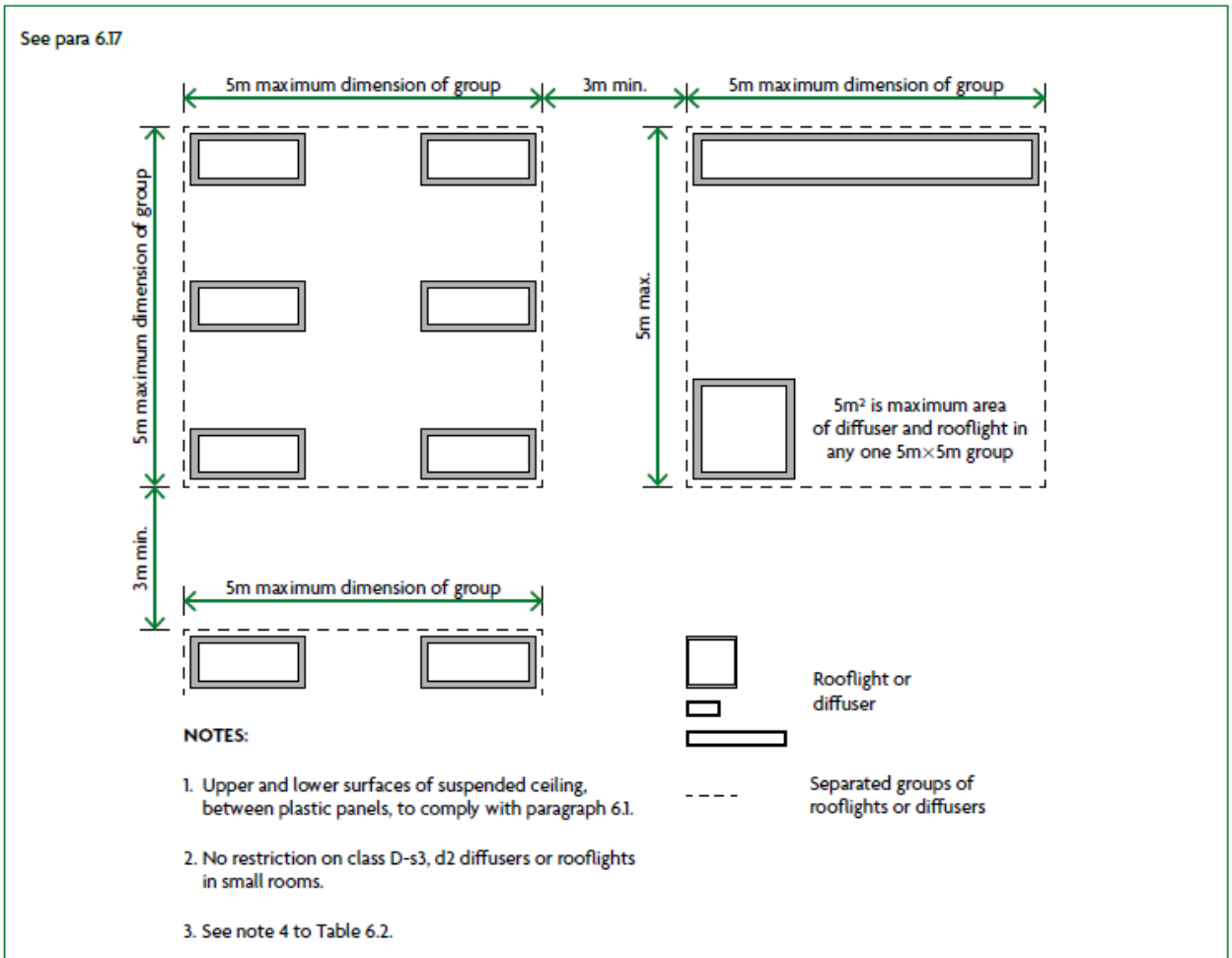

Diagram 6.2 Layout restrictions on class D-s3, d2 plastic rooflights, TP(b) rooflights and TP(b) lighting diffusers

In this case luminaires are arranged in 5m² groups with a spacing of at least 3m between groups of fittings. Note that the terminology used is “rooflight or diffuser”, so again it is based upon the dimensions of the thermoplastic diffuser and not those of the luminaire.

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2. Northern Ireland – Technical Booklet E

Technical Booklet E for Northern Ireland has the concept of a "Protected stairway". This is defined in section 1.1 Definitions and the definition from section 1.1 is shown below.

> **Protected stairway** - A stairway discharging through a final exit to a place of safety (including any exit passageway between the foot of the stair and the final exit) that is adequately enclosed with fire-resisting construction.

This definition uses the term "Final exit" which is also defined in in section 1.1, as

> **Final exit** - The termination of an escape route from a building giving direct access to a street, passageway, walkway or open space, and sited to ensure the rapid dispersal of people from the vicinity of a building so that they are no longer in danger from fire or smoke or both. (A window is not acceptable as a final exit.)

The key points to note are;

- It contains stairs,
- It contains the final exit out of the building.

Note that in Scotland this restriction is different.

Table 3.2 shows the limitations placed upon thermoplastic materials.

