

Go with the flow

A new hose system for Spanish manufacturer Grupo Puma uses pressurized air to transport cement mortars in a fluid-like state.

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PHOTO: GRUPO PUMA

TRELLEBORG

Trelleborg's industrial hose products are a benchmark of quality. Applications include the transportation of fluid, powders and gases for the construction, petrochemical and chemical industries, agricultural and food industries and industrial maintenance. Based on innovative research and a tradition of manufacturing excellence, the Scirocco II hose sets new standards of fluidization, with energy efficiency, pollution control, ease of installation and low maintenance being key features.

Use of bonding substances and rendering in building construction is rooted deep in the past: the Assyrians and Babylonians used clay, the Egyptians used lime and gypsum cement, and the Greeks and Romans used water-resistant cement mortars. It was not until the Industrial Revolution in the early 19th century that Joseph Aspdin developed Portland cement. This was the forerunner of the cement and cement mortars that have become indispensable modern-day construction materials – so much so that 3.3 billion metric tons were produced globally in 2010.

One of Spain's largest producers of cement mortars is Grupo Puma, which has 20 plants located throughout the Iberian Peninsula. The group specializes in one-coat mortars rang-

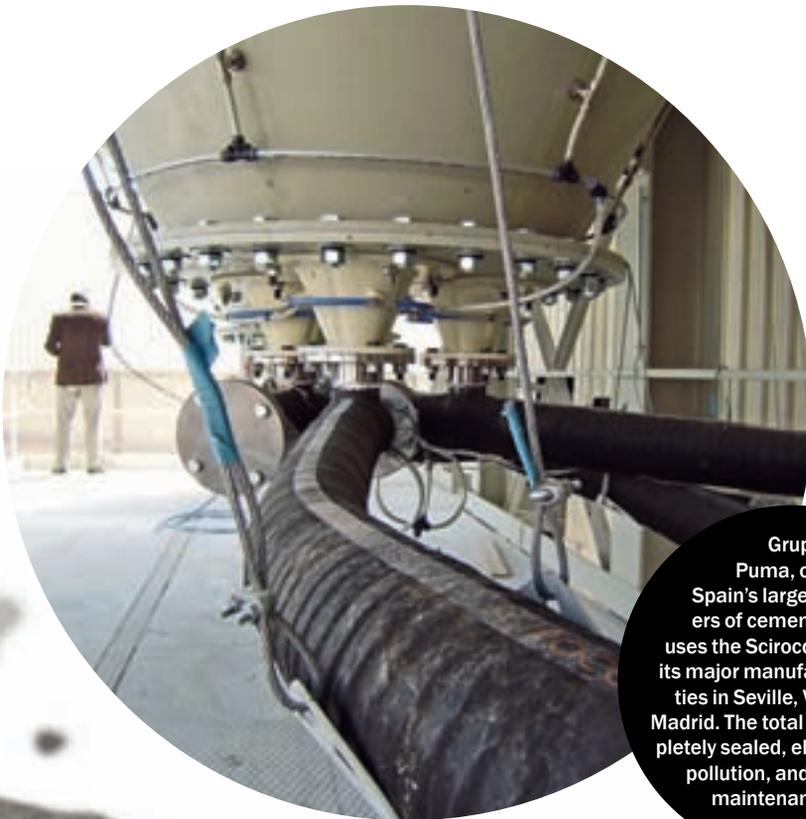
ing from decorative, cladding and grouting mortars to restoration, repair and insulation mortars, and its products are used in projects ranging from Valencia's City of Arts and Sciences and Madrid's Barajas Airport to skate parks and houses. Relatively new developments to Grupo Puma's product range are adhesive and hydraulic mortars that can be used to render and fix insulating materials.

The working environment for cement production and transportation is inevitably dusty, causing atmospheric pollution that in turn affects industrial components such as electrical motors and fans used in screw and air slide systems – the commonly used traditional methods of transporting powders. In 2007, in response to tougher environmental regulations, Grupo Puma asked

Trelleborg to install Scirocco II hoses at its Seville plant. The Scirocco II system is radically different from the bulky, rigid screw conveyors and rigid air slides. Both of these need electric motors, one to operate the screw, the other to power an internal air fan. With Scirocco II this is not necessary as it uses a fluidization process based on gravity flow.

THIS SIGNIFICANTLY reduces the energy consumed, making the process environmentally friendly. The entire cross section of the hose is used to transport powdered material. In the fluidization process, material in a granular solid state is converted into

*Blue Dimension refers to Trelleborg's products and solutions with an added sustainability and energy-efficiency.



Grupo Puma, one of Spain's largest producers of cement mortars, uses the Scirocco II system in its major manufacturing facilities in Seville, Valencia and Madrid. The total system is completely sealed, eliminating dust pollution, and is virtually maintenance-free.

a fluid-like state by passing pressurized air through at an average pressure of 0.15-0.30 bars. The total system is completely sealed, eliminating dust pollution, and is virtually maintenance free.

"Our system needs only a small amount of air pressure to fluidize the product, as the design of the Scirocco II hose ensures that air flow is consistent through the entire length of the hose," says Ludovic Dumoulin, Product Manager for Trelleborg's industrial hoses. "Gravity does the rest." The initial installation was so successful that Grupo Puma now uses the Scirocco

II system in its major manufacturing facilities in Seville, Valencia and Madrid. One of the unique properties of the Scirocco II hose system is that it is flexible, something Oscar Sanchez, Grupo Puma's Director of Technical and Quality Services, sees as a particular advantage. "It allows us to upgrade older plants really easily," he says. "The hoses can simply be threaded by hand through the forest of other pipes and supports in an older plant."

There are other benefits of the system too, Sanchez says. "Above all, the

Scirocco II hose system is virtually maintenance-free. It uses a minimum of energy, is easy to install, allows for efficient transportation of cement and mortars and creates less atmospheric pollution. It's an ideal product for us, and we're very satisfied. There is no doubt that the system will be used in our new plants too." ■

GRUPO PUMA

Grupo Puma is one of Spain's leading makers of specialty mortars, adhesives, rendering materials and insulation and waterproofing systems. With 25 years of experience in the construction materials sector, Grupo Puma takes pride in its state-of-the-art technical production facilities. The group has 20 manufacturing plants in Spain and Portugal and exports to more than 40 countries.