2011
Issue 14

inside acat

Newspaper for customers, friends and employees

BREAKING NEWS:

- Wastewater Treatment: ACAT Screw Press for Everyone
- Next Generation: Micro Partical Systems for Maximal Performance in Paper Production
- Chemigate: Innovation Based on Modified Starches

TOPICS

"Follow us!" With our new screw press we are still in the fast line

Screw press type AS 0250 developed for plants of 500 up to 10.000 PE

MSTP-Mödling, looking back to a long history, always has been breaking new ground

Laboratorytests for powderadditives: Determination of the Dry Density

EVENTS AND NEWS

2 Zellcheming EXPO 2011: A total success!

3 VGPS-Automn-Meeting 2011

TECHNICS

4 Microstar® - An exiting new addition to ACAT's portfolio

5 Precious dung: The way of morphing biomass into energy

7 A wave of fresh air: Catch a breath whith FreshWave®IAQ

10 ECOSORB Dosage Systems - HPS und VPS: two Odourkillers

12 ACAT Singapore - our first market approaching in Asia

13 Chemigate: Innovation based on modified starches

15 Westfalia SEPARATOR®ECOFORCE

17 Optimal flocculation of sludge

COVERSTORY

19 A new ACAT-screw press on tour

22 Particulary for small sewage plants:
The ACAT-screw press for everyone

TECHNICS

24 ACAT a part of MSTP Mödling's History

26 274 litres/second - Best Performance!

29 Laboratory tests for powder additives

CHARITY AND RESPONSIBLE CARE

32 Speak whith the hands, hear whith the eyes

34 Sharks, precious predators for the benefit of mankind

ACAT-CALENDAR 2012

36 It's written in the stars

INTERIOR

38 "Plate" for the ACAT-Team at Curling-Competition
39 Jubilarians, New Starters, Special Socials
40 Company information
41 Our product range

EDITORIAL

Foto: Spiola

Manfred Zabl

Dear readers,

in the northern hemisphere fog is forming again and winter is getting closer. Once again the economic mood barometer forecasts a depression, and looking back to 2009 this calls for prudence. Because of some local crises the Euro seems to become unstable and the media reporting of the expected economic development darkens our minds.

Industry is still struggling with sharp rises in raw material prices while the dynamic sales growth decreases at the same time, which in the end puts market prices down. Reductions in the production and rationalizations have to be taken into consideration.

Currently there is no balance in free-market economy and the more politics, finance and preventive crisis management intervene in the market as a regulative force the more the native economic system seems to be thrown out of joint. Sporadic improvements are made but often other problems occur from them. It is quite obvious that a comprehensive approach for economic policy decisions is lacking and nobody has the courage to proceed to the necessary reforms.

It can only be hoped to have the right people in the right positions to provide more continuity and stability.

ACAT can only try to give our best to offer improvements for the benefit of our partners and customers. Optimization of existing processes and, above all, the implementation of new, innovative technologies are good ways to throw light on the current dark situation. In this issue we would like to present several new developments and alternative solutions. We work tirelessly on the expansion of our portfolio of technologies and innovations, and we are sure, that some of the projects will certainly not fail to interest you.

Current problems and optimization potentials are numerous and our list of development programs is steadily growing longer. We have learned to be good listeners and to deal with the really difficult issues of environmental technology, paper industry and industrial chemicals.

I hope you enjoy reading this issue of" Inside ACAT" and I wish all our readers happy and joyful holiday season and a successful new year

Manfred Zabl
CEO Applied Chemicals International AG

ZELLCHEMING EXPO 2011: A TOTAL SUCCESS!

For the first time ACAT was present with our own exhibit at this important meeting point of suppliers of the chemical industry.

In 2010 our CEO Manfred Zabl and our European sales manager Nuri Kerman had visited the Zellcheming Expo. As we intend an expansion to further European markets, it was soon clear that this is where we wanted to have our own exhibit next year. It was not an easy decision because of the declining participation of chemical suppliers.

Nuri Kerman describes the philosophy of ACAT as follows: During my earlier employments it was interesting to observe that, primarily in large internationally operating companies, a lot of money has been spent on useless things. But at least once a year we would like to be host to our customers, savings can be made in other areas. To welcome our customers adequately, we have spared no efforts in building an attractive exhibition stand.

Our first participation at the Zellcheming Expo 2011 was a total success. We were very pleased to welcome many visitors to our stand, from all over the world, but particularly however from European countries. We were especially surprised by the numerous visits of our Austrian customers - we know each other well and we have successfully worked together for a long time.

Many comprehensive discussions at the management level as well as with production managers, technologists and students took place. The first agreements have been already made and several projects had already been realised successfully. Visitors were especially interested in our products from the BondStar® series, which improve the efficiency of a paper machine, the ACAT Pitch Counter (APC) for the evaluation of fixing agents and the new retention system MicroStar®.

Nuri Kerman

VGPS-AUTUMN-MEETING 2011

A breathtaking landscape and a pleasant circle - at the Conference of the Association of the Gernsbacher Papermakers VGP almost everybody who is anybody in paperindustry was present. ACAT joined the meeting for the first time.

During the first weekend in September the Association of the Gernsbacher Papermakers VGP Section Switzerland organized their 33rd annual meeting in Cima di Porlezza, a beautiful village situated directly on Lake Lugano. The location for this event was Hotel Parco San Marco, situated in the midst of a breathtaking landscape: Lake, mountains, and clear colours, surrounded by marvelous parkland. More than 70 participants of this meeting enjoyed in addition to a pleasant and intelligent exchange of experience the presentations. For the first time ACAT was allowed to participate.
A brief remark on my own behalf: We really have waited for a long time to be invited to see the Lake Lugano... Joking apart, we would like to come back again, to be in pleasant company for a few days and to have some wonderful days there.

Short overview of presentations:

- Company Servophil (Walter Dubach): Presentation of the company „Medium-sized a little bit different….also a possibility to be successful".
- Company Voith Paper Fabric & Roll System (Heiko Waterman): „Often underestimated... factor forming fabrics, energy balance and running period".
- Company Applied Chemicals GmbH (Gerald Oberländer): Presentation of the company „New Chemical Application Systems in Dry Strength Products".

In the evening (in the meantime the ladies were invited on a trip to the Lake Como), we had a pleasant Italian dinner with musical entertainment – dancing was allowed.
On behalf of ACAT GmbH, I would like to express my sincere thanks for inviting me to the 33rd Autumn Meeting, furthermore great praise must be given to Mr. Erwin Kathriner, the president of the VGPS for the excellent organisation during this very successful event.

G.Oberländer

MICROSTAR® - An Exciting New Addition to ACAT's Portfolio

This advanced retention and drainage technology allows ACAT to offer our papermaking partners a flexible solution for optimised retention, drainage and formation, to assist them in meeting their quality, productivity and profitability targets.

AUTHOR: **HOWARD JOHNSTON**

MicroStar® technology is an exciting new addition to ACAT's portfolio of retention and drainage products and systems. This advanced retention and drainage technology allows ACAT to offer our papermaking partners a flexible solution for optimised retention, drainage and formation, to assist them in meeting their quality, productivity and profitability targets.

MicroStar® is a structured organic micropolymer technology which provides outstanding retention and drainage performance and offers additional benefits in terms of higher filler levels and improved formation.

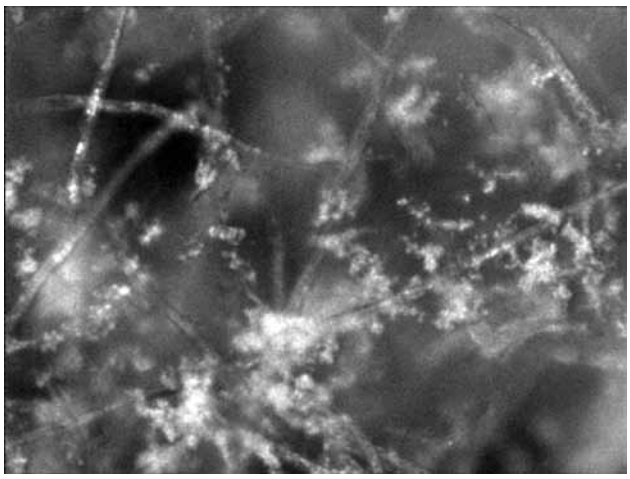
The patented MicroStar® program is a specific anionically charged polymeric matrix which has been developed to give cost performance advantages compared to other multi component retention and drainage systems in the market.

MicroStar® enables improvements in retention, drainage and formation to be achieved, while allowing for increased levels of sheet ash to be obtained under stable operating conditions. This superior performance is achieved through the uniquely structured organic micropolymer in combination with the optimised addition sequence, and can provide a significant benefit in treatment costs and papermachine performance.

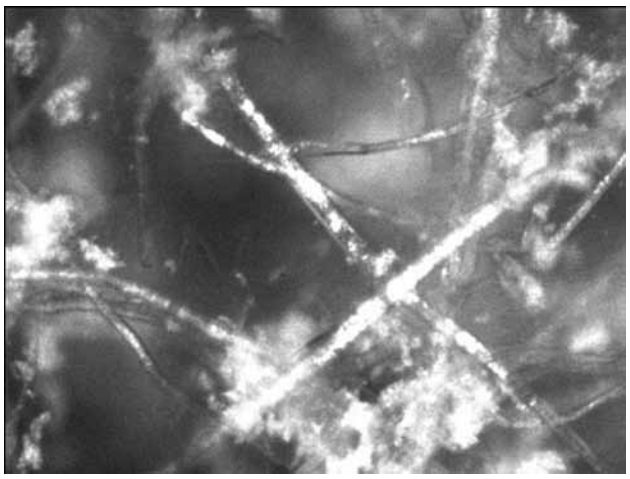
MicroStar® allows the papermaker to further optimise the wet end performance by providing more controllable drainage leading to the optimisation of the drainage profile in the wet end and in the press section providing the opportunity to independently optimise retention and drainage and consequently improve in formation.

