EXHAUST FANS & BATHROOM HEATERS

HOW TO KEEP A BATHROOM WELL VENTILATED?

3 important factors determine how well an exhaust fan removes steam produced by showers / baths:

- Extraction rate
- Adequate cross ventilation
- Replenishment of exhaust air

Extraction Rate
Selecting the right extraction rate of an exhaust fan involves 3 simple steps:

1. Calculate the room size.
   Example: Volume of a 2.5m x 2.0m x 2.4m room = 12 m^3

2. For reasonably good ventilation an exhaust fan must be capable of replacing the air in a room about 15 times per hour (15 ACH). However prolonged hot shower in a cold day may warrant more frequent air changes per hour to help get rid of excessive moisture in the air. If required choose a larger ACH value (>20).
   Example: Required ACH = 15 x 12 = 180 m^3/h

3. Choose an exhaust fan with extraction rate more than the required ACH.
   Example: Required extraction rate (>180m^3/h) = 200 m^3/h

Adequate Cross Ventilation
Getting a decent exhaust fan with sufficient air extraction rate alone does not guarantee that a room can be well ventilated. A little planning before fan installation is carried out goes a long way. To ensure that steam is effectively removed from bathroom, exhaust fan should be located, as far as practicable, opposite air intake openings so that cross breeze traverse through the room.

Replenishment Of Exhaust Air
Air discharged must be adequately replenished by fresh air from the outside.
Typical sources of air intake include opening under door, grille on door or window.
If a room has insufficient avenues for air intake, an exhaust fan can be noticeably noisier and will barely extract air. Prolonged use of exhaust fan inside an air tight bathroom may shorten useful life of the motor.

The reasons above mentioned account for most complaints relating to performance of a good exhaust fan. Other common factors affecting air extraction performance include wrinkled duct and restricted movement of self-closing draft stopper.