

High-grade Steel Specialist Presents Highlights at Achema Schmidt + Clemens is “always in your element”

Lindlar, 11th March 2009. From 11th until 15th May 2009 the 29th International Exhibition and Congress on Chemical Engineering, Environmental Protection, and Biotechnology is going to take place in Frankfurt/Main.

Already the old Chinese were fascinated by the elements. Approximately 2700 years ago, they thought up a sophisticated system, based on five elements. This comprehensive system, which comes very close to our modern understanding, considered the elements to be closely interrelated.

Today, the four elements fire, water, air, and earth are regarded as a synonym for the fundamental basis worth preserving of our civilization. In this respect, they play an important role for Schmidt + Clemens.

Symbolically, the element fire stands for all high-temperature processes, which play a role for example in the petrochemical, the industrial furnace, and the reactor construction industry. To control the element fire, S+C is pooling its knowledge gathered around both metallurgy and materials science. S+C's alloys and semi-finished products withstand the element fire – even at temperatures of more than 1,200 °C.

Particularly, Centralloy alloys and micro-alloys were especially developed for the requirements of the petrochemical industry. At Achema 2009, Schmidt + Clemens presents aluminous special alloys: the so-called “Centralloy HT Alloy Family” for use at very high temperatures in steam crackers as well as iron ore direct reduction. A substantial improvement in materials for steam reformers will also be presented. „A new dimension of materials development allows for a leap forward into nanotechnology, for example with our material Centralloy 4852 Micro R “, states Dr. Dietlinde Jakobi, responsible for Metallurgical Services and Technical Marketing.

One of many characteristics of the element water is to cause corrosion. Alloys by Schmidt + Clemens prevent this. Our specially corrosion-resistant materials consist of high-purity materials and are in addition alloyed with nitrogen. Their range of application varies from drinking water desalination from seawater to specialised shipbuilding and geothermal energy generation at a depth of more than 5,000 meters. During all these processes very aggressive, partly hot seawater plays a key role.

To keep the vital air clean for humans also depends on Schmidt + Clemens materials. Producers of energy as well as constructors and operators of power plants face the challenge of having to reduce not only the separation of sulphur dioxides and nitrogen oxides but also the output of carbon dioxides. This effort is supported by S+C with innovative materials for a new generation of power plants, which due to high temperatures and pressures work very efficiently and thus environmentally sound. Furthermore, materials "made by S+C" are currently being tested in so-called oxyfuel processes. Their goal is a "clean" exhaust gas from which climate-damaging CO₂ can considerably better be removed.

For the protection of the nurturing element earth a project, which still does not receive much attention by the public, is advanced with S+C's participation. Its basis is the world's natural phosphate reserves which as fertilizers are primarily responsible for the industrial production of food. Over-fertilising the fields, e.g. by added liquid manure, often results in a permanent pollution of the phosphate fertilisers spreaded.

Apart from phosphate heavy metals can also be found in sewage sludge ash at the end of the food chain. By means of a new process large quantities of pure phosphate can be recovered. This requires an aggressive process step for which reactor materials are currently being tested by Schmidt + Clemens.

Again this year a surprise is waiting for the visitors at our exhibition booth D36-E41 in hall 3.0. Relax with the „elements performance“ or enjoy a light refreshment. S+C personnel from Sales and Technology will be available at our stand.

No charge for printing but a voucher copy for S+C is requested.

Interviews with our Managing Directors or our Head of Research & Development can be arranged at the Achema. Please contact us.

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