MicroStar® is particularly effective in improving filler retention compared to other retention systems on the market.

Introduction of MicroStar® is combined with the normal high level of technical service and assistance from ACAT's experienced technologists in order to extract the maximum benefit for our papermaking partners from this market leading technology.



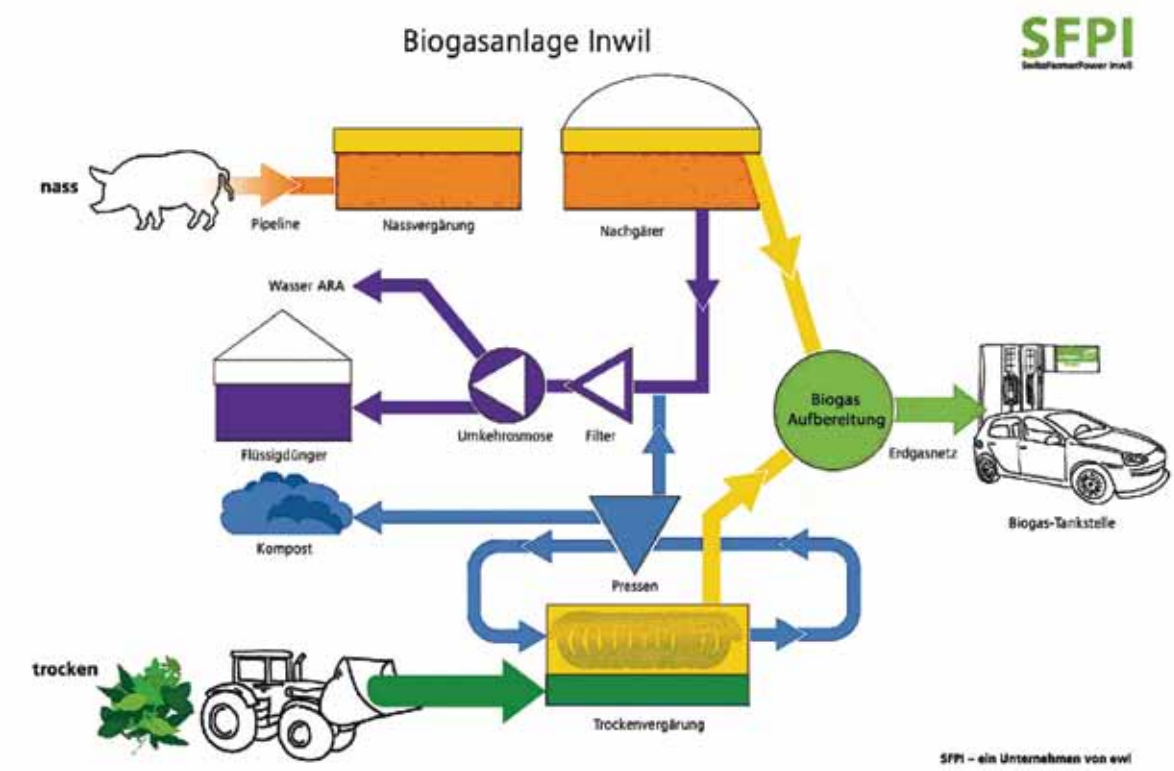
C-PAM + bentonite



and after adding mikropolymer

PRECIOUS DUNG - The Way of Morphing Biomass into Energy

The intensive livestock farming in canton Luzern (Switzerland) and the fact, that municipal biomass is collected separately in this area, are ideal conditions for the energy related use of this residual material. Biogasplant in Inwil started up in October 2008 and is working very successfully!



Key Data of the Plant

- **Capacity: 61.000 t/a. (liquid 45.000 t/a, solid 16.000 t/a)**
- **Biogas-Production: 1,9 Mio. m^3/a (energy-content: 20 GWh or. 1,9 Mio l diesel)**
- **Residuals: 14.000 m^3, fermenting residue 12.000 t, nutrient concentrate 30.000m^3 waste water/a.**
- **CO^2-reduction: 4.000 t/a**
- **Area: 13.500 m^2**

AUTHOR: **ROLAND HENGSTENBERG**

SwissFarmerPower Inwil (SFPI) wants to complete the natural cycle by the recycling of biogenic waste. In Inwill biogas is produced from the biogenic waste, which is sold to the biogas service stations of EWL (Energy Water Luzern) as a CO^2-neutral fuel. One ton of green waste is needed to drive 1000km and 150 kg CO^2 emission can be saved.

SFPI is a joint stock company with a share capital of 15 million CHF; shareholders are six companies from the energy economy (share of 77%) regional farmers (13%) and fenaco, an enterprise group of Swiss rural economy (10%).

GOOD REASONS FOR THE FERMENTATION OF BIOMASS:

- **Sustainability:**
  The most ecological and sustainable conversion of municipal green waste and of the biogenic waste from food industry is fermentation.
- **Positive energy balance:**
  Compared to composting fermentation has an improved energy efficiency, because energy is produced.
- **CO^2 based reduction of greenhouse gas:**
  The fermentation of green waste and industrial biomass reduces CO^2emissions, because biogas can replace fossil fuels.
- **Production of bio fuel:**
  After further processing the biogas obtained from fermentation processes is used as fuel for natural gas vehicles.
- **No odour emission:**
  The biomass is delivered and processed in covered halls which are constantly held under negative pressure. The fermentation process takes place in closed systems and contrary to composting processes it is odourless
- **Simple disposal of food waste:**
  Compared to composting larger quantities of food waste can be recycled in fermentation processes.
- **Replacement of peat products and commercial fertilizers:** The final products compost and nutrient concentrate nitrogen bearing nutrient concentrate can substitute peat products and commercial fertilizers.
- **Effective recycling:**
  Substances resulted from the fermentation are separated in further procedural steps und the nutrients obtained are recycled.
- **Reduction of liquid manure tourism:**
  Positive spin-off of this kind of treatment is the reduction of manure tourism as well as a sustainable reduction of ammonia emissions in the surrounding area.
- **Attractive processing coasts:**
  in central fermentation facilities the net costs for treating one ton of green waste are significantly lower than in incineration plants.
- **No difference of collecting and transporting costs:**
  The costs for collecting and transporting are the same for both processes, because they need the same collecting systems.

Fermentation produces liquid residues, which are dewatered and used as a fertilizer (soil improver and humus developer) for farming:

Dewatering of fermentation residues with flocculants from ACAT with two screw presses (please also have a look at the picture on the left-hand page)

Dewatering of fermentation residues with flocculants from ACAT with two screw presses

The fermentation residues (7 - 9 m³/h) with a dry substance (DS) of 5% are dewatered with the ACAT flocculent FLOCSTAR 261 P (granulate delivered in big bags, amount about 6 - 7 kg/t DS) over two screw presses. The dry content of the discharge is 28 % (crumbly discharge) at stable filtration values (max. 0,5 %DS).

ACAT would like to take this opportunity to thank Mr. Philip Gassner (CEO), Peter Troxler (operation manager), Erwin Weber and Frank Fischer for their outstanding cooperation and we try to do our best to be a reliable and competent partner for our customers.

A WAVE OF FRESH AIR

Catch a Breath with FreshWave®IAQ

What do pet odour, raw sewage and chemical process odours all have in common? None of them smell good. And none of them stand a chance against FreshWave®IAQ, a unique odour elimination product that isn't made from a string of chemicals. It is an effective odour eliminator that is made from a proprietary blend of essential plant oils, including pine needles, aniseed, clove, cedar wood, and a food-grade emulsifier and plain water.

AUTHOR: **PER O. BJÖÖRN**

The FreshWave®IAQ formula works in a simple three-step process. First, FreshWave®IAQ molecules released into the air make contact with malodour molecules. Second, FreshWave®IAQ captures and absorbs the molecules and renders them completely odourless. This happens almost instantly. Lastly, FreshWave®IAQ neutralizes the odour molecule to create an odourless state. FreshWave®IAQ doesn't mask the odours. It bonds to, absorbs and destroys them and as long it is applied properly that original odour will never come back.

Not toxic for any creature

Now you might wonder after all this odour destroying power if

FreshWave®IAQ is safe? Yes, it is as a matter of fact. It is non-toxic to human life, marine life or even to bacteria life.

A safe and green way to control odours

The product was developed in the USA where FreshWave®IAQ is recognized by the United States Environmental Protection Agency EPA and carries the DfE (designed for the environment) environmental certificate. So Fresh Wave®IAQ is a safe and green way to control odours.

All FreshWave®IAQ products for the European market are manufactured and distributed through ACAT. Since many years we have been removing odours in some of the smelliest industrial settings like oil refineries, paper mills, land fills and wastewater treatment facilities. We took the powerful, natural and safe odour removal technology and created the commercial version FreshWave®IAQ. This product is specifically designed for professional use.

FreshWave®IAQ will eliminate malodours typically found in lots of places such as hotels, restaurants, health clubs, hospitals, schools, public transportation, rental cars, etc.

Since FreshWave®IAQ destroys all odours and even paint fumes, you don't need to carry different products for different odour situations. Just one formula and just one application is all you need.

You will save time. You reduce your product inventory and you will save money.