Table 3.2 Limitations on Class 3 plastic rooflights and thermoplastic rooflights and lighting diffusers in suspended ceilings

Minimum classification of lower surface	Use of space below rooflight or diffuser	Maximum area of each rooflight or diffuser panel(1) (m^2)	Maximum total area of rooflights or diffuser panels as a percentage of floor area of the space in which the ceiling is located (%)	Minimum separation distance between rooflights or diffuser panels(1) (m)
TP(a)	Rooms or circulation spaces (except protected stairways)	No limit(2)	No limit	No limit
Class 3(3) or TP(b)	Rooms	5	50(4)(5)	3(5)
	Circulation spaces (except protected stairways)	5	15(4)	3

Notes :

(1) Small rooflights or diffuser panels may be grouped together provided that the overall size of the group and the space between one group and any others comply with the limitations given in Diagram 3.1.

(2) Lighting diffusers of a TP(a) flexible material are limited to panels of not more than 5 m^2 (see paragraph 3.13).

(3) There are no limitations on Class 3 materials in certain small rooms (see Table 3.1).

(4) It may not be possible to use the maximum total percentage because the minimum 3 m separation distance must be maintained (see Diagram 3.1).

(5) Class 3 rooflights to rooms in non-residential purpose groups may be spaced 1.8 m apart provided that the rooflights are evenly distributed and do not exceed 20% of the area of the room.

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Key points to note are

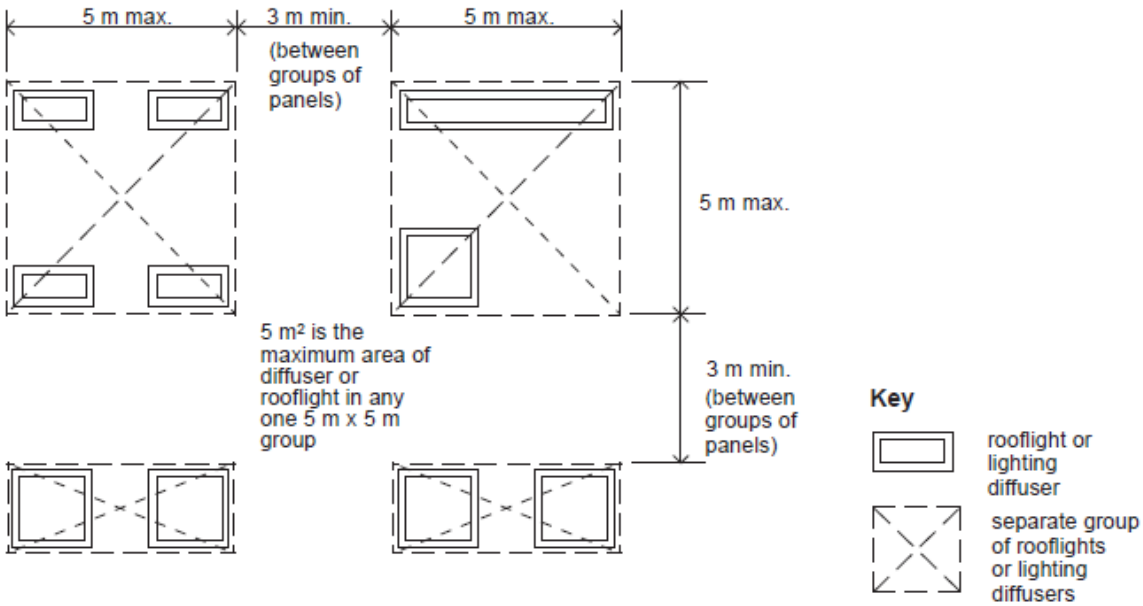
- Thermoplastic materials may not be incorporated into the ceilings of protected stairways.
- Thermoplastic material designated as TP(a) may be incorporated into ceilings without restriction in any space except protected stairways.
- Thermoplastic material designated as TP(b) may be incorporated into ceilings within spaces other than protected stairways, but must comply with specified layout restrictions.
- Ceiling recessed thermoplastic controllers can take up a total area of not more than 50% of the floor area of the room and only 15% of the floor area of a circulation space.

For TP(b) the layout restrictions are given in diagram 3.1.

Note that unlike the documents for England, Scotland and Wales there is only one method of complying with the layout restrictions for TP(b) materials.

Diagram 3.1 Limitations on groups of Class 3 plastic rooflights and TP(b) thermoplastic rooflights and lighting diffusers in suspended ceilings

see para 3.14(b), 3.16(b) and Table 3.2 note (1) and (4)



Here luminaires are arranged in 5m² groups with a spacing of at least 3m between groups of fittings. Note that the terminology used is “rooflight or diffuser”, so again it is based upon the dimensions of the thermoplastic diffuser and not those of the luminaire.

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3. Scotland – Technical Handbook

The Technical Handbooks for Scotland have the concept of a "Protected zone". This is defined in Appendix A: Defined Terms and the definition from Annex A is shown below.

> **Protected zone** - means that part of an escape route which is within a building, but not within a room, and to which access is only by way of a protected door and from which there is an exit directly to a place of safety.

This definition uses the term "Protected door" which is also defined in Appendix A as

> **Protected door -** means a fire door giving access to:
>
> a. a protected zone, including a protected lobby or
> b. a fire-fighting shaft or
> c. another compartment or
> d. a place of safety or
> e. an unenclosed external escape stair or
> f. an open access balcony or
> g. an escape route across a flat roof or access deck.

