

# [There sand to around 1700° 3900°f why do](https://assignbuster.com/there-sand-to-around-17003900f-why-do/)

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

3 Massproduction is where the product is the same and is more cost effective as thecompany that are producing them don’t have to change for example the colour orsize. The lamp ismass produced, it is low cost with no optional colours or features it isprobably manufactured from pre-made components manufactured in other factoriesand then brought together in an assembly plant. The lamp ismade from 4 key materials – glass, metal, rubber, ceramic.

Glass manufacture impact on designThe dome is made of glass – glass ismade from liquid sand or even ordinary sand. Sand is turned into glass beheating the sand to around 1700°/3900°FWhy do you think glass is a good choice? Glass is a good choice for the lampbecause it is hardwearing and is a strong material. Glass can also be recycledat the end if its lifecycle by melting it down.

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

sheetmetal. The two processes of making the metalbase for the lamp is sheet metal forming or die casting. The material that themetal base is made out of is a zinc alloy because its properties are that itshigh strength are hardness, this means its more cost effective and will bebetter for mass production. Sheet metal forming is formed into flat pieces that are used in metal workingand can be bent into a variety of shapes. The die casting process is wheremolten metal is forced under high pressure into a mould cavity.  Ceramic manufacture impact on designBiscuitis any pottery after the first firing and before any glaze is applied.

This canbe a final product such as bisque porcelain, or unglazed earthenware, oftencalled terracotta, or, most commonly, an intermediary stage in a glazed finalproduct. CompressionMoulding is a way of moulding in which the moulding material, which has beenpreheated is placed in an open heated mould cavity. Rubber manufacture impact on designThemanufacturer uses rubber because it prevents water from getting into the light andthe rubber they use is elastomer which is a mix of polymer and elastic so thatthe material last longer. IP44 – IP numbers          IK numbers – IK numbers show how much impact theproduct can take in the measurement of joules. They will test this by hittingthe product with different weight hammers. BSI – BSI Group was created as theEngineering Standards Committee in London in 1901 subsequently and became theBritish Engineering Standards Association in 1918, adopting the name BritishStandards Institution in 1931 after receiving a Royal Charter in 1929. In 1998a revision of the Charter enabled the organization to acquire other businessesand the trading name was changed to BSI Group.

The BSI group take product andtest them, if the product is safe then they will have a ‘ BSI Kite mark’. If theproduct hasn’t got a ‘ BSI Kite mark’ then it could be unsafe or could not befully functional. BSI? – An emergency light for Cristal willneed to conform to legislation for lights – BS EN 1838: 2013 4. 2calls for a minimum of 1 lux anywhere on the centre line of the escape routefor normal risks (lighting solutions PDFCE – CE marking is a certification mark that indicates conformitywith health, safety, and environmental protection standards for products soldwithin the European Economic Area. The CE marking is also found on productssold outside the EEA that are manufactured in or designed to be sold in theEEA.     Research 3 existing Product  Thislight is IP65 Learning Objective 3. This is a picture of thedisassembly.

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