FreshWave®IAQ Air & Surface Spray is available in a varity of formulations

FreshWave®IAQ is available in a variety of formulations:

FRESHWAVE®IAQ AIR & SURFACE

• FreshWave®IAQ

FreshWave®IAQ also comes in an air & surface spray. You can use the spray as you would a normal air freshener that you find in a local store. It is designed for immediate, targeted odour control. You can also use it to eliminate malodours in carpets, upholsteries and other surfaces. You can add it to your mop water or cleaning mixture and apply it to hard surfaces like floors or counter tops. You can even use it in cold fogging equipment for greater dispersal. FreshWave®IAQ air & surface spray is great for eliminating odours in confined spaces like closets or cars. And, in fact, Hertz rental Car Company uses Fresh Wave®IAQ as part of their regular cleaning program. Since they began using FreshWave®IAQ, customer complaints about lingering odours from food or cigarettes have decreased dramatically.

• FreshWave®IAQ Gel

In a fire, water or sewage situation we recommend using Fresh Wave®IAQ continuous release Gel. When exposed to air, the gel, breaks down releasing the odour-fighting plant oils into the air. The gel doesn't absorb odours; it seeks them out and destroys them. FreshWave®IAQ Gel works around the clock, providing constant 24/7 odour control. We suggest placing them by air vents for even better coverage. And while FreshWave®IAQ is

working, so can your crew. There is no need to evacuate the work area during the deodorization.

In addition to smelly work-zones, FreshWave®IAQ continuous release Gel can be placed inside the ventilation system to eliminate odours throughout structures. This is ideal for ongoing odour management such as in hair saloons, kitchens, household garbage and bathrooms.

With normal ambient airflow, the gel will last about 30 days before it evaporates completely. You can place a fan over the gel to speed up the distribution of the odour fighting formula. However you will also speed up evaporation so you may need to add a little more to your container to maintain 30 days of odour control.

Especially in fire, water or sewage situations we recommend using FreshWave®IAQ Gel

And here another appropriate situation where FreshWave®IAQ Gel is a good fit; incontinence - the pungent smell quickly spreads out and can impair the well being of the patient and the people around. Give them their dignity back, so that their family members, friends and especially their little grandchildren can return to visit their grandparents without the potentially negative sensory overload. Even elderly and sick people have a right to as much comfort as possible.

FreshWave®IAQ Carpet & Upholstery Additive

There is FreshWave®IAQ carpet & upholstery additive. This product is the strongest of the commercial liquids. Simply add it to your portable or truck-mounted solution and clean just as you normally would. Any lingering odours like those from the family pet will disappear completely. It is 100% effective on the first application and as long as the source of the odour is not reintroduced, the malodours will never come back.

JUST SPRAY IT ON AND MAKE YOUR OWN FRESH EXPERIENCE!

Water **Lime** **Pine Needles** **Aniseed** **Clove** **Cedarwood**

ECOSORB DOSAGE SYSTEMS

HPS and VPS: Two New Odourkillers

AUTHOR: **CLAUDIO BOSCOLO**

Ecosorb® odour neutralizer is a mixture of natural essential oils and water, applied as a minute droplet that takes the form of a sphere. The oil and water partially separate, with a thin film of oil forming on the outside of the sphere, and the water on the inside. On contact, the odour is encapsulated and a noticeable odour difference is apparent immediately. After encapsulation, a chemical reaction takes place, which reduces the odour molecule to its lowest form.

Applied as minute droplets, the effectiveness of Ecosorb® odour neutralizer is a function of the surface area available. The smaller the droplet, the greater the surface area available for attraction given a constant volume of product.
ACAT has developed two dosage system for atomizing the droplet of Ecosorb: HPS (High Pressure System) and VPS (Vapour Phase System)

HIGH PRESSURE SYSTEM (HPS)

APPLIED CHEMICALS, after the big success with ECOSORB®for odour control, has built the new HPS for dosing Ecosorb. It has a new packaging and it is more professional, more flexible and easy + ready to use.
HPS system is easy to install and it needs water and power supply (220V-380V) only.

HPS system is easy to install and it needs water and power supply (220V-380V) only

The stainless steel blue box contains a new high generation pump for reaching high pressure(until 70 bar) and spraying a mix water+Ecosorb® with nozzles from 2 to 5 microns.
These little droplets of mix water+Ecosorb® is the best way to neutralize the odour molecules.
It is possible to build HPS equipment from 5 nozzles to 300 nozzles and pipelines long until 400 meters.
The HPS equipment can be coupled on a big fan for increase the area of the treatment in outdoor areas.
The dosage of Ecosorb® is regulated from a membrane dosage pump and it is independent from the number of the nozzles.
We have a lot of references with HPS equipment: chimneys airflow odour treatment, sludge and waste water pools, open areas, sludge dried rooms, waste water channels, poultries, composting areas and other places where there is an odour problem.

VAPOUR PHASE SYSTEM (VPS)

The Vapor Phase System is designed to very simply produce sub-micron droplets and disperse the droplets to an area, exhaust stack or the atmosphere.
This is accomplished by using a high-pressure blower to intake atmospheric air. During the intake, the air stream is sprayed with the Ecosorb® odour neutralizer. The intake air stream containing the suspended Ecosorb® product is then pulled through the high-pressure blower and dispersed on the outlet side of the blower usually through engineered design perforated PVC pipe. Since there is virtually no pressure, there is not a need for a heavy schedule PVC pipe.

The HPS equipment can be coupled to a big fan to increase the treatment area, when used outdoors

Holes drilled at prescribed centers allow the outlet air stream to exit the PVC pipe run at a controlled velocity, which has been determined to provide the most efficient dispersion pattern.

The Ecosorb® product is sprayed into the intake air stream by using an air-operated nozzle.
The product is drawn from the product storage tank or directly from a drum or tote with an electrically operated feed pump. This provides for a steady flow of Ecosorb® odour neutralizer to the liquid side of the spray nozzle. Air to create the spray from the nozzle into the intake chamber is provided by a continuous duty compressor and regulator included within the system.

All units have a single control box with a simple on/off switch. The different types of power required by the unit are provided through a transformer that provides the power for the air compressor, feed pump, heater, indicator lamps, and additional options.

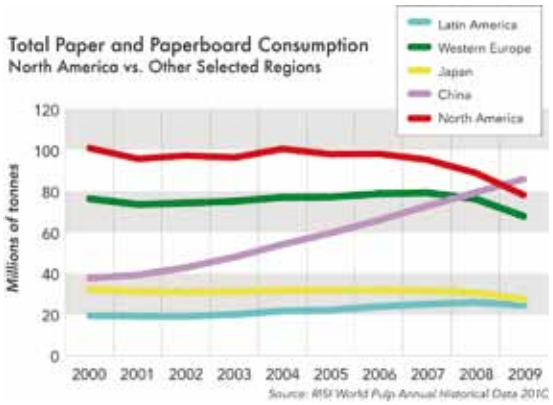
ACAT SINGAPORE -

Our First Market Approaching in Asien

Foto: BirgitH/pixelio.de

AUTHOR: **HOWARD JOHNSTON**

In April 2011 ACAT embarked on an exciting new phase of development when a Representative Office was set up in Singapore, headed up by Asian Sales Manager Gary Reddihough.
The ACAT Singapore organisation will focus primarily on the fast growing Pulp and Paper Industry in the region. Initially most activity will be through a number of well established distributors and agents, who are well known and respected by the people within ACAT.



Since the middle of the 1990s the Paper Industry in Asia has grown phenomenally quickly with huge capital investments and the region has been established as the area with the largest , most modern and cost efficient machines in the world.
China is now established as the Number one paper manufacturing country. China's output of paper and board in 2009 increased by 54.4 million tonnes compared to 2001, a growth rate of 170%. In 2009, China surpassed North America in total paper consumption for the first time in modern times.
By 2015, the largest increase in paper and paperboard consumption--66 million metric tons or more than 50% of the global demand growth up to 2015--will occur in Asia where paper consumption may reach 171 million metric tons. Asia will account for 38% of global paper consumption by 2015. Paper demand should increase by 12 million metric tons in North America and by 22 million metric tons in Western Europe.
Singapore is ideally placed to provide a centre for ACAT activities in the region.

CHEMIGATE: INNOVATION BASED ON MODIFIED STARCHES

With the leading Finnish Company, Chemigate, ACAT acquired a new partner for the divison starch based polymers in liquid form.

AUTHOR: **HOWARD JOHNSTON**
PHOTOS: **CHEMIGATE**

Chemigate is a leading Finnish company that produces modified starches for industrial applications and a range of cationic starch based polymers in liquid form. Chemigate's main market is the Paper and Board Industry with a focus for modified starches on Finland and Scandanavia, and with liquid cationic starch polymers the entire European Paper and Board Industry.

The company was purchased from BASF and set up in 2010, following the BASF acquisition of Ciba which had acquired the Raisio Paper Chemicals business in 2004 , where starch was a core business activity.

From 1. June 2011 Chemigate and ACAT have agreed a joint co operation in Europe, excluding Finland for the distribution of the Raifix and Raisabond range of liquid starch polymers.

In 2010 ACAT launched a major international expansion of its Paper Technology Department, and recruited personnel to set up new operations in Germany, France and the UK, with distributors in Sweden , South Africa and in Asia. Many of these people from Ciba and Allied Colloids have a shared background with Chemigate personnel, so the product portfolio of Raifix and Raisabond products is very well known as well as having good personal relationships.

The target for ACAT is to present technically advanced and innovative products, which in combination with well-engineered and practical application provides its customers and partners with solutions that optimise their processes.

The Raifix and Raisabond starch based polymers enable the development of the business for more environmentally sensitive products and applications, and offer alternatives to oil based products.

ACAT's philosophy is always to supply products which require a high level of technical competence and customer intimacy. ACAT employs people with long term experience and knowledge of the Paper Industry and adds value through the ability to apply and fully optimise the chemistry on the paper machine.

Raifix technology is a unique family of biodegradable cationic solution polymers produced from the patented reaction of modified starch with a cationising reageant. Being starch based, Raifix has a high molecular weight with a highly branched structure and a high degree of hydrophilicity giving strong hydrogen bonding ability, so does not rely on charge alone. The products are insensitive to pH change and maintain efficiency in closed systems.

