

Damp Proofing Material

1- Flexible Materials:

The materials, which do not crack and deform their shape when subjected to loading, are called Flexible Materials

a- Bitumen Mastic (Mastic Asphalt)

- **It consists of asphalt or bitumen mixed with fine sand in hot state to form an impervious mass.**
- **Due to this consistency it can be spread (when hot) to a depth of 2.5cm to 5cm, which sets on cooling.**
- **It provides good impervious layer but special care is needed in its laying.**

b- Bitumen Felts (Sheets):

- **It consists of 6mm thick sheet of bitumen prepared in rolls having width equal to that of brick wall.**

c- Hot laid Bitumen:

- **This material is used on a bedding of cement concrete or mortar.**
- **This should be applied in two layers at the rate of 1.75kg/m² of the area.**

d- Metal Sheets:

- **Metal sheets of Copper, Aluminum, or Lead are used to prevent dampness, but they are costly.**
- **Sheets of these materials are used through out the thickness of the wall.**
- **The sheets of Lead are laid over Lime Mortar and not with Cement Mortar due to the chemical reaction of Cement over the Lead.**
- **The sheets of metal should be coated with asphalt.**
- **The thickness of the sheets should not be less than 3mm.**

2- Rigid Materials:

- **The materials, which do not resist transverse stresses and cracks when subjected to sever loading, are known as Rigid Materials.**

a- Rich Concrete

- **1.2cm to 4cm thick layer of Rich Concrete (1:2:4) painted with two coats of hot bitumen is used as horizontal D.P.C.**
- **It also prevents the moisture penetration by capillary action.**
- **These layers are laid where the damp is not excessive.**

b- Mortar:

- **2cm thick layer of Rich Cement and Sand Mortar (1:3) is applied on the inner face of external wall.**
- **This is a vertical D.P.C.**
- **The surface is than painted with two coats of hot bitumen.**

c- Bricks:

- **Over burnt or dense bricks in one or two layers can be used as cheap and effective DPC.**
- **They are laid in Rich Cement and Sand Mortar (1:3)**
- **Bricks are rarely used as DPC except in cheap houses.**

d- Stones or Slates:

- **Two layers of stone slabs or slates laid in Lime, Cement and Sand Mortar (1:1:6) make a best DPC.**
- **They can also be laid in Cement Sand Mortar.**
- **It is used where a good quality of stone is easily and cheaply available**