

There sand to around  
1700° 3900°f why do

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There are three key means of production one off, batch and mass. 1 One off production is where the product you have got is the only one that has been made. 2 Batch is where different colours and sizes are made for the companies that ask for them.

3 Mass production is where the product is the same and is more cost effective as the company that are producing them don't have to change for example the colour or size. The lamp is mass produced, it is low cost with no optional colours or features it is probably manufactured from pre-made components manufactured in other factories and then brought together in an assembly plant. The lamp is made from 4 key materials - glass, metal, rubber, ceramic.

Glass manufacture impact on design The dome is made of glass - glass is made from liquid sand or even ordinary sand. Sand is turned into glass by heating the sand to around 1700°/3900°F Why do you think glass is a good choice? Glass is a good choice for the lamp because it is hardwearing and is a strong material. Glass can also be recycled at the end of its lifecycle by melting it down.

Metal manufacture impact on design The metal has to be mined at some point in the process therefore it has a negative effect on the environment. The molten metal is cooled to form the solid. The solid metal is then mechanically shaped to form a particular product e. g.

sheet metal. The two processes of making the metal base for the lamp is sheet metal forming or die casting. The material that the metal base is made out of is a zinc alloy because its properties are that its high strength and hardness, this means it's more cost effective and will be better for mass

production. Sheet metal forming is formed into flat pieces that are used in metal working and can be bent into a variety of shapes. The die casting process is where molten metal is forced under high pressure into a mould cavity. Ceramic manufacture impact on design Biscuits any pottery after the first firing and before any glaze is applied.

This can be a final product such as bisque porcelain, or unglazed earthenware, often called terracotta, or, most commonly, an intermediary stage in a glazed final product. Compression Moulding is a way of moulding in which the moulding material, which has been preheated is placed in an open heated mould cavity. Rubber manufacture impact on design The manufacturer uses rubber because it prevents water from getting into the light and the rubber they use is elastomer which is a mix of polymer and elastic so that the material last longer. IP44 - IP numbers IK numbers - IK numbers show how much impact the product can take in the measurement of joules. They will test this by hitting the product with different weight hammers. BSI - BSI Group was created as the Engineering Standards Committee in London in 1901 subsequently and became the British Engineering Standards Association in 1918, adopting the name British Standards Institution in 1931 after receiving a Royal Charter in 1929. In 1998 a revision of the Charter enabled the organization to acquire other businesses and the trading name was changed to BSI Group.

The BSI group take product and test them, if the product is safe then they will have a 'BSI Kite mark'. If the product hasn't got a 'BSI Kite mark' then it could be unsafe or could not be fully functional. BSI? - An emergency light for Cristal will need to conform to legislation for lights - BS EN 1838: 2013 4.

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2calls for a minimum of 1 lux anywhere on the centre line of the escape route for normal risks (lighting solutions PDFCE - CE marking is a certification mark that indicates conformity with health, safety, and environmental protection standards for products sold within the European Economic Area. The CE marking is also found on products sold outside the EEA that are manufactured in or designed to be sold in the EEA. Research 3 existing Product This light is IP65 Learning Objective 3. This is a picture of the disassembly.

In conclusion this report has given me a better understanding of the needs of a new design of lamp for cristal.