Raisabond products are multifunctional starch polymers for strength, improving retention and drainage programs, fixation and can be used to boost the performance of wet end cationic starches. Another important market is for the emulsification and stabilisation of ASA sizing, where it is widely used.

Raisabond is also used for strength in the Tissue Industry where it will dry to produce a soft flexible film compared to wet end starch, without negative effects on softness.

Raifix and Raisabond products are often used in clean systems operating close to isoelectric zero, where fixation is required without impacting the charge in the system.

Within our customers enterprises we invest the most important capital: innovation, experience, enthusiasm and the eagerness with which our employees work. We could not be such a good partner for our customers and suppliers in the course of challenging projects without them. And without continuity in the field of servicing of ongoing projects security of added value of the applications could hardly be warranted.

We want to continue to bring more and more new technologies and innovations to the markets to optimize the processes in many respects and with Chemigate we will have a partner of similar nature and philosophies and with wide research and development skills to gain a new generation of wet end chemistry, based on customers' demands.

Maximum Availability and Maximum Performance with our New Decanters from the Series

WESTFALIA SEPARATOR® ECOFORCE

AUTHOR: **ING. THOMAS FRÖSCHL**
COMPANY: **GEA GROUP**

With the new decanter platform Westfalia Separator® ecoforce, the GEA Westfalia Separator Group has combined the demands for maximum availability, high throughput capacities, excellent separating efficiency and the desire for maximum flexibility for the investment and in practical operation. The result: the GEA Westfalia Separator Group is presenting an entire family of a new decanter generation which, as a result of its modular design, can be tailored individually and in an optimum manner to meet the needs of the specific application and if necessary can also be retrofitted.

Westfalia Separator® ecoforce is not a, but the decanter of a new generation. Whatever tasks you require it to perform: It adjusts and keeps its promises.

Series ecoforce unites ecological demands and economic advantages; it combines economy and flexibility; it provides for maxi-

Westfalia Separator® ecoforce sludge thickening and dewatering

mum efficiency in operation and makes for a very short pay-back time. The prime achievement is a significant reduction in energy consumption. With a specific energy consumption of just 0.7 kWh/ m³, GEA Westfalia Separator is the absolute leader in the market. The flocculent requirement likewise drops significantly which is equivalent to 25 % in terms of operating costs for polymer consumption.

Lower operating and investment costs

The Westfalia Separator® ecoforcelowers the investment costs because the operators now achieve throughputs with small decanters which were previously only possible with larger-scale models. Moreover, GEA Westfalia Separator has succeeded to further minimize the space and maintenance requirement for the installation due to a special design.

The Sum of all Drives

Not least the GEA Westfalia Separator has managed to largely standardize the entire series by means of standardization and modularization. This applies both for the design, the functional principle, the connections, the operating mode as well as the drive concept. All models of the Westfalia Separator® ecoforce series will in future feature the unique Westfalia Separator® summation drive, a drive concept developed by GEA Westfalia Separator. This high-torque drive reliably provides the optimum differential speed for the process. Only the power is supplied which is actually required. An intelligent kinematics system "adds" the power generated by the two motors and then transmits the power precisely to the bowl and scroll. Unnecessary conversion losses, which for instance in other back drive solutions have been eliminated in the Westfalia Separator® summation drive. Instead, the differential speed is made available smoothly in a wide range in an energy-efficient manner. Overall, with its various models, the new Westfalia Separator® ecoforce decanter generation covers ranges from 1 to 200 m³/ h.

OPTIMAL FLOCCULATION OF SLUDGE

The Key to Improve Efficiency of Mechanical Dewatering Processes

AUTHOR: **EWALD KERN**

Because of the very specific position of ACAT to be both, supplier and installer of complete machinery equipment for sludge dewatering, it is rightly expected by our customers that we consider new research and development results, concerning the interaction of the two scopes, in installing and assisting systems.

The objective of this topic is clearly defined: to optimize the dewatering results, to reduce the amount of polymers and to improve the filtrate quality. It is really a great challenge to make large steps forward again to improve the advanced standard of sludge conditioning, especially as countless processes and components are already available and as they are more or less proven to work well.

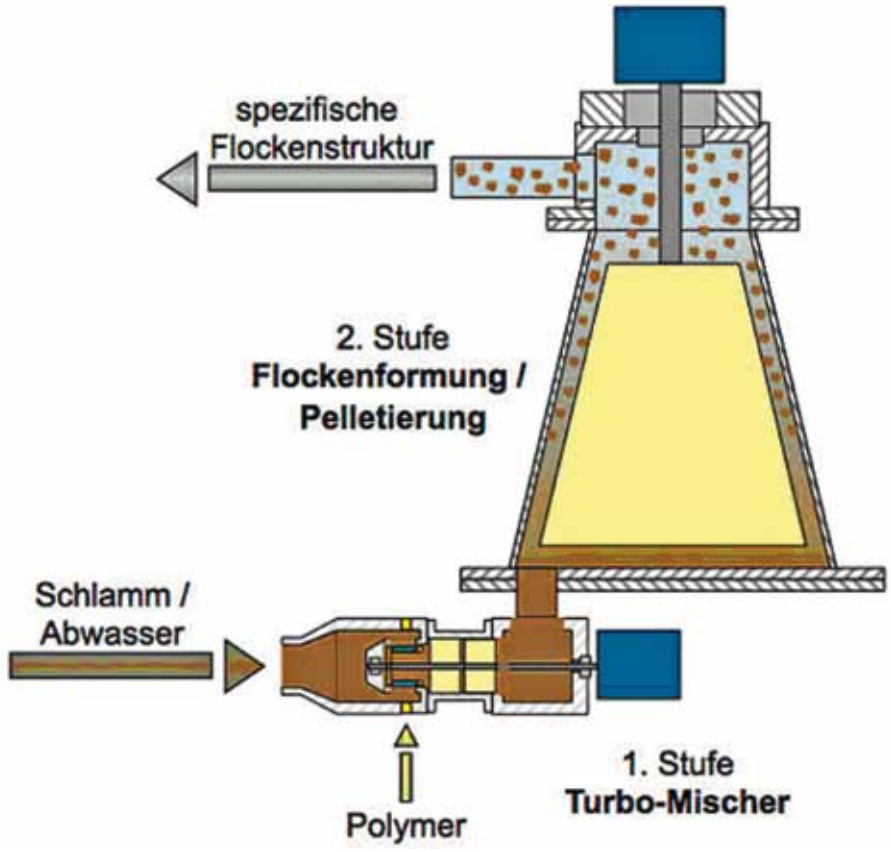
After having successfully completed test series we are confident in making a real innovative step forward to optimize sludge conditioning.

Aquen aqua-engineering GmbH. (D), a spin-off of the Institute CUTEC/TU Clausthal (environmental and energy technology), has developed a patent protected method called „FlocFormer". With a large number of test runs ACAT could attest the marketability so we will add this young and high-potential technology into our portfolio.

Design of the FlocFormer

The procedure:

With a new two-phase flocculation process we are able to influence the sub-processes "floc building" and "floc growth" separately and to optimize them for the following separation process. High separation efficiency in sludge depends on the one hand on concentration and on the other hand on the complete compression of the solids, which should be separated, to a flock structure which is resistant to mechanical stress and therefore well-eliminable. The use of the intermediate element "FlocFormer" allows keeping the determining factors of conditioning under control. The flocculation is carried out in a compact two-step reactor.



Operational process of the „FlocFormer"

First in a mixer the flocculent is added homogeneous under turbulent conditions to the media. A total-flocculation takes place. And normally, the processing approach of dynamic mixers ends already on this point. But with the "Floc Former" larger-volume and shear instable flocks are specifically eroded, compacted and optimized for the dewatering.

As the flock-forming reactor a modified cone mixer is used (figure p. 17). An interior cone rotates coaxially in an exterior conical shell. The flow conditions inside the cone gap are not constant; they change with the axial position in the cone. According to the increased diameter the circumferential speeds on the conical base are higher than on the conical tip. If needed, the operating point of the stirring device can be adjusted by changing the rotation speed and the cone gap. This ensures an optimized flow regime. By rolling the flocks on the conical surfaces, local, uneven external mechanical forces are transferred to the flocks; as a result they are compacted. The final products of the two-phase conditioning are flock pellets and these pellets have a very high dewatering performance. The compact structure of the flocks causes a more quickly filtration work, and due to the robust structure of the flocks, water can be filtered or presses out of the hollow area for a long time.

The „Floc-Former"can be connected to all filtering dewatering systems (screw presses, belt filter presses, chamber filter presses, centrifuges).

Baptism of fire at the Municipal Sewage Treatment Plant LINZ - Asten

In order to demonstrate the effectiveness of this technology we choose the municipal sewage treatment plant in Linz-Asten for a field trial. To create ideal conditions and to prove conclusively under comparable conditions an equipment consisting of three parallel running "FlocFormer" dewatering lines was installed.

Sizes and application possibilities:

Systems with liquid sludge through put capacities of 2 to 55 m^3/h are available.

In principle this system can be applied to all systems using polymers for flocculation. But also in many cases where non polymer bound flocculants are used the "FlocFormer" increases significantly the dewatering performance of the process effluent, for example: treatment of leachate water from landfills, biogas production, paper industry, fruit juice production, food industry.

A NEW ACAT-SCREW PRESS ON TOUR

The ageing ACAT screw press, used as a demonstration unit for trial pressings in recent years was replaced by a new, mobile plant fitted on a trailer this year.

AUTHOR: **RONALD POELGEEST**

There were several reasons for the decision to buy a new screw press for demonstrations: the small size, no fully-automatic control system, the unit was not winter- proofed, and due to the frequent use traces of use were obviously visible...
But it must be said, that at many demonstrations the "old unit" had helped to convince customers of operating results and the system itself.

