

Terex AC 700 crane at Panthéon, Paris

"To the great men of this Country, in gratitude" states the inscription on the massive plinth of the Panthéon. In order to rejuvenate this most venerable monument, French construction group Ponticelli deployed its Terex AC 700 all-terrain crane to help raise a complex scaffolding structure.

Since 1791, the Panthéon is the secular temple of the French Republic, the resting place of citizens venerated by the Nation.

Buried within the Panthéon are writers: Rousseau, Voltaire, and Victor Hugo; scientists: Pierre and Marie Curie; and heroes like Jean Moulin among other illustrious names. The last to be inhumed was Alexandre Dumas whose ashes were transferred there in 2002. Erected between 1758 and 1790 by the French architect Soufflot on the hill known as the Montagne Sainte-Geneviève, the neo-classical structure was meant to be a church dedicated to the patron saint of Paris. The onslaught of the French revolution in 1789 changed the course of history: Sainte-Geneviève lost her religious vocation and instead was transformed into the temple of French secularism. Over 700,000 visitors come to this emblematic bastion of national memory each year.



With the passing of the years, the pressure on its arches, water seepage caused by leaky joints and the corrosion of swelling metal components which have cracked open surrounding stone has compromised the stability of the structure. That is why the Centre des Monuments Nationaux, the main caretaker for the national monument system, has now undertaken a massive restoration project. The first phase of this restoration work will last until 2015, starting with the upper part of the structure at

82 meters high (nearly 270 feet). There is one major challenge: the monument has to remain open to the public while restoration takes place.

The Panthéon is fragile, and in order to repair its upper structure without using the historical building itself as a support, the colonnaded drum supporting the dome will be completely covered by free-standing scaffolding. In order to raise 350 tonnes of scaffolding into the air, Paris Echafaudage designed a metallic structure shaped like a kitchen stool. It consists of a reinforced hoop tightened around the base of the drum and resting on four legs, each 37 meters high and anchored by micropilons. One of the legs will serve as the base for a 96 meter-high tower crane. In order to assemble the scaffolding, Ponticelli brought in its Terex AC 700 all terrain crane, equipped with a 42 meter luffing jib and 140 tonnes of counterweight.

"Obtaining the permits necessary to truck in and install this kind of equipment in the heart of Paris was no easy thing. But it turned out to be the best option for this type of project," explained Stéphane Yorgui from Ponticelli's engineering office.

Only four weeks were needed to lift the individual structures into their

desired positions. The largest of these structural elements were 20 x 20 meters in size, weighed 42 tonnes, and had to be hoisted to a height of 40 meters. To cope with different lift profiles, the team at Ponticelli used the 42 m luffing jib and worked with varied main boom extensions and angles.

As the crane was working all around the Pantheon, the crane operator had to reposition it for every lift. This was a major consideration when choosing which crane configuration to use, as the time required to partially dismantle the crane for each reposition would have a big impact on the overall project schedule. With the chosen configuration, Ponticelli's team needed to only remove 80 tons of counterweight to move the crane, as the AC 700 could be transported fully rigged within the jobsite.

Before each lift, the components of the enormous reinforced structure were laid out on the ground and rigged for the lifts. "These maneuvers demanded the highest level of precision, since the structure was assembled only a few centimetres away from the

building. A job demanding patience that left no room for error," insisted Dejan Kostovski, the project manager for the scaffolding company Paris Charpente. "And this shows the skill level of the crane people in this difficult site. During work hours, the Panthéon would remain open to the public, a crowded site with people milling around," he added.

Franck Mikaelian, the main crane operator, has worked with Terex cranes for over 10 years and he has logged four years of experience working with the AC 700. "I am crazy about this crane," he stated. "I immediately felt comfortable with it. It's comfortable, precise, and powerful."

After several weeks of methodical planning and 4 weeks of precise execution, the structure was assembled and ready to be used for the massive restoration project. "The work went smoothly. The crane operators are true professionals. Their advice was very useful to our team. We will likely work with them during the disassembly process too," said Dejan Kostovski.

New visual identity for Atlas Copco Road Construction Equipment

Atlas Copco Road Construction Equipment has decided to align the visual identity of the Dynapac range of rollers and pavers to the design used by the other divisions in the Atlas Copco Construction Technique business area.

In the new design the Atlas Copco logotype will be clearly visible on the products together with the Dynapac name. The colour scheme will change to yellow and grey, which is already used for construction tools, portable compressors and generators.

