




















## Understanding the Rating of Light Fittings

**IP (Ingress Protection) Ratings** are common terms in the lighting industry. They contain information to ensure that the right fitting is being used in the right area. This factsheet aims to explain the terminology behind IP ratings, to help you understand the jargon that is often tucked away in the product leaflet! The IP rating provides a guide as to the protection of the fitting/luminaire has against solids or liquids and their 'ingress' (how easily solids and liquids can penetrate into the fitting). The table below sets out and explains each rating:

IP Rating Chart			
1st Digit - Protection against solid		2nd Digit - Protection against Liquid	
	No Protection		No Protection
	Protected against a solid object greater than 50mm, e.g. a hand.		Protected against vertically falling drops of water, limited ingress permitted.
	Protected against a solid object greater than 12.5mm, e.g. a finger.		Protected against vertically falling drops of water, with enclosure tilted up to 15°, limited ingress permitted.
	Protected against a solid object greater than 2.5mm, e.g. a screwdriver.		Protected against water spray at 60° angle.
	Protected against a solid object greater than 1mm, e.g. a wire.		Protected against water splashing from any angle.
	Dust Protected. Prevents ingress of dust sufficient to cause harm.		Protected against water splashing from any angle.
	Dust Tight. No ingress of dust.		Protected against powerful water jets and heavy seas. No harmful ingress.
<p>Example</p>  <p>IP 6 5</p> <p>Dust Tight. No ingress of dust.      Protected against water splashing from any angle.</p>			Protected against the effects of immersion in water - 15cm to 1m. No ingress for 30mins
			Protected against the effects of permanent immersion in water (up to 13 feet).

It's important to note that, unlike the natural progression the ingress of solids, the second number relates to styles of liquid ingress; i.e. drips, sprays, splashes, jets and immersion and protection cannot be assumed against other types of liquid ingress - this is a common misunderstanding with IP liquid ratings.

Generally, light fittings are divided into 2 types – those that offer some protection from water ingress and those that do not. Generally, IP20 rated items are used in dry areas, where only limited protection is required. In areas that may come into contact with water, IP ratings range from IP44 – IP68. Also, prices can vary with IP ratings - generally, the more protection a fitting offers, the more it has been engineered, so the quality of seals and materials used is reflected in the price.

IP ratings are also dictated by the type installation.. For example, an IP65 downlight may be suitable in a bathroom or shower, where the water would only ingress from below. However, it would not offer the same protection in an exterior canopy – where water could ingress from above and below. This information should be on the manufacturer's data sheet.





## Understanding the Rating of Light Fittings

The international “IK Code” measures the amount of impact a specific product can take. In essence it tells you how resistant a product is to an external impact/shock and helps you to choose the right product for the right job.

The table opposite details what each IK rating means (01 to 10), in terms of the protection against impact (measured in Joules) and what the equivalent height that equates to if the fitting were dropped against a hard surface.

As a guide, many manufacturers have outdoor equipment rated at IK08 and it's useful to use that as a minimum specification rating. Other areas that need to think about IK ratings would be lighting used in sports halls where the fittings could easily be hit by objects.

There are other factors to consider when choosing a light fitting. Firstly, a good understanding of the environment the fitting is to be installed helps to make sure the best fitting is sourced - e.g. if the fitting is being used in a sea front environment, an aluminium or steel fitting will quickly degrade, due to exposure to salt water and a specialist product would be better suited. It's also possible to 'over spec' a fitting, causing issues longer term. An example of this would be installing an IP68 fitting in a hotel corridor, which would cause it to overheat and fail, as the heat would not be sufficiently dissipated.

<b>IMPACT PROTECTION</b> A Guide to IK Ratings		
IK - CLASSES (EN50102)	HEIGHT (mm)	ENERGY IMPACT (Joules)
01	75	0.15
02	100	0.20
03	150	0.35
04	250	0.50
05	350	0.70
06	200	1
07	400	2
08	295	5
09	200	10
10	400	20

## The most common IP Ratings

**IP20:** suitable for most general-purpose interior fittings

**IP44:** common in street lighting, bollards and floodlights

**IP65:** used in outdoor lighting in public areas

**IP67:** can be immersed in water for up to 30 minutes

**IP68:** an absolute requirement for underwater luminaires, but ONLY underwater - not other liquids.

## Fire Ratings

In all commercial buildings, ceilings are designed to slow the spread of fire and have a fire rating, giving an indication of how much the ceiling will slow the spread of fire. When installing a recessed light fitting, the integrity of the ceiling is affected, so the fire rating of the fitting needs to be inline with the ceiling, in order to maintain the overall fire rating.

The Electrical Safety Council (ESC) recommends that fire rated options should be used in all buildings, even though they are not a legal requirement under a roof void (e.g. An empty loft). However, slowing the spread of fire makes escape easier for all concerned and reduces the risk of falling debris in the event of a fire.

**Remember: a fire rated fitting will not stop a fire, but it will help delay the spread.** Most fittings are rated at 30, 60 or 90 minutes, which is the length of time the fittings should delay the spread of fire. Also, not all light fittings have fire ratings but can be installed with a fire hood. However, this inflates both the cost and installation time.

**For support and advice on choosing the right product, please contact us using the details below.**

