

# 6

## **PREVENTION OF BUILDING FROM TERMITE AND DAMPNESS**

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### **6.1 INTRODUCTION**

Prevention of building from the attack of termite and dampness is one of the very essential measures which is adopted in all construction works. Damp Proof Course (D.P.C.) is provided in all the building to prevent the rise of water from the ground which causes dampness. The dampness caused due to seepage from roof into the wall is prevented by water proofing of roof.

### **6.2 OBJECTIVES**

After going through this lesson you will be able to:

- explain the measures taken for prevention of building from the attack of termites;
- describe termite treatment before construction;
- enumerate the measures taken to prevent the rise of water above the plinth level which causes dampness.

### **6.3 METHOD OF PREVENTION FROM THE ATTACK OF TERMITE**

The method of prevention from the attack of termite can be divided into two parts:

1. Measures taken before construction (Pre-construction technique)
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2. Measures taken after completion of construction (Post construction technique)

The termites which are seen in the building generally lives under the ground and breeds before the commencement of rainy season.

Apart from this, it is also found to be present in the timber, rubber, etc. Some times before in the past, Aldrine, or DDT were being used for prevention purposes, but with the observance of bad effect of these two medicines on human being, the use of Aldrine and DDT have been stopped. Accordingly now a day following medicines are used:

1. Chloropyriphosh, which is available as Dermit/Dustbin in the market 1% solution of chlorophos is sprayed in the soil/water. This is very poisonous substance, hence hand should be properly washed with soap each time after use.
2. Apart from dirmat or Dustbun, TC Hepafloor (5% solution) can also be used.
3. The solution of Chlorden (1% solution) can also be used.

#### 6.4 TERMITE TREATMENT BEFORE CONSTRUCTION

Before starting the concreting work in the foundation Dermit solution is sprayed by hand pump in the foundation soil. This job should not be carried out during rainy season or when water is present in the foundation trench. This process is carried out before pouring concrete mix in the foundation trench, in an orderly fashion in stops.

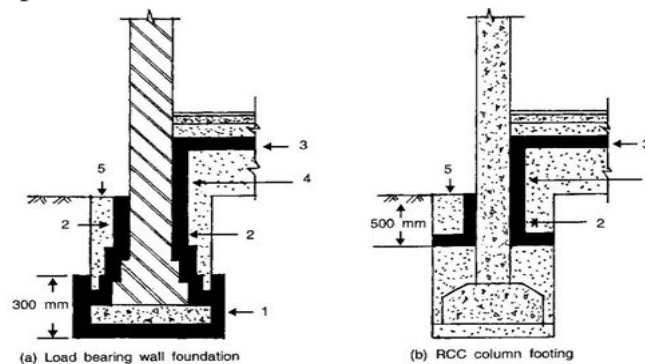


Fig 6.1 (a)

Fig. 6.1 (b)

#### Foundation of load bearing wall Column and Footling

##### Step 1

The Dermit solution of appropriate strength should be spread up to 30 cm from the foundation level to the wall, so that the termite is completely killed. It should be used at the rate of (@) 5.0 ltr. per sq. m of the area covered.

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Fig. 6.1 (a) depicts that foundation on which the load of the load bearing wall will act. The Fig 6.1 (b) depicts the R.C.C. foundation.

### **Step 2**

If the soil from outside source is brought to fill the foundation space, the soil should be properly pulverized and mixed with 3 to 5 ltr. of Dermite solution and it should spread up to 30 cm from the determined area outwardly.

### **Step 3**

Starting from the foundation level and up to plinth level, holes @ 15 cm are made in the soil extending up to 5 to 7.5 cm. deep. After that @ 5 ltr. per square meter chemical solution of Dermite of appropriate strength is filled in the holes.

### **Step 4**

**Treatment at the joint of wall and floor:-** At the joint of wall and floor, Dermite solution of appropriate strength is applied @ 15 ltr. per. sq. m.

### **Step 5**

**Treatment of soil which touches the building from outside:-** After completion of the construction work of the building, holes 30 cm deep are made at every 15 cm along the length and the Dermite solution is filled @ 5 ltr. per m. length.

### **Step 6**

**Treatment at other places:-** Termite prevention treatment should also be carried out at places where the timber work in the building touches the soil or the conduit pipe is put in the floor and in the same way where construction joints occur. It is provided @ 3 ltr. per m. length.

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In the same way the termite prevention treatment should be carried out in walls above the plinth level.

Above the plinth, at 45° angle holes should be made at every 30 cm on both sides of the wall and the chemical should be pumped in the holes till the chemical starts coming out. After this the holes should be filled with cement mortar (1 : 2)

### 6.5 ANTI TERMITE TREATMENT OF BUILDING POST CONSTRUCTION

At places whenever the timber work touches the wall, holes are made and the Dermit solution made in Kerosene oil is pumped into the 6.0 mm diameter holes. Hand pump should be used to push the chemical in the holes.