When the old demonstration unit was designed it was not predictable how quickly this unknown technology would gain a foothold in the market of municipal sludge dewatering. Therefore the interest in demonstrations was accordingly high, and so the screw press has to operate at full capacity.

The new „presentation-screw" is universally useable

With the new demonstration unit, equipped with our latest screw press technology, we can make demonstrations in simulated working conditions. So the customers can gain direct insight into the operating results, that they can expect for their

specific sludge (concerning percent dry solids content, amount of needed flocculent and filtrate quality), using this type of screw press. Besides that, customers can get an impression of the quality of ACAT equipment.

Our last demonstrations have shown that our customers are impressed by the easy handling of the sludge dewatering unit equipped with a fully-automatic control system. As soon as all connections have been made, only a single button-press is needed to start. After only a short time the first sample of the mechanical dewatered sludge can be taken at the throw-off. The rest is just optimization work, to achieve more economical results.

Put us to the test! We would be pleased to inform you about our excellent services.

Possibilities of the new presentation-screw-press:

- **The complete equipment is fitted on an isolated, heated trailer of dimensions of L x B x H = 7,2 x 2,55 x 4,0**
- **To eliminate solids in the liquid sludge, a crushing device with a solids separator is inserted before the thin sludge pump.**
- **For the conditioning of the flocculent an ACAT Polymer-conditioning plant type PPU is used which is suitable for both liquid and solid polymer .**
- **For the conditioning of the sludge with the flocculent a mixing reactor is used equipped with a via frequency converter speed-controlled agitator. So the mixing energy can be optimally adapted to sludge quality.**
- **The dewatering unit is an ACAT screw press type AS 0505 S. Depending on the existing sludge quality the throughput capacity is up to 180 kg DS/h or 6 m^3/h**
- **The sludge is discharged with a swivel-mounted spiral conveyor, whose inclination can be adjusted to local conditions.**
- **The control is effected by a Siemens SPS unit of type S7-300, which guarantees fully-automatic operation.**

With the new demonstration unit, equipped with our latest screw press technology, we can make demonstrations in simulated working conditions

If you are interested in a demonstration or if you want the preparation of an offer for a sludge draining plant,

PLEASE CALL MR. POELGEEST
+43 664 81 66 934
ronald.poelgeest@acat.com

PARTICULARLY FOR SMALL SEWAGE PLANTS:

ACAT Screw Press for Everyone

AUTHOR: **CHRISTIAN KOZANDA**

Until now for sewage treatment plants with a capacity below 10.000 PE no economic solution for an own sludge draining plant was available.

In the course of a project study of small municipal sewage treatment plants ACAT has intensively dealt with this issue and based on the results of this research we have developed a sludge draining plant, which fulfills all requirements:

- low investment costs
- easy handling
- suitable for unattended 24-hour operation ,
- high degree of operational reliability
- the working parts which need to be replaced is kept to a minimum
- lowest efforts in operating and maintenance

The system technology which has been available until now and the associated investment costs, prompted the decision to have the sludge commission dewatered in other plants, with the well-known problems (short-time heavy load of filter with return sludge, scheduling difficulties, cost etc.)

Screw press type AS 0250 is developed especially for plants of 500 up to 10.000 PE

We are convinced we offer a solution with the ACAT screw press type AS 0250, developed especially for these applications (plant of 500 up to 10.000 PE) This small screw press combines all the existing benefits of dewatering technology, which is already well positioned in the market.

The complete dewatering system (dewatering performance is 0,5 to 1,5m³/h depending on sludge quality) is installed on a base frame and is delivered with all required additional components to the customer where it can be put into immediate operation. The system designed for unmanned continuous 24-hour operation and with the slow working speed (approx. 1rpm) wear is minimized.

ACAT screw press: General Information

- **Fully automatic and continuous dewatering**
  Depending on sludge quality in municipal sewage plants with throughputs of 0, 5 to 1, 5 m³/h dewatering results between 18% and 24% dry solids can be achieved. The dewatered sewage sludge is discharged from the screw press into a container placed below or it is transported to a sludge pit with an automatic conveyor system.

- **Low maintenance**
  The slow speed screw (speed 0,5 – 1,5 rpm) and the fix-mounted dewatering screens guarantee low wear costs (only few mobile parts).

- **Easy START / STOP Operation**
  The low working speed and the torque resulting from it allow stopping the screw press at any time without restarting rinsing immediately.

Advantages of the ACAT screw press:

- continuous, safe and fully automatic operation
- noise level < 60dB(A)
- low wear (speed < 2 rpm)
- long working life
- ready accessibility for maintenance purposes
- very low electric drive power (approx. 3 kW for the total sludge draining)
- all product-contacting parts are designed in stainless steel 1.4301

Standardized Equipment Versions:

- compact design of the complete sludge dewatering equipment on a base frame
- compact design of the complete sludge dewatering equipment on a two-axle trailer (for transport by car)
- compact design of the complete sludge dewatering equipment in an isolated 15 foot Container
- Optional: double throughput by installing two screw presses on one unit

For further information or if you are interested in a concrete proposal for one of our screw presses please contact an assistant of the ACAT- plant engineering department.

ACAT - A PART OF MÖDLING'S MUNICIPAL SEWAGE TREATMENT PLANT HISTORY

Today the catchment area of the Sewage Treatment Plant Mödling has a capacity of 130.000 PE. It comprises the municipalities of Mödling, Brunn am Gebirge, Maria Enzersdorf, Wiener Neudorf, Hinterbrühl, Gaaden, Wienerwald, Gießhübl, and Biedermannsdorf. Its history as a first biological sewage treatment plant in Central Europe goes back to 1904.

AUTHOR: **RONALD POELGEEST**

The ARA Mödling, whose history can be traced back until far into the last century, has currently a treatment capacity of 130.000 PE per year.
Already in 1898 it was decided to construct a sewage plant according to a design of an English engineer. The official opening ceremony of the first bio-

In accordance with state-of-the-art-technology ACAT has not only replaced the belt thickener of W+AT GmbH, but modernized also the complete switch and control system for the socalled MÜSE (mechanical surplus sludge dewatering).

logical sewage treatment of Central Europe took place in 1904 with the presence of the Austrian Emperor Franz Joseph I.
In 1964 the ARA Mödling was reconstructed for the first time to a treatment capacity of 36.000PE and the treatment plant was designed as the first activated-sludge plant in Austria.
The continued growth of the population of the surrounding communities rendered it necessary to extend the treatment capacity up to 72.000 PE in 1972 and up to 100.000 PE in 1982.
Due to the ever-increasing requirements set on treatment performance the reconstruction of the sewage plant started in 1988 and it was finished in 1990.
In 2006 the municipality Biedermannsdorf was connected and therefore the last reconstruction to a treatment capacity up to 130.000 PE was necessary.
The list of the numerous reconstruction shows that the Municipal Sewage Treatment Plant Mödling can look back on a long history.
Therefore, ACAT is proud to become part of this history with the rebuilding of the existing excess sludge thickening.
In summer 2011 ACAT received an order to rebuild the mechanical excess sludge thickening of the Municipal Sewage Treatment Plant Mödling. After a short construction time, work was completed by the end of October. The old, unprofitable screening drums are replaced by the latest technology, and because of the low operating and maintenance costs the investment in this installation pays off within a reasonable period of time.
The strainer bed (belt thickener) is used for sludge thickening. Each of the two belt thickeners type „Fast Drain FD 120"has a throughput capacity of 30 m³/h or 240 kg DS/h.
In accordance with state-of-the-art-technology ACAT has not only replaced the belt thickener of W+AT GmbH, but modernized also the complete switch and control system for the MÜSE (mechanical surplus sludge dewatering).
Thanks to the experience and the commitment of the operating manager of the Municipal Sewage Treatment Plant Mödling, Mr. Herbert Huber, that this project was executed so smoothly.

274 LITRES/SECOND - BEST PERFORMANCE!

A compact system of superlatives for mechanical waste water treatment in the municipal sewage treatment plant of Zeltweg

Austria's biggest grit separator as a compact unit so far

AUTHOR: **RONALD POELGEEST**

After some 40 years of use, the waste water treatment plant of the wastewater association of the region Zeltweg no longer met today's technological standards, so the construction of a new waste water treatment plant was urgently necessary.

The compact unit from W+F - Grimmel Wassertechnik GmbH delivered by ACAT has a throughput capacity of max. 274 l/s. The unit is equipped with two flat fine rakes FFR 1.5 E with a 3 mm screening gap at inflow.

The new facility, which will have a biological capacity of 30 000 PE, was designed by the office DI Passer and Partner ZT GmbH, and will meet the latest technical standards. The completion is scheduled for summer 2012.

ACAT received already 2010 an order to deliver Austria`s biggest grit separator as a compact unit. The scope of supply includes although the delivery and installation of a drainage unit with a screw press.

The decision for the grit separator system for the mechanical pre-purification of the waste water in the municipal sewage plant Zeltweg was made, after a comprehensive research and after visiting some reference installations where the general manager and the operational staff of the AWV had also the opportunity to convince themselves of the advantages of the innovative technologies offered by ACAT.

The proved separation efficiency and the small required space, compared to other existing technologies, played an important part in the decision to use this technology.

The compact unit from W+F - Grimmel Wassertechnik GmbH delivered by ACAT has a throughput capacity of max. 274 l/s. The unit is equipped with two flat fine rakes FFR 1.5 E with a 3 mm screening

... lifted from the truck and installed at the municipal sewage treatment plant of Zeltweg ...

gap at inflow. With the subsequent grit washer the remaining organic material is leached out of the sand and sand with quality 1a is obtained from a problematic material.