This definition also uses the term "Place of Safety" which is defined in Appendix A as

> **Place of safety** - means either:
>
> a. an unenclosed space in the open air at ground level or
> b. an enclosed space in the open air at ground level leading to an unenclosed space, via an access not narrower than the total width of the exits leading from the building to that enclosed space.

The key points to note are;

- It does not need to contain stairs,
- It contains the exit from the building to a place of safety.

Note that in England, Northern Ireland and Wales this restriction is different.

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Table 2.2 (domestic) or table 2.5 (non-domestic) shows the limitations placed upon thermoplastic materials.

Table 2.5. Thermoplastic rooflights and light fittings with diffusers

	Protected zone or fire-fighting shaft	Unprotected zone		Room		
Classification of lower surface	**Any thermo-plastic**	**TP (a) rigid**	**TP(a) flexible and TP (b)**	**TP (a) rigid**	**TP(a) flexible and TP (b)**	**TP(b)**
Maximum area of each diffuser panel or rooflight (m^2)	Not advised	No limit	$5m^2$	No limit	$5m^2$	$1m^2$
Maximum total area of diffuser panels or rooflights as a percentage of the floor area of the space in which the ceiling is located (%)	Not advised	No limit	15%	No limit	50%	50%
Minimum separation distance between diffuser panels or rooflights (m)	Not advised	No limit	3m	No limit	3m	A distance equal to the largest plan dimension of the largest diffuser or rooflight (see figure 2.2)

Key points to note are

- Thermoplastic materials may not be incorporated into the ceilings of protected zones or fire-fighting shafts.
- Thermoplastic material designated as TP(a) rigid may be incorporated into ceilings without restriction in any space except protected zones.
- Thermoplastic material designated as TP(a) flexible or TP(b) may be incorporated into ceilings within spaces other than protected zones and fire-fighting shafts, but must comply with specified layout restrictions.
- Ceiling recessed thermoplastic controllers can take up a total area of not more than 50% of the floor area of the room and only 15% of the floor area of other spaces.

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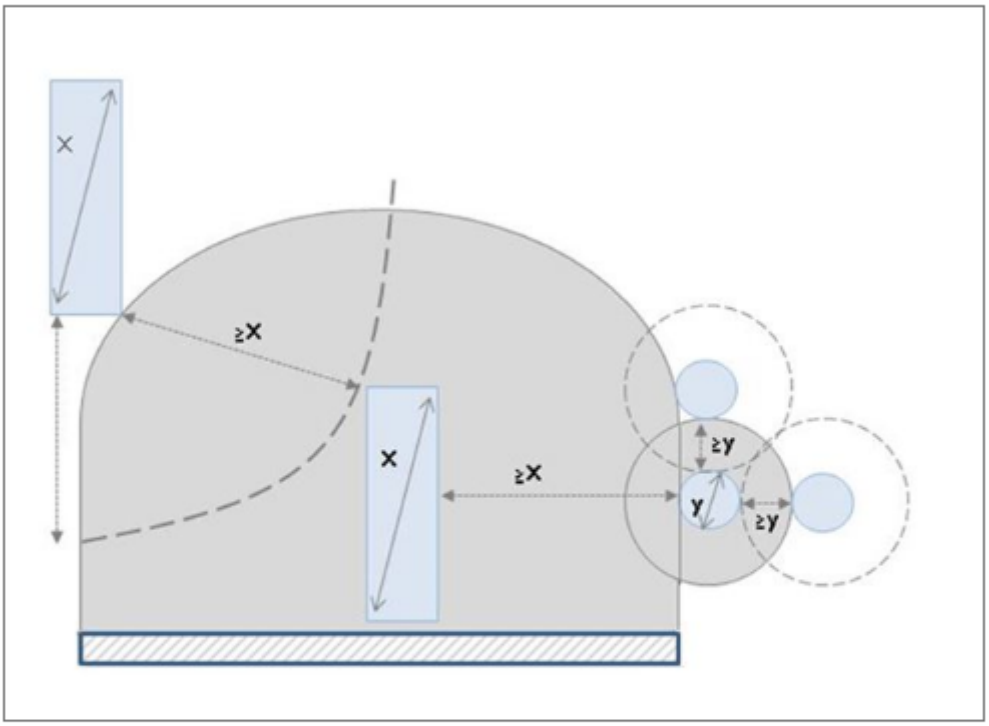
For TP(a) flexible and TP(b) the layout restrictions are given in figures 2.1 and 2.2. These figures show different options to comply with restrictions , and there is a logical way of applying them.

Initially the configuration of thermoplastic lighting controllers should comply with the requirements given in figure 2.2

Figure 2.2. Layout restrictions on small TP(b) rooflights and light fittings with diffusers



Additional information

1. X = Maximum dimension of the largest diffuser or rooflight above.
2. Y = Maximum dimension of the smallest diffuser or rooflight above.

This means that the spacing of the luminaires should be greater or equal to the maximum dimension of the thermoplastic material (not the luminaire if this is greater).