The ambition is to form a strong uniform identity towards construction customers in all parts of the world.

The addition of the Atlas Copco logotype on the Dynapac equipment is not only beneficial for the Construction Technique business area. In fact, the Atlas Copco Group will immediately benefit from having more brand carriers visible to the public.

The new visual identity was first showcased in India at the Excon trade fair in Bengaluru in November 2013.

PRODUCT PROFILE

Insulate with Supreme's INSUflex



INSUflex, by Supreme Industries, is a CFC-free, black flexible elastomeric closed cell Nitrile Rubber thermal insulation that provides a highly efficient method of insulation and effectively controls condensation against both heat loss and heat gain. The material is particularly suitable for insulating pipe works for condensation control. It can be used on chilled water pipe lines, refrigerated pipe-works, hot & cold water services and on sheets or rolls in air-conditioning ductworks.

INSUflex, has a very high diffusion resistance factor to water vapour transmission ≥ 7000 , a low thermal conductivity and an excellent fire safe performance. It is suitable for a temperature ranging from -55°C

to $+105^{\circ}\text{C}$. The product does not depend on any additional outer thick skin or covering but is in built with the insulation and extends through the full thickness.

The INSUflex range is resistant to corrosion, fungal and mildew growth and is therefore very suitable for clean room applications. Insulation material with a low 'K' value equates to a high energy saving potential and thermal performance. Thermal conductivity is the main data used to technically calculate insulation thickness required to prevent condensation.

The main goal of a good insulation material should be that of preventing water vapour from spreading through insulation material as water is an optimal heat conductor. INSUflex,

having a high water vapour resistance can prevent the flow of water vapour that tends to pass through the insulating material created in air-conditioning systems as a result of a difference in pressure between the pipe (low pressure) and the surrounding air temperature (high pressure). A high water vapour value corresponds to greater material resistance to water vapour penetration.

INSUflex is available in combinations of various wall thicknesses and diameters to suit G.I., copper and PVC pipes. The product is applied to the surface using an adhesive compound. A protective layer of glass cloth, in two layers with an adhesive compound is then applied before providing a weather barrier for outdoor application.

The advantage of INSUflex is that it provides good flexibility at low temperature. It is clean, dust free and the installation is fast and easy. It has a low toxicity index and becomes a minimal toxic fire hazard. Its unique closed cell structures provide an ideal vapour barrier resistance.



Boiler industry should find ways to use solar power

Dr E M S Natchaippan, Minister of State for Commerce and Industry, while addressing the Inaugural Session of the Seminar on Boiler Industry organised with Central Boiler Board in New Delhi on December 11, 2013, challenged the boiler industry to find ways of using solar power as against other fuels.

He urged industry engage in advance research for increasing the utilization of solar power given the limitations and consequences of using thermal and nuclear energy; solar energy can be considered as an efficient alternative source without any wastage or impact on the environment.

He acknowledged the need to revisit the current IBR Act and regulations and updating of the same to keep pace with new and advance technology. He appreciated CII for providing the government and the industry in identifying requisite steps and recommendations for modernizing and revising the IBR.

Madiha Kotb, President of American Society of Mechanical Engineers (ASME), expressed concerns over the challenges faced in globalizing the standards and regulations for Boilers. She emphasized that development of standards and technological development are the basic building blocks of the industry,

ensuring economic development and economic progress of any nation.

S Sundararajan, General Manager, Bhel, in his welcome asserted that the future growth of the industry can be achieved through better design, improved R&D and new innovations. He shared challenges faced by the Indian boiler industry, such as shortage of coal, under-utilization of renewable sources of energy, coal emission issues etc.

Pravin Karve, Executive Director, Thermax, spoke about the advancements in technology in the boiler industry which has enabled the use of variety of fuels such as biomass, various qualities of coals etc. He stated that a joint effort between the government and the industry is vital to enable the boiler industry to be globally competitive.

V Ramakrishnan, in his concluding remarks focused on use of biomass, paddy husk and recycling of municipal solid wastes as new resources of energy.

The seminar saw participation from major boiler manufacturing companies such as Bhel, Gülde GmbH & Co, NTPC, ASME, L&T MHI, Rotork Controls, Lloyd Register, Bureau Veritas, Tata Steel, Bosch, ThyssenKrupp, Alstom, Veessons Energy Systems, Tata Projects, ANG Industries, Cumi, Jindal Power, etc.