### 6.6 WORKS RELATED TO PREVENTION FROM DAMPNES (DAMP PROOF COURSE)

Damp proofing course is laid above the ground level adjoining plinth level of the building in the entire width of the wall. However it is kept below the floor level. The thickness of the DPC (Damp Proof Course) varies between 12 mm to 20 mm. At certain places it may be 40 mm thick also. It is also provided below the sill level of the doors.

#### Method of laying Damp Proof Course

When the brick work reaches plinth level a special type of mix known as Damp proofing compound is mixed with cement and sand (1 : 2) with adequate amount of water and is laid in the full width of the brick work below it. The thickness of this layer is usually kept at 2.5 cm unless and until specified otherwise. This layer prevents the dampness to rise above.

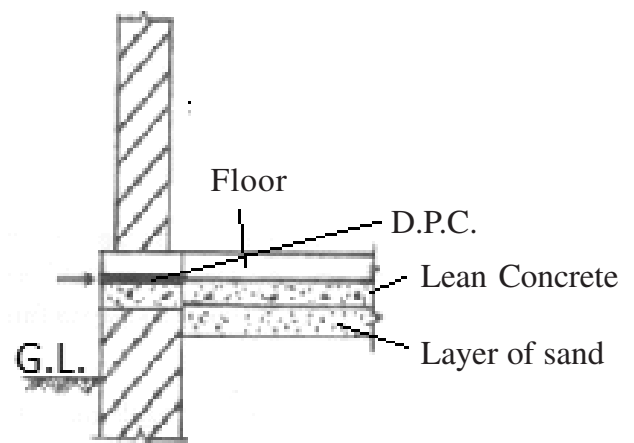
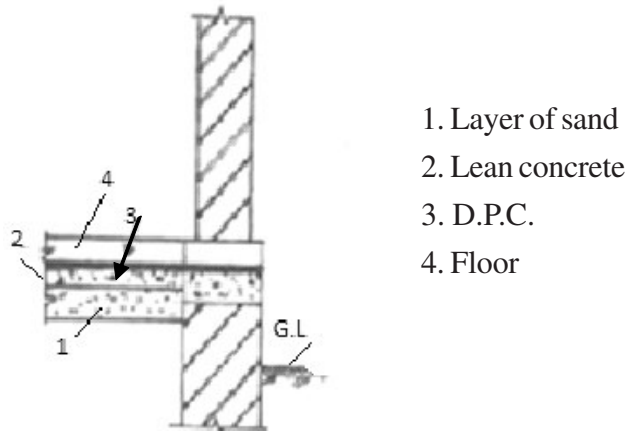


Fig. 6.2: Application of DPC in Cohesionless soil



**Fig. 6.3:** Application of DPC in Cohesive soil

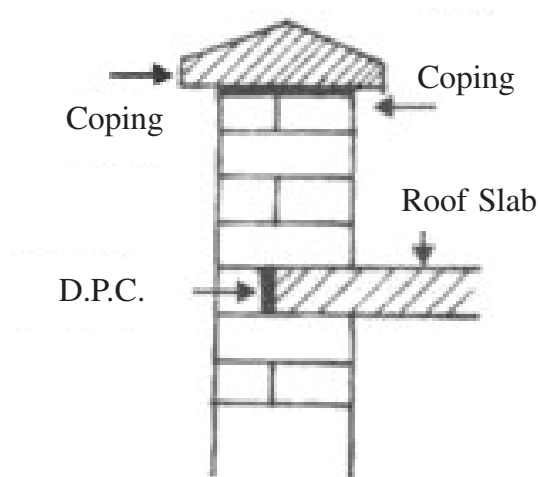
D.P.C. is sometimes made of Cement concrete also. In this the ratio of cement: sand: stone chips is 1 : 2: 4 to which Damp Proofing Compound is also added.

D.P.C. is kept wet (cured) for 7 days.

After drying D.P.C. layer is coated with coal-tar.

## 6.7 WATER PROOFING AT THE JUNCTION OF PARAPET AND ROOF

The method of water proofing at the junction of Parapet and roof is shown in Figs. 6.4(a), (b) and (c).



**Fig. 6.4(a)**

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Method of putting drain pipe

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**Fig. 6.4(b)**

**Fig. 6.4(c)**

(Fig.6.4: Prevention of seepage from Roof through water proofing methods)

## **6.8 WHAT HAVE YOU LEARNT**

- When the chances of attack of Termites are more pronounced?
- Treatment for prevention of attack of termites-How it should be done?
- What are the differences between the treatment applied before construction and post construction for prevention of attack by termites in buildings?
- How many types of damp proofing course are there?
- What is the necessity of providing DPC?
- How the dampness in building can be prevented?

## **6.9 TERMINAL QUESTIONS**

1. Why attack of termites are not treated now with Aldrine or D.D.T.?
  2. How the attack of termites on timber can be prevented after construction?
  3. What is the amount of chemical solution which is required to be applied at place where the timber touches the solid?
  4. What are the differences in treatment of walls and timber for prevention against attack of termites?
  5. What do you understand by D.P.C.?
  6. At which level the D.P.C. is laid?
  7. Which substance is mixed with cement at the time of laying D.P.C.?
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