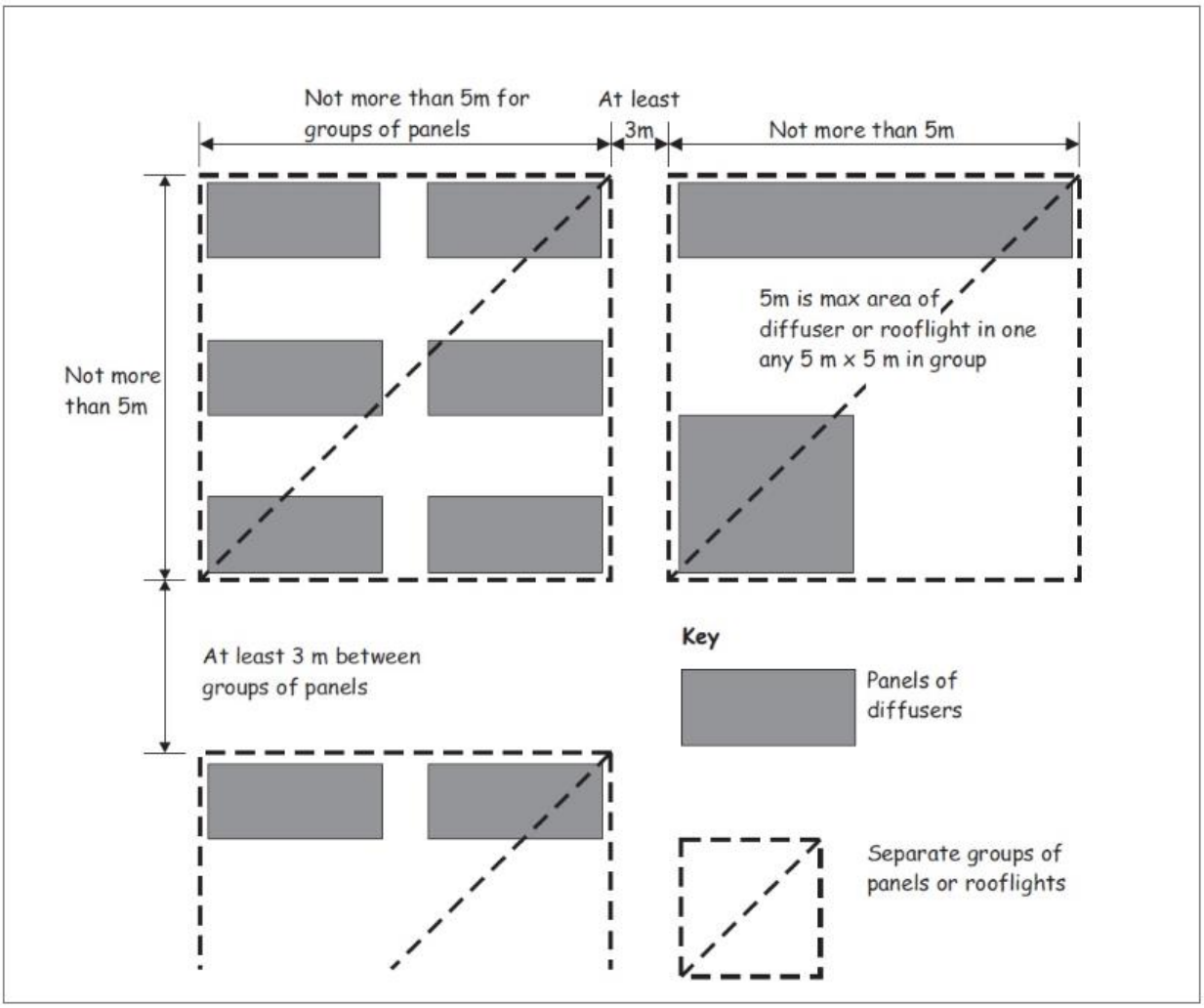
For example a luminaire containing a 600mm x 600mm thermoplastic diffuser requires a spacing of 848.5mm or greater from the edge of the thermoplastic diffuser in all directions. A luminaire

containing a 1200mm x 300mm thermoplastic diffuser requires a spacing of 1237mm or greater from the edge of the thermoplastic diffuser in all directions.

For the case of the 600mm x 600mm diffuser a spacing of 849mm is not too onerous and the provisions given in figure 2.2 may be applied.

However in the case of the 1200mm x 300mm diffuser a spacing of 1237mm may not be achievable in all directions. In this case the provisions given in figure 2.1 should be applied.

Figure 2.1. Layout restrictions on thermoplastic rooflights and light fittings with diffusers



In this case luminaires are arranged in 5m² groups with a spacing of at least 3m between groups of fittings. Note that the terminology used is “panels or diffusers”, so again it is based upon the dimensions of the thermoplastic diffuser and not those of the luminaire.

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4. Wales – Approved Document B

Approved Document B for Wales has the concept of a "Protected stairway". This is defined in Appendix E: Definitions and the definition from Appendix E is shown below.

> **Protected stairway** - A stair discharging through a final exit to a place of safety (including any exit passageway between the foot of the stair and the final exit) that is adequately enclosed with fire-resisting construction.

This definition uses the term "Final exit" which is also defined in Appendix E as

> **Final exit** - The termination of an escape route from a building giving direct access to a street, passageway, walkway or open space, and sited to ensure the rapid dispersal of persons from the vicinity of a building so that they are no longer in danger from fire and/or smoke.
>
> NOTE: Windows are not acceptable as final exits.