The directional flow within the grit separator is utilized for the collection of grease. The dissolved grease collects at a certain place at the end of the grit separator. Grease is removed automatically with a pneumatically lowerable eccentric screw pump equipped with a grease suction trunk.

The mechanical pre-purification as well as sludge dewatering will start operation in winter 2011/2012. Our thanks go to the general manager Mr. Ing. Schlapschy and to the operation manager Mr. Krainer for the successful cooperation.

LABORATORY TESTS FOR POWDER ADDITIVES

Our supplier MÜNZING offers a versatile range of powdered products for a wide range of applications. A number of methods are available to assist our customers as best as possible in the complex selection of the suitable product as well as in the development of suitable formulations. We offer our customers the use of laboratories of MÜNZING to ensure the optimal use of our products. Find a short overview of the possibilities below.

MAINLY THE FOLLOWING PRODUCTS ARE AVAILABLE

- **Powder defoamers**
- **Wetting agents**
- **Shrunking inhibitors**

THESE PRODUCTS ARE USED FOR A LARGE RANGE OF APPLICATIONS, FOR

- **Self levelling floor screeds**
- **Plasters**
- **Joint fillers**
- **Mortar**
- **Powder paints**
- **Adhesives**
- **Cements**
- **Pigment mixtures**
- **Gypsum**
- **Lime**
- **Redispersible polymer powders**

AUTHOR: **ALEXANDER FRANK**
PHOTOS: **MÜNZING**

The most important methods are briefly outlined:

TESTS WITH DEFOAMERS:

For the application of additives to powder-type building materials in a test setup, only minimal sample quantities should be used to simulate conditions on the building site. Usually relatively short mixing times reflect the behavior in real application best.

Hobart Mixer:

At least 1 kg powder (dry) is needed to achieve an adequate filling level for an optimal mixing. The mixing water is given to the mixing container and the powder is sprinkled slowly (more than 30 seconds) into the water. Depending on system or on customer requirements the material is mixed for 1 to 3 minutes. Then wet density and flow spread are determined. According to demand various castings are produced from the remaining substance.

Color Mixer „Red-Devil“:

This mixer is used to homogenize powder mixtures: all powder components are weighed into a PE bottle and homogenized with the Red-Devil Mixer for 5 minutes. Then water is added and both components are premixed with a metal spatula for a short time and subsequently homogenized for 30

seconds in the Red-Devil Mixer. Directly thereafter the wet density and the flow spread are determined. According to demand various castings are produced from the remaining substance.

In the case of thin liquids fast running stirrers should be used, but for very thick materials, such as stable adhesives, dough kneaders are best.

Determination of Wet Density:

For this determination a 100ml steel pycnometer without a lid is used. The pycnometer is completely filled and the excessive material is removed with a glass plate. After that it is weightened and its specific gravity calculated.

Determination of the Air Content:

The air content is determined with a standard air content measuring instrument. The measuring principle: The compressibility of the sample in the instrument is displayed directly on a calibrated scale as the air content of fresh mortar.

Not only the air void content but also the pore structure and the influence of additives on floating or separations are important.

Dry Density: $\rho_S = \frac{m1}{m_1 - m_2} \times \rho_{1q}$

ρ_S: density of the test specimen
ρ_{1q}: density of the liquid
m_1: weight of the test specimen exposed to air
M_2: weight of the test specimen immersed in liquid

Depending on system or on customer requirements the material is mixed for 1 to 3 minutes.

Determination of the Dry Density:

After hardening is complete the test specimen are formed and further dried at 60° to 80° C to constant weight. Porous materials or materials with high water absorption properties are coated with a high-viscous acrylic dispersion or with a solvent-based clear lacquer and dried once more for 24 hours. Following this the specific gravity is calculated by gaugeing the buoyant force in a liquid.

Flow Properties:

In individual cases the powdered additives do not only influence the pore- and air contents but also flow properties, so we have to determine flow-and stability properties with different methods as, for example, the determination of flow spread with the Hägermann-Table.

Depending on substances to be measured (mortar, levelling compound, plaster, etc.) instead of the standard sample funnel another container is used. Funnel, beaker or ring are placed and firmly held in the middle of the flow table. After filling the pro-

The compressibility of the sample in the instrument is displayed directly on a calibrated scale as the air content of fresh mortar.

ducts to be tested the ring has to be hold in position for another 30 seconds, he is lifted up slowly and then the lifting mechanism of the flow table is started. During a standard test 15 strokes are performed. Immediately after the final stroke the flow spread is determined with three measurements in different directions

SHRINKAGE INHIBITORS

The most important criterion is the measurement of the shrinkage behavior. The necessary test specimens are prepared with precision steel moulds. For inserting the measuring device notches are drilled on both ends of the form.
Over the trial period the change in length is measured: The test specimens are formed after 24 hours, but latest when an adequate strength is attained. After removal from the mould the length of the test specimens is measured and the value obtained is used as initial length. Then length is measured again after 3, 7, 14, 28 days, 3 and 6 months. Swelling or shrinkage is specified in mm/m relating to the measured initial length.

Additional length is determined in its original/wet state:

The testing period amounts 24 to 28 hours. The test sample is filled into a form made of window glazing tapes and thin plastic foil used for the bottom. A glass plate levelled with a spirit level is used as the weight-bearing ground. Two reflectors are positioned on the liquid mass pointing on the laser distance measuring systems.

At the end of the measuring period the final length is determined with a precision slideway and calculated back to the initial length. Swelling or shrinkage is specified in mm/m relating to the measured initial length as same as in the case of long-term shrinkage.

Setting Behaviour

As the additives can also influence the setting behaviour it is necessary to test it. For this purpose every 5 minutes a needle (Ø = 2 mm) is pressed into the test specimen.
After removing the needle the sample is shaken five times on a table. If the puncture mark closes, the material is yet ready to use. If the puncture mark is still being seen but only little force was needed to insert the needle, the material starts to solidify. A noticeable resistance marks the beginning of hardening.

Test Setting Behaviour: Every 5 minutes a needle is pressed into the test specimen

SPEAK WITH HANDS - HEAR WITH EYES

With hands you can do many things: work, wave or shaking hands… but you can also speak with them. At KINDERHÄNDE young children and their families learn how to communicate without words – with the Austrian sign language (ÖGS).

AUTHOR: **KATHARINA SCHALBER**
„KINDERHÄNDE" ZENTRUM

ÖGS is just one of the numerous sign languages in the world that is spoken without words but with hands and facial expressions. She is the mother tongue ofthe Austrian Deaf Community and since 2005 the Austrian sign language has been recognized as an autonomous language in Austria. Nevertheless many deaf children do not have access to their language, because those who are close to them are not familiar with this kind of language.
For these children this means a massive disadvantage, because they do not understand not or understand only partly the spoken German. Therefore they are substantially hindered in their linguistic

development and consequently their cognitive development ishandicapped. "KINDERHÄNDE" supports deaf children and their families to learn together the ÖGS, to get a common language,which all family members are able to understand. As speaking with hands makes much fun, also many normally hearing children learn the ÖGS, and this can promote their development. Even very young children can learn to express themselves with hands before they can speak.

Quotations:

„The first deaf person I met was my own son. At that time the wonderful support of the association KINDERHÄNDE was very important for me.."

Mother of a deaf child, 5years old

„Marco does not speak in words…but he is talking with many gestures!"

Mother of a normally hearing son, 4 years old

KINDERHÄNDE the only organisationin Austria that offers sign language classes for children and

Our X-Mas-Tipp:
Go an see what you don't hear!

"Singing with hands" - Bilingual children's Christmas choir at 15.00 hours on Thursday 8th of December at the Christmas market at Schloss Schönbrunn, 1130 Vienna

ACAT as it is written
in the ÖGS - finger alphabet

parents/children playgroups with ÖGS and that supports families having a deaf child. But the future of KINDERHÄNDE is uncertain, because currently the association does not receive support from the government side and therefore reliant on donations. (As we are an association nominated beneficiary of donations, donators may benefit from a tax rebate)

"kinderhändezentrum"
Schönbrunner Straße 47/23
1050 Vienna
tel/sms: +43 (0)680 / 130 51 19
mail : info@kinderhaende.at
web: www.kinderhaende.at
kinderhände
- **donations account 406 86 26 80 00**
- **sort code of the Bank 43 000**
- **Volksbank Wien**

GRUNDFOS

Jürgen D. Zelz

Dosiertechnik - Dosieranlagen

for chemical-paper-food-water-wastewater-industry

A-2514 Traiskirchen, Lerchengasse 1
Tel.: 02252-562 94, Fax: 02252-570 28, Mobil: 0664-522 77 37

www.dosiertechnik.at

SHARKS: PRECIOUS PREDATORS FOR THE BENEFIT OF MANKIND

Clear and fresh water is the elixir of life and it is just as important as the oxygen we need for breathing. With innovative technologies for sewage treatment plants, waste water and sludge treatment plants and for various industries ACAT makes an important environmental contribution in the fields of water-, paper- and chemical industry and the company helps customers to achieve the environmental objectives. The team has broad knowhow in handling chemicals, and in addition to the fundamental technical knowledge and to technical application consulting services overall concepts combining ecology and economy are elaborated to ensure the efficient use of products.

AUTHOR: **CHRISTINE GSTÖTTNER**
SHARKPROJECT AUSTRIA

Therefore ACAT is very concerned to support initiatives, which protect marine ecosystems and act in worldwide operations. Sharkproject International is a non-profit organization with country organizations in Austria, Germany and in Switzerland and projects in South Africa, Poland, Costa Rica Mozambique and many more.
We want to explain, why the protection of shark and of marine ecosystems is necessary and why this makes sense also in Central Europe.

