



NO SMOKING!

As new developments jostle for elbow space in the region, there is an urgent need for an efficient smoke-management system, says Alexandre Benoit.



Fires cause loss of life, damage property, injure people and harm the environment. Fire hazards in buildings are a global concern, especially in the UAE, where news of outbreaks of fire are frequent. Designing and installing a fire-protection system in buildings presently under construction, or already built, are therefore, important considerations to combat the menace.

Fire is the combination of flame and smoke. If flame is seen as the aggressive part of fire, which burns materials, smoke is made of combustion gases. The resultant toxic and opaque fumes hamper breathing and, more importantly, affect visibility needed to escape from a building on fire. This causes panic and poses further threat.

In fact, smoke is considered the major killer in a fire situation. It is, thus, evident that having an efficient smoke-management system in place assumes top priority. This leads us to the issue of the need for safe compartmentation.

A safe compartmentation using reliable motorised fire, smoke and heat dampers will effectively prevent the spread of fire, smoke and heat through the entire building and will, thus, manage to confine the smoke within the same compartment and will also limit the spread of flame. For example,

each floor can be divided into two compartments with a fire door and a fire damper, to separate the two compartments on the same floor (See figure 1, the drawing of a hotel).

Thanks to the compartmentation, the safety of the people outside a compartment under fire is, at least theoretically, guaranteed. In reality, there may, of course, still be some fire, smoke, and heat hazards either due to improper or incorrect installation of compartment walls and shafts or due to lack of maintenance. On

the other hand, a code-compliant installation with regular maintenance during the whole lifecycle of the building will guarantee safety for those outside the fire compartment, in case of a fire episode. It must be stressed here that regular testing and checking of the activated devices, like fire dampers, is essential.

Apart from compartmentation, installing an efficient smoke-extraction system will help those trapped inside the compartment under fire and escape the building safely during the early stages of

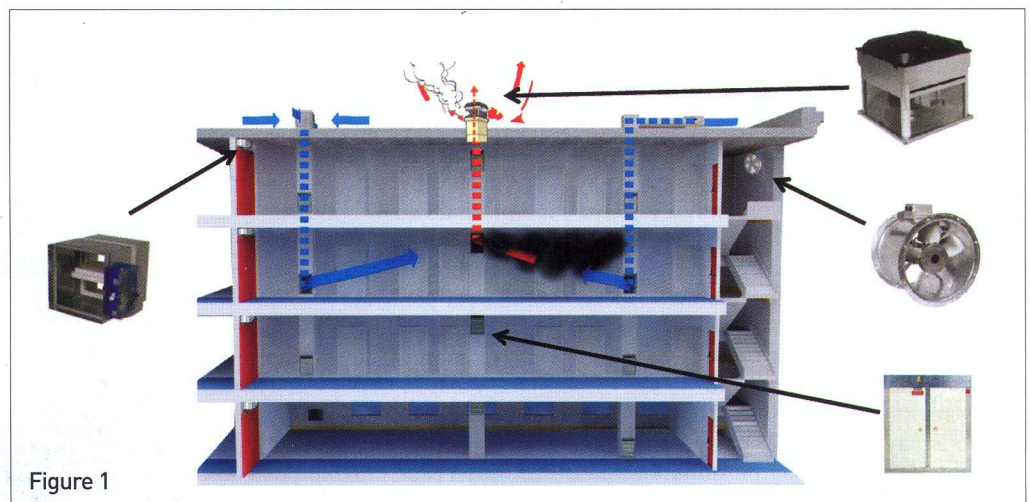


Figure 1