The key points to note are;

- It contains stairs,
- It contains the final exit out of the building.

Note that in Scotland this restriction is different.

For domestic buildings table 2 shows the limitations placed upon thermoplastic materials.

Table 2 Limitations applied to thermoplastic rooflights and lighting diffusers in suspended ceilings and Class 3 plastic rooflights

Minimum classification of lower surface	Use of space below the diffusers or rooflight	Maximum area of each diffuser panel or rooflight (1) (m²)	Max total area of diffuser panels and rooflights as percentage of floor area of the space in which the ceiling is located (%)	Minimum separation distance between diffuser panels or rooflights (1) (m)
TP(a)	Any except protected stairway	No limit (2)	No limit	No limit
Class 3 (3) or TP(b)	Rooms	5	50 (4)	3
	Circulation spaces except protected stairways	5	15 (4)	3

Notes:

1. Smaller panels can be grouped together provided that the overall size of the group and the space between one group and any others satisfies the dimensions shown in Diagram 9.
2. Lighting diffusers of TP(a) flexible rating should be restricted to panels of not more than $5m^2$ each, see paragraph 3.14.
3. There are no limits on Class 3 material in small rooms see Table 1.
4. The minimum 3m separation specified in Diagram 9 between each $5m^2$ must be maintained. Therefore, in some cases it may not also be possible to use the maximum percentage quoted.

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For non-domestic buildings table 11 in the Amendments to the Approved Documents shows the limitations placed upon thermoplastic materials. Note these are amendments to the Approved Document B Volume 2 and therefore both documents must be read together.

Table 11 Limitations applied to thermoplastic rooflights and lighting diffusers in suspended ceilings and Class 3 plastic rooflights

Minimum classification of lower surface	Use of space below the diffusers or rooflight	Maximum area of each diffuser panel or rooflight (1) (m^2)	Max total area of diffuser panels and rooflights as percentage of floor area of the space in which the ceiling is located (%)	Minimum separation distance between diffuser panels or rooflights (1) (m)
TP(a)	Any except protected stairway	No limit (2)	No limit	No limit
D-s3, d2 or Class 3 (3) or TP(b)	Rooms	1	50 (4)(5)	A distance equal to the largest plan dimension of the largest diffuser or roof light (see diagram 27A)
		5	50 (4)(5)	3 (5)
	Circulation spaces except protected stairways	5	15 (4)	3

Notes:

1. Smaller panels can be grouped together provided that the overall size of the group and the space between one group and any others satisfies the dimensions shown in Diagram 27 or 27A.
2. Lighting diffusers of TP(a) flexible rating should be restricted to panels of not more than $5m^2$ each, see paragraph 7.16.
3. There are no limits on Class 3 material in small rooms. See paragraph 7.1, Table 10.
4. The minimum separation between each panel or group must be maintained. Therefore, in some cases it may not also be possible to use the maximum percentage quoted.
5. Class 3 / D-s3, d2 rooflights to rooms in industrial and other non-residential purpose groups may be spaced 1800mm apart provided the rooflights are evenly distributed and do not exceed 20% of the area of the room.
6. This table is not relevant to products which meet the provisions in Table 10.

Key points to note are

- Thermoplastic materials may not be incorporated into the ceilings of protected stairways.
- Thermoplastic material designated as TP(a) may be incorporated into ceilings without restriction in any space except protected stairways.
- Thermoplastic material designated as TP(b) may be incorporated into ceilings within spaces other than protected stairways, but must comply with specified layout restrictions. These layout restrictions differ between domestic and non-domestic buildings.
- Ceiling recessed thermoplastic controllers can take up a total area of not more than 50% of the floor area of the room and only 15% of the floor area of a circulation space.