Sharks are "the environmental police of the oceans" and as being the top of the sensible ecosystem of the ocean they do important work, because only healthy oceans ensure our oxygen supply and therefore our existence.
Among several other factors like fishing, the environmental pollution, waste water or the renaturation of off-shore habitats which are destabilizing the balance of the world's oceans, regular hunt broke out to the sharks. Today more than ever the "hunters of the sea" are hunted because of their fins. The poor image of the animals to be "robbers, monsters and man-eaters" is completely wrong, and has long been refuted, but nevertheless it is still an excuse for hunting sharks mercilessly and prevents the predators from the urgently needed protection. Human beings do not belong to their natural diet and the few hyped-up reports of accidents occurring each year prevent in a fatal way the protection of these animals - because, - who really wants to protect things he fears?

About 200 million sharks are killed annually, because of the traditions and myths people associate with their fins, which obtain at the worldwide fish markets horrendously high prices. But also the number of doubtful products made from their cartilages are increasing permanently, because they promise suffering people miraculous cures after a several week's, expensive treatment.
Nevertheless the stocks are decreasing permanently, in the Asian region the fins of the sharks are a popular delicacy and for the pleasure of eating this "prestige food" the fin-hunters do not tend to stop at very cruel methods. On the high seas and still alive the fins are cut off and the maimed bodies are discarded at sea, where the sharks die torturous. Because of decreasing stocks the hunter kill even juveniles and unborn shark babies to get their fins.
Unfortunately, also in our latitudes the cheap shark meat which only was eaten in times of war becomes

SHARKPROJECT AUSTRIA

The Austrian branch of this international organization, SHARKPROJECT AUSTRIA gives information about campaigns in Austria.

Numerous volunteer employees try to decriminalize the shark and to show his importance for humans with: media information, presentations and other direct public contacts like exhibitions.

A highlight for next year is the planned Shark Exhibition in Landesmuseum Niederösterreich in St. Pölten, from April to June 2012. Covering 100m^2, this popular scientific overview of the world of the shark is called "Haitanic" (the worlds largest, small exhibition). It has already received honors in Germany for its educational value.
Education will change our opinion of these creatures.

more and more popular. Until recently it was marketed under the camouflages "Schillerlocke" or "Speckfisch", but now some of the large European suppliers change to more offensive marketing strategies . As the stocks of edible fish are more or less exhausted, food industry is searching for ways to make low-quality meat (increased uric acid levels, high exposure to Methyl Mercury, very hard, muscular meat) presentable, and for this the shark myth is ideal.

But we should be very careful: In the marine ecosystem sharks are on top of the food chain, this means that they eat other marine creatures containing toxins and harmful substances. Extremely high amounts of Methyl Mercury are found in shark meat and this is one of the strongest toxin, which nature has ever produced. It is 1000 times more toxic than inorganic mercury; it interfuses all human protective barriers and does not loose substance!! (e.g. blood-brain barrier, placenta). Eating of shark meat makes people ill! The exclusion of such products from diet serves not only species protection, but it serves our own health.

Photos: Ch. Gstöttner

Sharkproject stands for better understanding of sharks, with special emphasis on protection, conservation and research of these misunderstood creatures. 100 of the more than 500 shark species are already on the "Red List of Threatened Species" and the number grows daily.

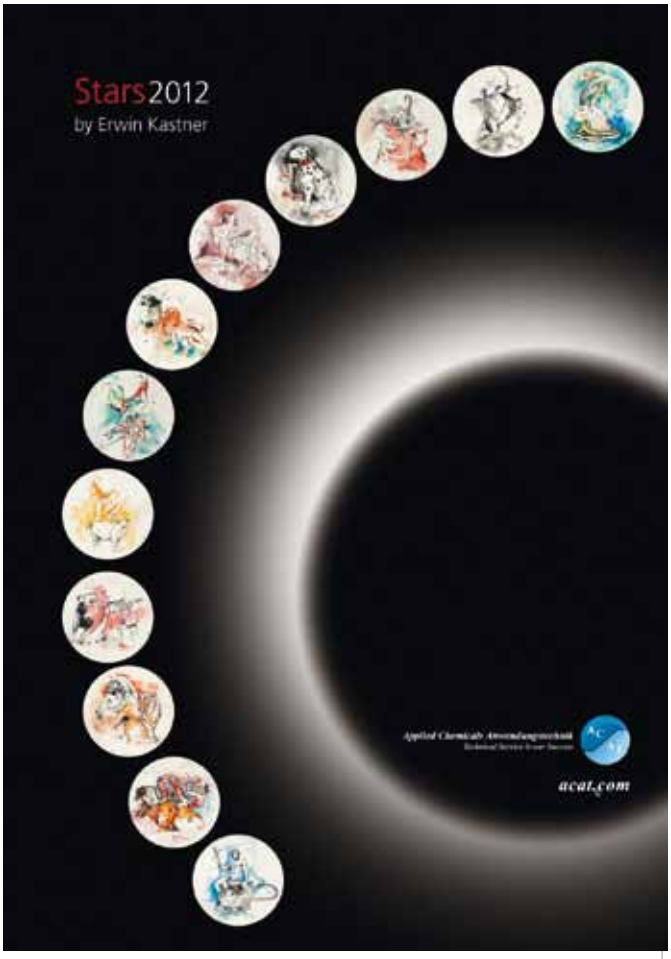
Studies at the University of Halifax show a decline of more than 90 percent of the populations in the North Atlantic. The extermination is in progress, almost unnoticed by the public.

Sharkproject informs and educates public and had established an international lobby for shark protection. The work includes children and youth campaigns, presentations, charity events, which are supported by many prominent personalities like Hans & Lotte Hass, Frank Schätzing, Hannes Jaenicke and internationally known artists, an intensive public relations work with print media and TV as well as scientific projects like a one-year lasting submarine mission in South Africain co-operation with the Marine & Coastal Management. A number of well-known companies like Lufthansa, ABB, Bauer compressors, Lapp Kabel and a huge number of companies especially from the diving-industry support the work of the honorary organization Sharkproject.

More information about SHARKPROJECT can be found on the Web at: www.sharkproject.org www.stop-sales.com.

IT'S WRITTEN IN THE STARS

Our New ACAT Calendar 2012 combines eastern and western Astrology



AUTHOR: **GERTRUDE MITTERBÖCK**

The calendar for 2012 tries to highlight the differences which exist between the eastern and western astrology. In his twelve paintings the Austrian artist Erwin Kastner tried to combine western and eastern signs of the zodiac in his very own sensitive and artistically way.

Even people who are not interested in astrology know their star signs. Star signs are celestial signs.

Observed from our planet the sun seems to travel across the hemisphere of the sky on a trajectory. The path of the sun is called ecliptic. On both sides of the ecliptic there isa 20-degree wide zone, where not only the sun path, but also the paths of the moon and the planets are running. This zone is called the zodiac and there are twelve constellations, which give name to the signs of zodiac.

The series of the signs begins with Aries, followed by Taurus, Gemini, Cancer, Leo, Virgo, Libra, Scorpio, Sagittarius, Capricorn, Aquarius and Pisces.

„Astrology is a form of superstition, which presumes to look at God`s cards.."

Hoimar von Ditfurth

Everyone is interested in his very personal character. Reading the daily or weekly horoscopes of newspapers and magazines, it could be concluded, that the star signs decide everything in terms of personality and future. In reality, of cause, it only shows us only one part of our character.

Astrology leads from the question "what will happen to me?" to the question "what am I?" Astrology works from the inside out. She can tell us, what is developed/prepared in a person's heart. But an astrologer has to have much experience and intuition that he can predict the influence for an individual life.

The Chinese astrology can be traced back more than 6,000 years. Aquarius, Virgo and Libra are unknown. But there are animals - twelve of them. These are well-known animals to which we assign very specific characteristics. Each of us belongs to one of them:

Legend: The Jade Emperor YU DI (Buddha) invited all animals to a large celebration. Only twelve animals followed this invitation. First of all the rat appeared. As a reward for their appearance each animal received one year as a present from Buddha. Therefore one Chinese time circuit takes twelve years, and, as the rat was first, the circuit begins with the rat followed by the other animals in the order given by their appearance: Rat, ox, tiger, hare, dragon, snake, horse, ram, monkey, rooster, dog, and boar. 2012 the hare (2011) is replaced by the dragon.

In China the first new moon between January 21st and February 21st is the beginning of a year. On this day the Chinese New Year is celebrated.

2012, YEAR OF THE DRAGON

The dragon was the symbol of the Chinese Emperor. Up to now the dragon is a lucky charm.

In 2011, the year of the rabbit, we hopefully have learned, how important it is to be there for one another in times of crises.

ACAT-Calendar 2012 is under the sign of vintage and chinese astrology

In the year of the dragon a spirit of optimism is now once again prevailing. We are on the threshold of an exciting time. The breakthrough we are dreaming of is possible, if we are willing to roll up our sleeves and if we advance projects with much power, energy and ambition

2012 promises to be a year of visionary reorientation, creating innovations, which will affect our lives for a longer time. The year of the dragon is spurred by enthusiastic ideas and visions and it stands for a very turbulent time, when many projects are done more easily.

The dragon symbolizes power, energy, courage, reliability, persistence, honesty, perfectionism but also for impatience.

It is up to ourselves that the year of the dragon will become a profitable and a good year for us.

"PLATE" FOR THE ACAT-TEAM

at Süd-Chemie-Curling-Competition

AUTHOR: **HUBERTUS BESTING**
SÜDCHEMIE

On 13th of Mai we successfully performed a curling-competition in Niederhummel/Oberbayern. It was the second competition along this lines, that „Süd-Chemie" hosted.

We welcomed ten teams for the competition (four guest teams accepted the invitation), the match went down on a stone floor, team played against team.

