

Leading the way in protection: Padena Hoor and AUDAX awarded for fire protective coatings in the Iran Mall

The world's largest shopping mall, based in Tehran, has been protected by AUDAX and Padena Hoor products - we at International Fire Buyer find out the ins and outs.

The building works for Tehran's largest retail and leisure complex, the "Iran Mall" located in the capital's north, are in full progress. With a footprint of more than one million square meters (247 acres), the mall houses more than 3,000 stores, two five-star hotels offering 200 rooms each, and a multitude of other facilities such as conference rooms, spa and fitness areas, and numerous parking spaces.

There is no question that a project of this magnitude, which is expected to generate a huge turnout of crowds, will have to meet stringent security requirements for all aspects of the technical building systems.

extinguishing technology, it is notably the judicious use of building materials which is a key criterion. This is where AUDAX with its "RENITHERM®" fireproofing coatings comes in as a global partner of choice.

Why fireproofing coatings?

Although steel won't burn in case of a fire, the heat generated will cause it to lose its static stability within only a few minutes. The consequence: the entire building is liable to collapse and take a heavy toll on human lives. This makes it all the more important to protect the steelwork for as long as possible, and to prevent it from reaching the critical temperature of 500 degrees Centigrade. The point is to gain

protection requirements. The basic safety requirements are explicitly specified even as early as the project planning stage, and require compliance with the strictest criteria.

To protect steel from rapid overheating, it needs to be coated with fire protection coating. RENITHERM® fire protection coating helps to preserve the fire resistance of load-bearing steel structures for a long time, allowing people to get out of the danger zone in good time.

Which requirements were of paramount importance?

The prescribed fire resistance time for meeting the safety requirements within the Iran Mall complex had been specified at 2 hours. This is the duration during which the steel will remain protected against extreme heat. RENITHERM® PMS-EXT and RENITHERM® PMA 1200 HD, applied in coating thicknesses of 500 µm to 6000 µm, will reliably satisfy these specifications set forth in British Standard 476. Added to this requirement was the additional requirement for a long service life and long-term functioning. RENITHERM® guarantees functional durability and serviceability for at least 20 years.

In addition to its safety aspects, RENITHERM® also offers a versatile palette of color schemes and designs. Exposed steel sections such as supports, girder and frames, for example, can be

time, allowing people to escape to safety and to get the fire extinguished.

The stringent safety standards, notably for large building projects, impose specific fire

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Again, there is no question that fire protection is one of the most important safety precautions in building. In addition to compliance with the legislation on escape and rescue routes, fire alarm and



surface-finished to match any building design, turning these steel sections into design elements in their own right, which incidentally was also a requirement in the case at hand. Over one hundred tons of fire protection coating has gone into the Tehran Iran Mall to this date.

How does Renitherm work?

RENITHERM® is a ready-to-use paint spray which is applied in the specified coating thickness. The thicker the coating, the higher the heat insulation. The protective coating reacts in the presence of a fire and forms a foam barrier, to markedly reduce the heat flow to the material core. This thin coating acts like an insulating shield, expanding to around 30 to 50 times its original volume when exposed to heat. This highly efficient protection helps to delay the point at which steel reaches its critical temperature. RENITHERM® is perfectly suited for indoor and outdoor use, proven non-corrosive, easy to handle, and known to produce a smooth surface finish.

RENITHERM® – Made in Germany

RENITHERM® is exclusively manufactured in Germany, according to German Industry Standards and British Standards. Looking

back at many years of experience in the field of construction chemistry, AUDAX has specialized in customized solutions for fire protection systems. Extensive testing and validation procedures, certified by independent international testing laboratories, ensure maximum reliability in building fire safety.

The focus of RENITHERM® products is on environmental compatibility and sustainability, among other things. Commensurate with the company's "green building" philosophy, RENITHERM® is water-based, and it contains no VOC (non-VOC according to ISO 11890-2, LEED Certificate), halogens, APEO, borates, fibers, or plasticizers. The accreditations were granted in accordance with international standards, e.g., BS 476.

AUDAX - an experienced partner for fireproofing coatings

AUDAX' prior long-time cooperation with local specialist Padena Hoor, combined with the company's international experience in large-scale projects, were key for the award of the Iran Mall project.

"With the assistance of well-trained and experienced local staff, excellent technical support, and superior state-of-the-art product quality, we have been delivering quality, reliability and safety in fireproofing coatings for more than 30 years", says Günther Keck, CEO of AUDAX-Keck GmbH.

"We use only high-quality raw materials by leading suppliers for the manufacture of RENITHERM®, which is manufactured and distributed worldwide exclusively at the factory in Börnsen, Germany", Günther Keck adds.

In March 2016, AUDAX-Keck GmbH merged with Rudolf Hensel GmbH to further explore existing synergies in research and development and in fireproofing coatings, for the benefit of the users. Customers now have at their fingertips all products of the RENITHERM®, HENSOTHERM® and HENSOMASTIK® fire protection coating systems - from a single source.