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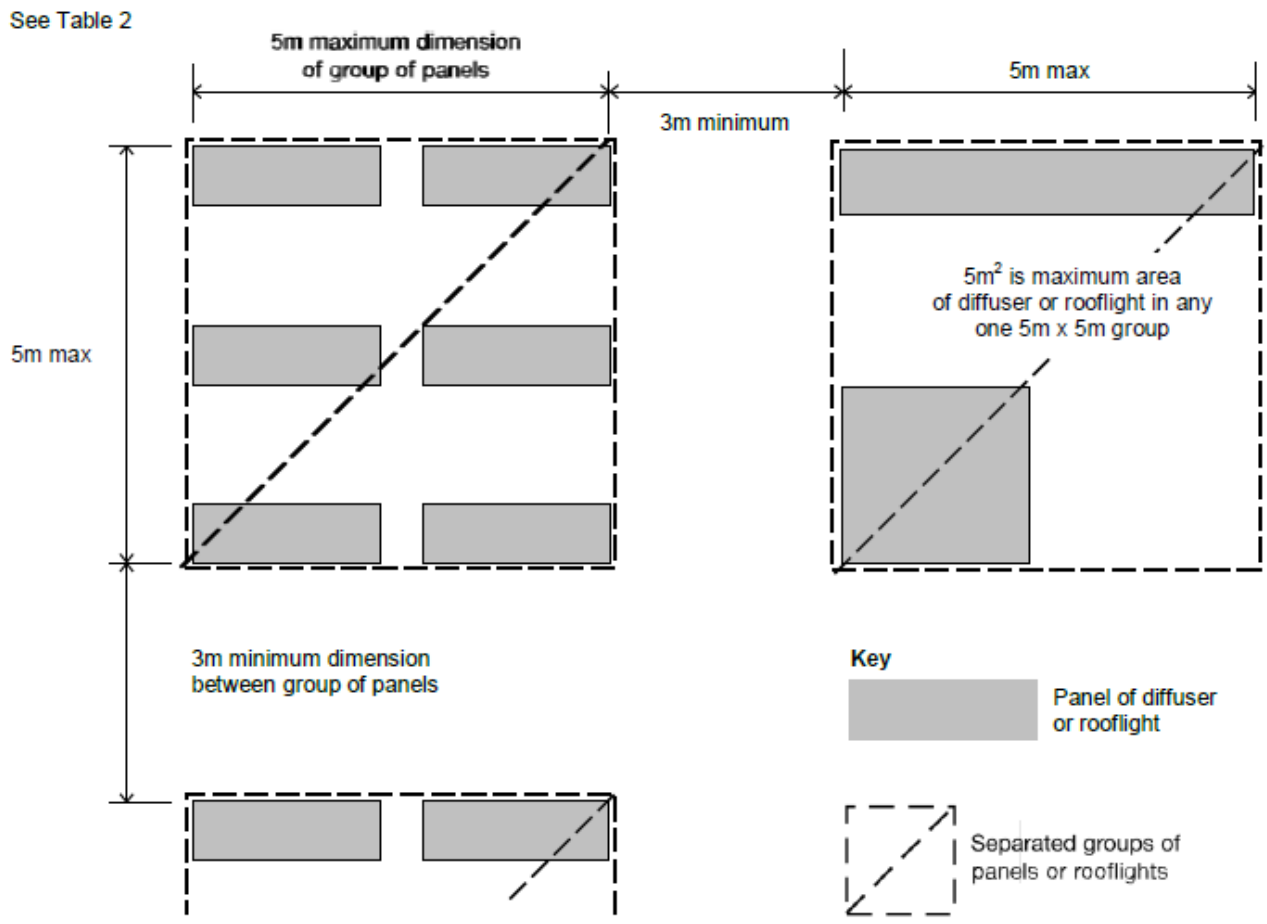
For TP(b) within a domestic building the layout restrictions are given in diagram 9 in Approved Document B Volume 1.

Diagram 9 Layout restrictions on Class 3 plastic rooflights, TP(b) rooflights and TP(b) lighting diffusers



Notes:
a. Upper and lower surface of suspended ceiling, between plastic panels, to comply with paragraph 4.1.
b. No restriction on Class 3 rooflights in small rooms see Table 1.

For domestic buildings luminaires are arranged in 5m² groups with a spacing of at least 3m between groups of fittings. Note that the terminology used is “panel of diffuser or rooflight”, so it is based upon the dimensions of the thermoplastic diffuser and not those of the luminaire.

For TP(b) within a non-domestic building the layout restrictions are given in diagram 27 in Approved Document B Volume 2 and diagram 27A in the Amendments to the Approved

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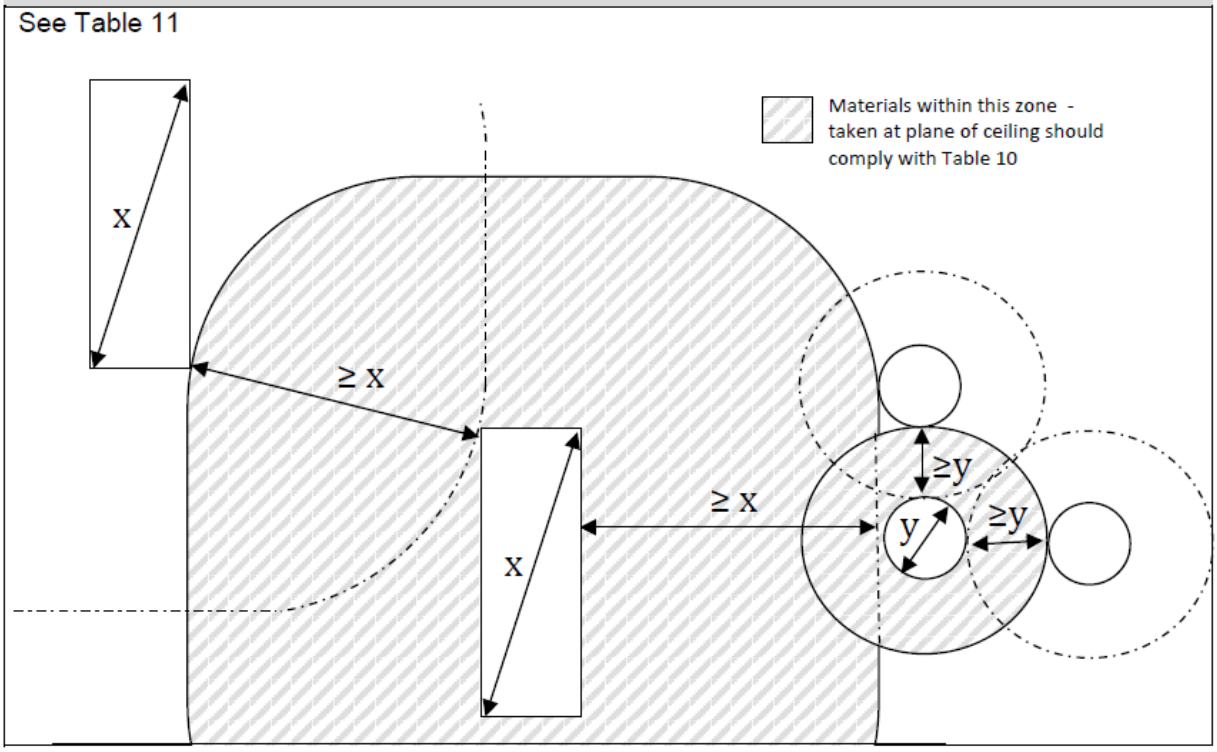
Documents. These diagrams show different options to comply with restrictions , and there is a logical way of applying them.

