

# Putting a damper on fire

The first UAE Fire and Life Safety Code of Practice, which came into place in July 2011, brings into sharp focus fire safety in relation to the HVACR sector. Alexandre Benoit of Aldes Middle East throws light on the Code and elucidates finer technical points in an interview with Naveena Sadasivam.

## Why and how much importance is being given to fire safety in the UAE?

Fire hazards within buildings are still a global concern, and especially so in the UAE, where a high number of fires occur annually. These fires are caused essentially by accidental human factors (60%) and technical failures (40%). They result in deaths, injuries and/or damages. For this reason, preventive safety against fire hazards and disasters has become a major strategic objective in the Dubai Civil Defence strategic plan 2009-2015. The UAE Civil Defence authorities are taking the right action by providing better services to the population, designers and builders and contractors.

Major General Rashid Thani Al Matrooshi, The Director of Dubai Civil Defence and Acting Commander-in-Chief of the UAE Civil Defence, is the key leader of the development of fire safety in the UAE. Four examples can illustrate this major development during the past few years:

- Increase in the number of fire stations to attend to the safety of all the new project developments, mainly in Dubai and Abu Dhabi
- The release of the First UAE Fire and Life Safety Code of Practice in July 2011
- The development of



E-Engineering services to ease and clarify the project approval process

- The 24x7 Direct Alarm System for Dubai, connecting all private buildings and establishments to the new Command Control Center for real-time monitoring of life and safety alarms

The correct implementation of the new Code is a key issue in order to upgrade the fire safety of buildings in the UAE.

## Could you explain the finer points of the Code?

The UAE has done a great job by releasing a comprehensive UAE Fire and Life Safety Code of Practice, which addresses the main fire protection issues, in order to give a

tangible framework for all consultants and contractors in the UAE. It is going to be continuously revised through the Civil Defence Fire Code Council, taking into account feedback from contractors and consultants.

The code is mainly based on American standards. But it is also opening the doors to European standards for some systems, so as to allow the best safety solutions in buildings. For example, fire dampers may be ushered in from Europe, especially for sensitive buildings like healthcare facilities, hotels, buildings of educational institutions and other buildings where habitable height exceeds 23 metres. These are motorised and ensure that there is no smoke

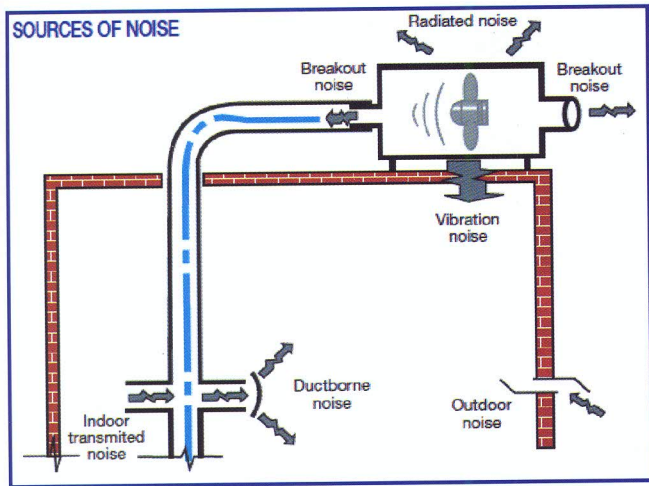
leakage and no heat transfer, as required by the new Fire code.

The ideal situation would be a standardised code for the GCC, bringing within its ambit all building contractors, consultants and suppliers.

## To what extent do building owners adhere to safety standards?

A lot of buildings in the UAE face safety issues due to improper installation, wrong application of products and inconsiderate suppliers supplying products that do not meet with the specifications. There are also instances of improper installation of curtain fire dampers inside the wall. We have witnessed gaps filled with mineral wool material on-site between the sleeves and the fire damper, whereas, there should be no gaps. It's not the fire damper which will ensure safety, but its proper installation.

A glaring example of wrong application of products can be seen where contractors install motorised fire and smoke dampers (MSFD) rather than motorised smoke dampers (MSD). While the first one is a fire damper, the second one is a smoke extract damper. Consequently, there is a big safety issue in using a MSFD instead of a MSD, as the MSFD will close with



a temperature above 72°C, preventing the extraction of smoke as intended by the designer. Here, it is worth noting that it has been specified in the UAE Fire and Life Safety Code to educate the UAE market to prevent this hazard: A clause in the Code states: A combination fire and smoke damper is a fire damper and cannot be used as a smoke damper.

#### What more needs to be done?

A few things that will help prevent the cause are:

- A careful project approval procedure
- Final site inspection
- Organising an efficient training programme from the authorities or fire protection practitioners for consultants and contractors to make them aware of all the requirements from the new UAE Fire and Life Safety Code point of view.

#### Is the available equipment up to satisfactory level?

Curtain fire dampers are from a very old technology and shall therefore be prohibited from any building as they are neither airtight nor motorised, and allow heat transfers. Their level of safety no longer

meets the real need for a safe compartmentation. In the UK, for example, the curtain fire dampers as per BS standards are being replaced by European-type fire dampers, following requirements of EN 1366-2.

#### What are the recent technological developments in the field of equipment?

Usually, in fire protection, the main developments follow new regulations or standards. Consequently, the recent technological developments in fire dampers concern mainly European products, which follow the new European standards – EN 1366-2 – for testing requirements, and EN 13501-3 for the classification.

#### How are the O&M aspects treated?

Building maintenance is an area that is regularly neglected. That's why MEP contractors need to pay attention to the choice of equipment to ease the work of maintenance companies, for instance, by selecting motorised fire dampers rather than curtain fire dampers.

#### What are the different HVACR sources of noise?

Here, I list the major sources:

#### • Outdoor noise:

This is noise which is transmitted through openings from the outdoor environment into the building.

#### • Radiated noise:

This is noise which is transmitted/radiated through the casing of a fan, VAV box, etc.

#### • Vibration noise:

This is noise which is transmitted through the vibrations of a rotating machine.

#### • Ductborne noise:

This is transmitted along the ductwork, both upstream and downstream of a fan.

#### • Breakout noise:

This is noise transmitted

through a barrier, often a fan casing or ductwork, and any indirect noise path which tends to devalue noise control measures used to reduce the transmission along the more obvious paths.

#### • Noise outlet:

This is generated usually from a grille or a diffuser or any opening acting as a terminal element on either an extract or a supply system.


#### Have design practices improved?

Design practices are increasingly taking into account the noise criteria level (NC level) in the UAE market. Consequently, we can say that they are paying attention to the comfort level in connection with noise. ■


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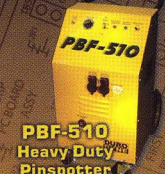
Duro Dyne sells a complete line of duct fabrication machinery for fastening pins to sheet metal, applying adhesives or sealants to sheet metal, cutting insulation to required sizes and spot welding two pieces of metal.



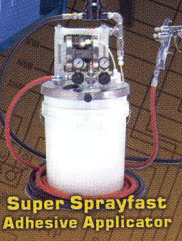
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