



# Fire AWAY

In this Q&A interview, Abhishek Chhabra, market development manager, Thomas Bell-Wright International Consultants, answers questions and debunks myths about building fire and safety in the GCC

*Interview by Oscar Wendel from Safety Design in Buildings*

**Oscar:** I'm very curious to hear what you think about the different GCC markets when it comes to fire and safety.

**Abhishek:** Each country is unique in geography and in the type of construction. If you look at Dubai and Abu Dhabi you can feel the difference in terms of the two cities. Subjects of fire safety go beyond just cladding. They go into the inside of buildings; passive fire protection, compartmentalisation, fire doors, fire rated products, all of these things are being brought up. As an example, Abu Dhabi Civil Defense as a body, not only have an increased awareness but they are increasing awareness among building owners and property developers, to ensure that they are more prepared in building fire safety for new constructions. They are bringing about more awareness by engaging with existing property owners and asking them to be more ready, and be more aware of the building that they have.

**Oscar:** What is your role in this process?

**Abhishek:** We come in as stakeholders at several levels. We are a testing laboratory, to begin with, but we are also a certification body. What that means is on the one side we can generate evidence and data on the fire behavior of various materials that go

into the construction and the building. That starts from its fire-rated doors right up to cladding and building exterior elements and materials. This means the properties that determine when material can or can't catch fire, ignition levels, fire propagation, smoke, spreading, etc. All of these properties are quantified very specifically using test methods which are internationally used. We have the capacity as well as the capability to quickly generate this data that is used by governments, consultants and contractors to choose the right materials.

**Oscar:** I think there's a lot of confusion about what the requirements are. What are the most common myths and misconceptions that you would you like to clarify? What do consultants and company suppliers of materials need to know?

**Abhishek:** Thanks for bringing this about. There is something called as intent. This is the most important word for everybody to understand. The intent is getting and bringing about fire safety. Everybody desires to have fire safe buildings and different stakeholders have different capabilities. They each bring about specific knowledge in the process of bringing about fire safety. For instance, someone who designs a building, like an architect, needs to have either an in-house or an out-

sourced competence related to designing the fire and life safety. This is where a life safety consultant comes into play who specialises in this domain. Large organizations like WSP have this competence in-house. Then there are companies like Jensen Hughes or ARUP who have specific streams of people who do just fire safety.

This is one part of initiating fire and life safety. These organisations are guided by internationally published codes and standards which give guidelines on what, and how fire life safety should be brought about into buildings. Government bodies like the Civil Defense and other jurisdictions like airports etc., they can formalise the use of specific specific codes and standards, so it's possible that the civil defense points to a specific international code. Or, they can publish their own codes which say this is the minimum requirement that they accept as a government and as being the current understanding of fire safety requirements.

The second part is related to bodies like ours who do certification in listing off manufacturers. So we bring about using the tools that we have; i.e., the knowledge as a third party independent body. This means that I go to the factory of the manufacturer and witness the manufacturing process. I conduct testing on the products and materials to bring about fire safety related properties and then certify the materials. This independent certification and listing provides the much-needed tools for contractors and consultants to distinguish between good and bad.

**Oscar: You have an interesting role in the sense that you are contracted by the suppliers to get their products approved and onto the market. And at the same time, you represent the authorities and society at large to keep the built environment safe. Isn't it difficult to balance the commercial interests to get business from manufacturers and at the same time keeping them to a high standard?**

**Abhishek:** It's an extremely challenging role. Most of the commercial entities that we are dealing with and the products that we certify, the process is fairly rigorous. It is very common for a lot of our customers to be unhappy when they leave our laboratory because manufacturing as a process is dependent on research and development and on designing an optimum product which is not too good and not too bad. So, this process of product development can be expensive sometimes. It



Abhishek Chhabra.

is very common for factories that we go in, and we test their products, and they fail. And when they fail these products they have to go back to the drawing board to redesign. Or, we figured out that there is a certain process in the manufacturing that is not foolproof. This might mean that the chemical recipe needs to change and can influence the product going out in the market.

When we catch it and say that you need to rectify the process, this often means additional time and more processes that a manufacturer needs to add. So yes, we are pushing manufacturers to raise their quality standards. It is a challenging road for us, and it is essential that we are backed up by the authorities. We are backed up by consultants who will put in a powerful message that we need either a compliant product or nothing. The moment decision makers start to compromise, then you will have substandard products getting into the market. So it is a challenging road for us.

**Oscar: Do I understand correctly then, your authority is dependent on the authority that is given by the civil defense? You have to influence them to maintain a high standard to justify the standards you are placing on manufacturers?**

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**Abhishek:** Let me reword what you said, we do not necessarily need to influence the Civil Defense. Their role is continuously striving to raise the minimum requirements. We are partners in this process in that we support them. We support the Civil Defense in bringing about and ensuring that they have the correct tools to implement the standards are available to the stakeholders in the market. The required tests are often costly and not always locally available. We have invested a lot of time and money in the last months to expand and grow on adding testing facilities locally here as part of new and increased requirements set in by the civil defense. For example, if they mandate for exterior installation finishing systems and the test method called NFPA, which is very scarce, we are probably the second lab in the world to be accredited and can offer this test just because the Civil Defense says it is an excellent tool to distinguish between good and bad.

