

PRESS RELEASE

The benefits of fire compartmentalisation in warehouses and factories

7 March 2018: *It is important that architects understand the benefits of, and need for, fire compartmentalisation in industrial design, such as for warehouses and factories, according to ASP Fire CEO Michael van Niekerk.*

The idea behind fire compartmentalisation is to divide a structure such as a warehouse or factory into 'fire compartments' in order to limit any potential fire or smoke from spreading. This form of passive fire protection is also cost-effective, as it may reduce the need for costly sprinkler systems, van Niekerk points out.

In terms of warehouses, fire protection has to take into account the fact that fire and smoke often spread vertically, due to the high stack heights involved, whereas factories often contain complex production processes that can spread fire and smoke by means of conveyor belts, for example.

"The thought process of the architects who design these structures is simply to join up various boxes, whereafter an industrial engineer will populate that space with the necessary production processes. Often the industrial engineer will supply the architect with a brief in this regard," van Niekerk elaborates.

However, it is essential to ensure that adequate fire-protection measures are in place in terms of such designs. "For example, if you have a conveyor belt running the length of a factory, then the emergency exit being on the one side of it will mean restricted egress in the event of an emergency." This also applies to the correct location of fire-hose reels so that they can cover the entire factory area.

Van Niekerk stresses that the main aim of fire engineering for factories is to ensure that all eventualities are catered for, while minimising downtime and lost production. "We do not want to shut down any processes unnecessarily, while on the other hand there are critical processes that cannot be shutdown at all, without serious consequences in terms of uptime and output."

It is essential that architects take all these factors into consideration during the design phase, which is where the technical expertise of ASP Fire can best be deployed. Retrofitting warehouses and factories in order to be compliant with all of the necessary regulations is not only costly, but in some instances either unfeasible or impractical.

This can be avoided by simply sub-dividing buildings into various fire compartments aimed at limiting the spread of a fire. These compartments, in turn, are separated from each other by fire-resistant floors and walls in order to stop any fire from spreading and engulfing an entire warehouse or factory.

The main benefit of fire compartmentation is that it prevents a fire from spreading out of control, which could result in workers being trapped. It also reduces the possibility of such a fire spreading, and resulting in even greater damage, and even fatalities. The degree of sub-division necessitated by fire compartmentation depends on the use of the building (such as a warehouse or factory), its height, and whether or not a sprinkler system has been installed.

In addition to fire compartmentalisation, evacuation procedures and fire protection strategies are also an essential component for warehouse and factory design. ASP Fire is able to conduct fire-risk

assessments for warehouses and factories in order to determine whether the actual fire load exceeds the installed fire-protection system design.

“We are able to advise a client accordingly, and assist them with a suitable fire-protection strategy and system design to cater for the likely worst-case scenario that could be faced in the course of normal operations,” van Niekerk elaborates. ASP Fire offers turnkey fire protection projects, which means it can also supply, install, and maintain fire-protection equipment in buildings.

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Notes to the Editor

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About ASP Fire

ASP Fire operates across the entire African continent from its Gauteng base, providing professional, accredited fire risk management and support to its clients. ASP Fire designs, installs and maintains a full range of fire detection and suppression equipment suited to clients’ needs. ASP Fire provides a holistic, proactive and preventative fire solution based on integrated fire risk assessment, training and consulting, with the installation and maintenance of fire detection and suppression systems that meet SABS, NFPA, FPASA, FDIA and SAQCC standards.

ASP Fire Contact

Michael van Niekerk
ASP Fire CEO
Phone: +27 (0) 11 452 2169
Cell: +27 (0) 83 779 1701
Fax: +27 (0) 86 505 1030
Email: michael@aspfire.co.za
Web: www.aspfire.co.za

Media Contact

Nomvelo Buthelezi
NGAGE Public Relations
Phone: (011) 867-7763
Fax: 086 512 3352
Cell: 083 4088 911
Email: nomvelo@ngage.co.za
Web: www.ngage.co.za

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