Initially for non-domestic buildings the configuration of thermoplastic lighting controllers should comply with the requirements given in diagram 27A.

Diagram 27A Layout restrictions on small Class 3 or D–s3,d2 plastic rooflights, TP(b) rooflights and lighting diffusers



This means that the spacing of the luminaires should be greater or equal to the maximum dimension of the thermoplastic material (not the luminaire if this is greater).

For example a luminaire containing a 600mm x 600mm thermoplastic diffuser requires a spacing of 848.5mm or greater from the edge of the thermoplastic diffuser in all directions. A luminaire containing a 1200mm x 300mm thermoplastic diffuser requires a spacing of 1237mm or greater from the edge of the thermoplastic diffuser in all directions.

For the case of the 600mm x 600mm diffuser a spacing of 849mm is not too onerous and the provisions given in figure 6.3 (4.3 domestic) may be applied.

However in the case of the 1200mm x 300mm diffuser a spacing of 1237mm may not be achievable in all directions. In this case the provisions given in diagram 27 should be applied.

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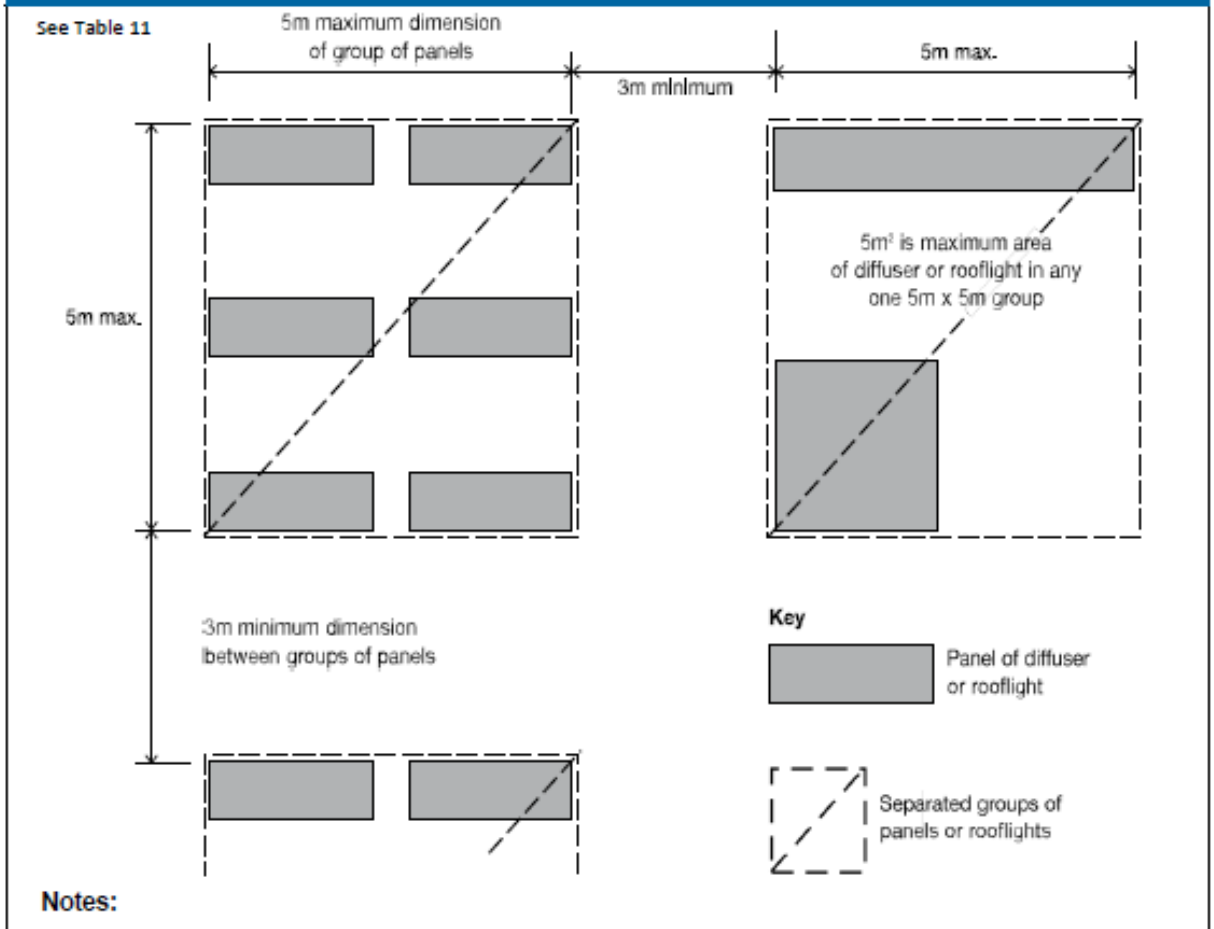
Diagram 27 Layout restrictions on Class 3 plastic rooflights, TP(b) rooflights and TP(b) lighting diffusers