One of our guest teams was the ACAT-team with an international composition consisting of: Nuri Kerman (DE), Nico Galema (NL), Jean Bienvenue (FR) und Graham Greenwood (UK).

After nine exhausting runs the positions and team results of all participants were clear. The ACAT-team achieved an excellent fourth place, although the Austrian "professional curlers" were not present.

At the following buffet there was much time for discussions and, thank heavens, the fluid loss caused by the sweaty sport could be compensated.

We hope to welcome the team of Applied Chemicals International again for our curling championship 2012.

OUR JUBILARIANS: LONG-STANDING ACAT-EMPLOYEES

Thomas Ensbacher: 20th Anniversary

More than 20 years ago our CEO Manfred Zabl and Erich Sailer visited a young soldier on the Hungarian border, where he completed compulsory military services. On the spot this very likeable young fellow, Thomas Ensbacher, was employed as Erich Sailer's assistant for our environmental technology department.
In the last 20 years he went through countless ups and downs of professional life, and now he is the most experienced employee in the field of waste water treatment.
He is married and lives in Langenlois. In his spare time, he spends time with the young boys and girls of a scout group. In his long career he did voluntary work throughout the entire Austrian territory and he was also sent to foreign countries.
At the moment he primarily supports clients in Salzburg, Ober- and Niederösterreich and Burgenland. We wish Thomas all the best for his anniversary and for hopefully another 20 years at ACAT.

Edith Haas: 15th Anniversary

Edith Haas started her career as a management assistant and at first she was mainly responsible for cost calculations, commission control and the dunning process. Responsibility for EDV support and the handling of our accounting software came later. Initially this was Dialog / Inside software, then Navision, with Edith becoming a super-user for Navision. Due to her extensive experience and comprehensive knowledge, Mrs Haas now holds a pivotal role in our finance and accounting department today.
We are pleased that we have found in Edith Haas, a consistently reliable, independent and responsible colleague, moreover, Edith is helpful, open-minded and communicative and always displays friendly co-operation within our team.
We look forward to many, many years of successful co-operation and hope she will continue to work for ACAT with the same energy and enthusiasm as she has shown over the past 15 years.
Thank you so much, Edith!

Andreas Nikel: Ten Years Management of the ACAT Cyber Space

Nowadays, if you buy a brand new computer device it is still fairly up-to-date during payment, but be sure, it is already hopelessly outdated when you leave the store. There is nothing moving faster than the IT-equipment and the suitable software, and ten years are an eternity in the endless expanse of the IT world!
It is a fact that no company can survive today without using a computer. Power- and system failures show that quite clearly. Thanks to Andreas Nikel that our entire group of companies has an access to a solid, reliable, finely tuned and an up-to date IT-system that he has pain stakingly developed himself. Many of us do not know that Andreas has received many certificates as well as diplomas fromall well-known manufacturers of networks and clients. Through constant further education close to developers, he is familiar with the latest developments and his extensive knowledge makes him one of the most recognized IT-experts. This is hardly noticed, if one of our computers is not working properly, but mostly Andreas gets the problem under control with his quiet and considerate nature. The thing works again - we don't know why - that´s enough for us to be satisfied.
Andreas, we thank you that you have found your home base with us, that you solve our IT-problems with the patience of a Saint and that you keep our systems in operation with such a high degree of commitment, that you are fighting like a Jedi with a strict hand against any internet virus and worms, and that you ensure a solid and secure base for our smooth daily operation! We are looking forward to what we want to accomplish together in the years ahead and we congratulate on your 10th anniversary.

WE INTRODUCE: OUR ACAT NEW STARTERS

Johann Hauss

Johann Hauss started work in our company in October. He is responsible for service, plant engineering and electrical installations. Having completed basic education he started an apprenticeship as an electrician, which he completed in 1993 with the journeyman exam.
In recent years he was employed as a workshop manager at ESA. His area of work also included the commissioning of industrial facilities. At the WIFI in St. Pölten he is currently completing a course to become a foreman. He is 38 years old and lives with his wife and two children (3 and 6 years old) in Wieselburg, a well-known brewer city. His hobbies include table tennis (plays also championship games), skiing and cycling. He likes to spend his free time with his family.

Robert Hieden

With Robert Hieden we have obtained a true professional assembly specialist for the ACAT team. He was born in Voitsberg/Styria .After having completed his apprenticeship as a machinist he left the machine shop for field work. The very early decision to meet this challengeis the reason why he can already look back on twelve years of assembly experience in sewage water treatment plants although he is very young. His additional qualification as a certified welder for WIG, MAG, electric welding and for the welding of plastic makes him a very valuable staff enlargementwe need for the realization of our projects. In his free time he likes to move to the open countryside. In near future he'll have to spend a lot of time building his own home

Yannik Renggli

Yannik Renggli is 25 years old and he is part of the ACAT team since October. From our office in Basel he will support our Swiss customers as a project manager. Being the son of Romano Renggli and having a practical training in 2005 he already knows our company. In his leisure time Yannik likes to play handball, where he is playing"in higher spheres" for a long time, and he likes to play the drums, a musical hobby, which Yannik practices also for many years.
As he is full of energy and motivation, we are sure, that Yannik gives the Swiss machine-engineering-department continuity and that he strengthens our participation on the market, so that the successful "ACAT Renggli-Story" continues.

Bernadette Kerman

Because of constantly increasing work load in Germany Bernadette Kerman joins the ACAT-Team since 1st of July. She is working as a business assistant for Germany, a job, which seems customized for her. Previously she worked high above the sky as a flight attendant for German Lufthansa. Therefore combining commerce with customer wishes comes naturally to her.
Apart of her leisure time Bernadette Kerman keeps on walking - or better: she keeps on on dancing! As a teacher in flamenco-dance she knows to join up elegance and hot rhythm in a perfect way and motivates others choosing flamenco-dancing as their favorite hobby .

Company Information inside acat Issue 14, December 2011
Owner, Editor and © ACAT International A-1147 Vienna, Wolfgang Pauli Gasse 3
T: + 43 1 979 34 73 • F: + 43 1 979 34 73-14555 • e-mail: office-wien@acat.com • Homepage: www.acat.com •
Editorial team: Gildis Grabner • Layout: Fritz Prasek, Dieter Spet • Coverphoto: ACAT • Photos if not indicated different: ACAT •
Print: papercomm druckmakler Wieselburg, 3250 Wieselburg

Our Products:

chemical tech

Various speciality chemicals for the paint-, building supply-, ceramics-, polymer-, and various chemical industries.

Defoamers, liquid and Powder Defoamers and Specialties
Wetting and Dispersion Agents and Additives
Thickeners and Rheology Additives
Agricultural Products
Mineral Flame Retardants
Pigments and Fillers

enviro tech

Environmental products for improvement of soil and air aside of waste water treatment

Odour Control Aids and Application Systems for Several Industries and Commercial Applications
Leading-Edge Technology to provide continuous on-site Odour Monitoring and Dispersion Modelling
A unique System for removing VOC's (Volatile Organic Compounds), TRS (Total Reduced Sulphur) and Odours from industrial Exhausts
Portable Measurement Instrument for Capture and Transmission of Gas Concentration in Air and internet based Acquisition, Transmission and Visualisation of any analogue and/or digital Measurement Value
Biochemical Products

machine tech

Designing, producing and installing of make-up and storage equipment, conveying systems and various peripheral equipment.

Complete Solutions and System Components for Mechanical Sludge Dewatering
Process Engineering
Solar Drying Systems
Fully Automatic Belt Drier
Low Temperature Conversion
Components of a Mechanical Sewage Treatment Plant
Machinery Service / Spare Part Sales

paper tech

Chemicals, minerals & machinery for all kinds of paper and board production processes and effluent treatment

Retention Aid Systems
Fixing Agents and Coagulants
Bentonites and Flocculants
Defoamers and Deaerators
Coating and Size Press Additives
Machinery and Equipment
Odour Control Aids

water tech

Chemicals and specially designed equipment for municipal and industrial effluent treatment and odour control

Flocculants and Coagulants
Ferric and Aluminium Salts
Biochemical Products
Odour Control Aids
Defoamers and Deaeration
Special Products for Cooling, Boiler and Condensate Systems
Make up and Dosing Systems

Subsidiaries

ACAT International
Neubadstrasse 7
4015 Basle • Switzerland
Tel.: +41 (61) 282 82 80
Fax: +41 (61) 282 82 89
e-Mail: international@acat.com

ACAT Basle
Neubadstrasse 7
4015 Basle • Switzerland
Tel.: +41 (61) 282 82 80
Fax: +41 (61) 282 82 89
e-Mail: office-basel@acat.com

ACAT Bradford
Titan House Central Arcade
BD19 5DN Cleckheaton
Bradford • West Yorkshire • UK
Tel.: +44 (1274) 866 851
Fax: +44 (1274) 866 833
e-Mail: office-bradford@acat.com

ACAT Budapest
Budaörsi út 165. II/1
1112 Budapest • Hungary
Tel.: +36 (1) 224 03 22
Fax: +36 (1) 224 03 21
e-Mail: office-budapest@acat.com

Further Locations

Belgium
France
Germany
Netherlands
Singapore
Spain
Turkey

Tel.: +41 (61) 282 82 80
Fax: +41 (61) 282 82 89
e-Mail: international@acat.com

ACAT Milano
Viale A. Doria, 42
20124 Milano • Italy
Tel.: +39 (02) 919 834 19
Fax: +39 (02) 919 834 20
e-Mail: office-milano@acat.com

ACAT Vienna
Wolfgang Pauli-Gasse 3, P.O.Box 2
1147 Vienna • Austria
Tel.: + 43 (1) 979 34 73
Fax: + 43 (1) 979 34 73 - 14555
e-Mail: office-wien@acat.com

acat.com