

## Capillary Action

What is Capillary action?

Water or moisture can rise into a structure against the force of gravity, the surface tension created by the water molecules can allow water to rise up to 1mtr within a wall.

Capillary action occurs because water is sticky -- water molecules stick to each other and to other substances, such as glass, cloth, organic materials, brick, block work, plaster, timber and soil. Dip a paper towel into a glass of water and the water will "climb" onto the paper towel. In fact, it will keep going up the towel until the pull of gravity is too much for it to overcome.

Capillary action is the rate at which a building material or content can absorb, hold and retain water. Capillary action increases as surface tension decreases. The movement of water in absorptive materials explains the capillary action phenomenon, water will rise to levels higher than the surface water or wetness.

Trees and plants use capillary action to obtain food and minerals for nourishment and growth.

Q.1 How do we stop capillary action affecting a wall?

Q.2 How do we stop capillary action affecting a floor?

Q.3 How does heating a room or building affect capillary action?

Q.4 What is a capillary 'grove'?

Q.5 How does a capillary 'grove' work?

Q.6 What is the minimum distance from the face of a wall, for the capillary grove?

Q.7 Timber and UPVc window and doorframes have capillary groves, where?

Q.8 How would you test for moisture in a wall?

Q.9 How would moisture in a wall affect plaster?

Q.10 Capillary action in a wall will release salts in the materials what is this called and how does it affect the materials?

Q.11 At what moisture level in timber would 'wet rot' start?