Notes:

a. Upper and lower surface of suspended ceiling, between plastic panels, to comply with paragraph 6.1
b. No restriction on Class 3 rooflights in small rooms
c. See Note 5 to Table 11

In this case luminaires are arranged in 5m² groups with a spacing of at least 3m between groups of fittings. Note that the terminology used is “panel of diffuser or rooflight”, so again it is based upon the dimensions of the thermoplastic diffuser and not those of the luminaire.

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LEGAL REQUIREMENTS

The national legal requirements upon which the national guidance documents are based on are shown below. These requirements have a major implication for the testing and selection of suitable lighting products for a building. See annex A at the end of this document for a further discussion of this issue.

1. England

Requirement

Requirement	*Limits on application*
Internal fire spread (linings)	
B2. (1) To inhibit the spread of fire within the building, the internal linings shall—	
(a) adequately resist the spread of flame over their surfaces; and	
(b) have, if ignited, either a rate of heat release or a rate of fire growth, which is reasonable in the circumstances.	
(2) In this paragraph "internal linings" means the materials or products used in lining any partition, wall, ceiling or other internal structure.	

2. Northern Ireland

Internal fire spread – Linings

34. To inhibit the spread of fire within a building the internal linings shall—

(a) offer adequate resistance to the spread of flame over their surfaces; and

(b) where they are located in a circulation space, have a low rate of heat release or a low rate of fire growth when ignited.

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3. Scotland

Standard 2.5

Every building must be designed and constructed in such a way that in the event of an outbreak of fire within the building, the development of fire and smoke from the surfaces of walls and ceilings within the area of origin is inhibited.

4. Wales

Requirement	Limits on application
Internal fire spread (structure) B3. (1) The building shall be designed and constructed so that, in the event of fire, its stability will be maintained for a reasonable period. (2) A wall common to two or more buildings shall be designed and constructed so that it adequately resists the spread of fire between those buildings. For the purposes of this sub-paragraph a house in a terrace and a semi-detached house are each to be treated as a separate building. (3) Where reasonably necessary to inhibit the spread of fire within the building, measures shall be taken, to an extent appropriate to the size and intended use of the building, comprising either or both of the following – (a) sub-division of the building with fire-resisting construction; (b) installation of suitable automatic fire suppression systems. (4) The building shall be designed and constructed so that the unseen spread of fire and smoke within concealed spaces in its structure and fabric is inhibited.	Requirement B3(3) does not apply to material alterations to any prison provided under Section 33 of the Prison Act 1952.

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ANNEX A – TESTING REQUIREMENTS FOR THERMOPLASTIC MATERIALS

The requirements within the national building regulations are based upon the classification of the thermoplastic material as either TP(a) rigid or flexible, TP(b), or unclassified. To classify materials as either TP(a) or TP(b) BS 2782-0:2004 Method 508A: Rate of burning, laboratory method is used. In the 2011 version of this standard Method 508A is detailed in Annex B, and clearly states that "The method has been declared obsolescent but is made available here because it is referred to in the Approved Document B Building Regulations". Method 508A was originally defined within BS 2782-5:1970 and was withdrawn by BSI in 1992.

Method 508A dates from when light sources were generally discharge lamps and optics were single piece prismatic controllers or opal diffusers. The test method reflects this in that it is valid for testing only a single material. Regardless of the thickness of the material used for the actual diffuser a strip of the material under test with dimensions 150mm x 13mm x 1.5mm is subjected to a naked flame for 10 seconds. The time taken for the sample to burn between two marks positioned 25mm and 125mm from the end of the sample is measured, as shown in figure 1 in BS 2782-0:2011.

A TP(a) classification indicates that the flame self-extinguished and any afterglow extinguished within 5 seconds of the flame extinguishing. In addition the flame did not reach the 25mm mark.

A TP(b) classification indicates that the flame continued to spread along the material but burned at a rate of less than 50 mm/minute.

A material that satisfies neither of these conditions is deemed to be unclassified.

However current methods of optical control are generally via a sandwich of materials with dissimilar burning properties and varying thicknesses. Method 508A is not suitable for testing this type of composite construction.

It is common practice to test the lowest layer of this optical sandwich and specify the TP classification for the luminaire based upon the characteristics of this material.

However the legal requirements of the building regulations are to initially resist the spread of flame and once a flame is established limit the growth of the fire. Whilst testing only the bottom material will give a good indication of resistance to ignition, once ignition has occurred and a flame is established it will no longer give a reliable indication on how the flame will grow and spread on all of the materials being used in the diffuser construction.

Therefore the LIA is strongly of the opinion that to meet the legal requirement of the Building Regulations, modern composite diffusers need to have their TP rating based upon testing of the complete sandwich of materials as used within the recessed luminaire. This to demonstrate a complete level of legal compliance to the national requirements.