**Oscar: I recently heard that you opened new facilities and that you're going to be doing testing from the European market here in the UAE.**

**Abhishek:** We have expanded our facility. We have added a large number of new tests which are primarily required in the region, but we also realise that some of these tests have a demand internationally. For example, for the experience for the exterior of the building, or the cladding, we used to conduct a test with the American standard and NFPA. The region knows that test reasonably well. But the UAE code also gave an option as an alternative to test us for the British standard. We realised that not only some consultants prefer to have data but the British test methods, but we also realised that there is a big opportunity because the labs in the UK are very busy doing the same tests. So now, not only did we add this test, we are servicing the market in the region as well as servicing customers and manufacturers who are based in the UK to test their products in our lab.

**Oscar: How is that being perceived in the UK?**

**Abhishek:** To maintain extremely high standards of delivering we are accredited by UKAS (United Kingdom Accreditation Services). Apart from being accredited by the local accreditation bodies, as an extra legislation body, they help us and push us to maintain an extremely high level of integrity and an extremely high level of accuracy in what we do. UKAS accredits us our test reports and the laboratory is well accepted in the UK because we are on par with other laboratories in the UK.

**Oscar: Do you have any plans to start labs in the UK?**

**Abhishek:** Setting up a new lab is quite a long process. It requires several steps. Setting up a lab is not something planned in the near term.

The markets of India and markets in Saudi Arabia and the greater MENA region have recently been expanding the construction market. There is a lot of construction happening, and there is an increased level of awareness related to fire safety. So we now have clients who are in India. We have clients who are in Saudi Arabia who are asking more and more for our services.

**Oscar: Tell us about the recent workshop you were called to participate in with the Civil Defense in Saudi after the recent fire in Dammam.**

**Abhishek:** In my meeting was with SASO, the Saudi Arabia Standards Organization, they wanted a quick workshop with some of the key stakeholders in the industry; who seem to be working on solutions of the cladding problem in the Middle East region.

The Saudi market is a vast market with the amount of construction that has been done, and this will continue in the future; it is phenomenal. Obviously, the country is undergoing a process of evolving a more strict regulation when it comes to safety. Whether it will be codes from the US that will be adopted directly or tailor and make changes to suit the region, all is in process.

As a laboratory doing fire testing in the last decade we have developed a keen understanding of supply chain of materials. We have developed a keen understanding of how fire safety can be installed in systems. The workshop I did for SASO, which was attended by Civil Defense in Saudi Arabia, was to focus on evolving a strategy that the country can start to think about on how to address potential risks in existing buildings.

We had a representative from Jensen

Hughes who was presenting, and staff from UL was also presenting. We were all talking about three things: how to check risks, how to quantify it and when it is perceived as high, and how to develop a suitable solution. I did a comprehensive presentation about the different properties of materials that should be known. Ignitability, combustibility, calorific value and fire propagation.

These are different properties that need to be known separately and how it is important to establish the consistency of the quality of the materials installed throughout the building. I gave an insight about testing and explained that when you're doing the risk assessment of a building, you can take off small samples and check them in our lab very quickly to establish the risk.

**Oscar: Saudi appears to have had fewer fires than other countries in the GCC?**

**Abhishek:** I would not be in a position to comment because I have not followed Saudi fires. However, the rate at which vertical construction is happening in Saudi Arabia is relatively slower and could explain that fewer fires happen.

**Oscar: So what is the problem of cladding in Saudi Arabia specifically. How does it differ from the rest of the Middle East?**

**Abhishek:** I think the challenge is the same all over the world, not just the Middle East. The cladding challenges is exactly the same. The fact that material manufacturers all over the world, across industries, and across material types, have moved very fast and ahead of the curve when it comes to regulations. You can do a comparison between some of the more evolved industries and economies of the world

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ranging from the United States to many European countries such as the United Kingdom, that have had good, responsible, methods by which they tackled the challenge in the past.

But still, some of these regulations and technical regulations which were put in place, were also not able to check everything that could go wrong. And as you have seen, some of the tragedies that continue to happen around the world.

Whether the Grenfell tragedy that happened or any other building around the world, the crux of the challenge is that lots and lots of materials which are used in the building envelope, are potentially combustible. They are the materials that have high calorific value and can burn a lot. And this is a fact, they are there, and they have been used often. It has been proven that using these materials might not always be a risk. And in order to prove so, intelligent engineers have been able to design systems that can balance out the risk of a potentially combustible and potentially ignitable material.

The cladding, in several cases, not all, has caused rapid propagation of fire. The risk can be perceived in two ways. If we consider the cladding is like an exterior garment of a building that could go up in flames that it may not result in human life casualties. You could be in a building where it is only the exterior envelope that is catching fire that causes damage to the adjacent areas and cars etc. But there is a likelihood that the damage does not happen to the people inside in the buildings of the fire does not break into the building.

The second aspect is that such a fire could break into the building and cause loss of life. Another side of this is that there are several other factors apart from fire-risky materials, related to electrical safety, HVAC, MEP, that cause these accidents. There are matters pertaining to health and safety measures that need to be considered, smoking on balconies, charcoal from Sheesha; that can decrease the fire risk. These habits do not perceive what the material is around us that can catch fire. So, there are several aspects to such building fires that happen. [MEP](#)

*Abhishek Chhabra was one of the speakers at Safety Design in Buildings, Abu Dhabi Conference, which took place on December 11, 2018, at Jumeirah at Saadiyat Island Resort - Abu Dhabi.*