

## Water Absorption

### A.1 Why do we lay engineering bricks different than FL quality bricks?

We do not really lay engineering bricks different, we would lay engineering bricks more carefully, engineering bricks do not absorb moisture the same as FL quality bricks.

Engineering bricks do not absorb moisture from the mortar; therefore water may run down the face of the engineering bricks spoiling the finished work.

### A.2 How do we keep the moisture content of bricks low?

Keep all bricks covered at all times; many brick manufactures wrap bricks prior to delivery, when bricks are delivered to a development they should be stored off the ground.

Once the brick packs are opened and 'loaded out' they still need to be protected from rain and moisture from the ground. The NHBC 'good craftsmanship guide' should be consulted for further information.

### A.3 How do we reduce water absorption from the ground in dwelling?

We would install a DPC and DPM.

We would ensure the ground level is a minimum of 150mm below the DPC.

Ensure good materials and workmanship.

### A.4 How do we measure the water content of a material to see how much water has been absorbed?

We would use an electronic moisture meter or damp metre to give a % of moisture content.

This can vary between surface moisture content and structural moisture content. A bath or shower room may have high surface moisture content due to moisture in the atmosphere of the room.

Structural moisture content may be due to DPC failure, drawing in soluble salts causing effloresce.

### A.5 How does temperature affect water absorption?

Surface tension changes with temperature, If you wash your hands with warm water you hands are easier to clean than with cold water, this is because the water surface tension has altered.

Same with a building as it warms up, with lets say central heating, the surface tension of the water within the wall changes altering the moisture content. This change is small but significant.

As water evaporates when warm, this draws in more water to replace evaporated moisture. The whole structure becomes 'damp' as the temperature rises; we need ventilation to remove this moist air.

A.6 What can happen to timber if it absorbs too much water?

Timber will go soft, crack and decay.

Dry Rot is not dry at all it is a fungus that attacks wood, when the timber reaches a moisture content of around 30-40% dry and wet rot can attack the timber.

If the moisture content is very high dry rot cannot infect the timber. Dry rot needs a constant and stable environment to survive, this is normally inside a structure, and it likes to grow in temperatures between 3°C and 23°C.

Wet rot will degrade timber as it breaks down the cells within the timber the moisture content is similar to dry rot 30-40% and upwards. It is caused by continuous wetting of timber.

The student should investigate further.