



致力于资源化利用 引领造纸用轻质碳酸钙生产

Specializing in Resource Utilization Leading the Production of Paper PCC

—— 访美国矿物技术集团公司造纸轻钙全球副总裁兼 亚太区商务销售主管Tony Blixt

——Interview Mr. Tony Blixt, Vice President, Commercial Sales,
Paper PCC-Asia, Mineral Technologies Inc.



Tony Blixt 先生

本刊记者 刘振华

编者按：美国矿物技术集团公司（MTI）是世界领先的环保技术和解决方案供应商，也是世界上最大的轻质碳酸钙生产商和膨润土生产商，总部设在美国纽约。在2017中国国际造纸科技展览会及会议期间，本刊记者采访了MTI造纸轻钙全球副总裁兼亚太区商务销售主管Tony Blixt先生。

《造纸信息》记者：据了解，在MTI的主营业务中，造纸用轻质碳酸钙占MTI销售总额的24%，是MTI最大的业务单元。首先请您简单介绍一下MTI造纸用轻质碳酸钙的全球布局情况。

Tony Blixt 先生：MTI 是全球性资源及技术导向型公司，其生产和销售一系列矿物相关产品，以及相关系统和服务。MTI 有5个业务部门：特种矿物（SMI）、耐火材料、功能材料、建筑技术和能源服务。

造纸轻钙属于特种矿物（SMI）部门。该部门生产沉淀碳酸钙（PCC）、研磨碳酸钙（GCC）、滑石粉、石灰以及白云石等

China Paper Newsletters Reporter: It's known Paper PCC is the largest business unit in MTI, and its net sales accounted for 24% in 2016. Would you please introduce the global layout of Paper PCC of MTI?

Mr. Tony Blixt: Minerals Technologies Inc. (MTI) is a global resource- and technology-based company that produces and markets a broad range of mineral-based products and related systems and services. The company has five reportable segments: Specialty Minerals (SMI), Refractories, Performance Materials, Construction Technologies and Energy Services.

Paper PCC belongs to the Specialty Minerals (SMI) segment, which produces high performance mineral products based on precipitated calcium carbonate (PCC), ground calcium carbonate (GCC), talc,



PCC卫星工厂

高性能的矿物产品，并广泛应用于许多行业中。

恰如造纸 PCC 部门名称含义，SMI 致力于采用创新性解决方案，通过在改善纸张和纸板质量的同时，降低该类材料的生产成本，为全球造纸工业提供价值。

MTI 早在 20 世纪 80 年代中期，即开创了具有远见的“PCC 卫星工厂”概念。这或许是当时未涂布和涂布文化用纸向“碱性造纸”成功转型的唯一和最大的驱动力。SMI 第一座造纸 PCC 工厂位于美国威斯康星州，该工厂于 1986 年投产，到 31 年后的今天仍在正常运营。

SMI 造纸 PCC 部门是当今全球最大的 PCC 供应商，目前有 55 座正在运行或在建的 PCC 卫星工厂，分布在全球 17 个国家。PCC 年总产量超过 300 万 t。

除了 PCC 卫星工厂概念之外，SMI 还推出“FulFill™”系列新技术包，来帮助造纸客户提高纸张填料含量水平。通过推广“Envirofill”和“NewYield”技术，SMI 也兑现其新技术研发承诺，来帮助广大制浆造纸企业减轻固体废物处理带来的日益增加的持续压力。

lime, and dolomite for a wide variety of applications.

As the name implies the Paper PCC division of SMI is focused on delivering value to our customers in the global paper industry by applying innovative solutions for improving paper and board quality while at the same time sustainably reducing the manufacturing costs of these materials.

The visionary "satellite PCC plant" concept, developed by our company in the mid 1980's, was perhaps the single largest driver behind the "alkaline revolution" that took place in the uncoated and coated woodfree paper industry at that time. SMI's first satellite Paper PCC plant in the state of Wisconsin in the USA is still today in operation, 31 years after its startup in 1986.

The Paper PCC division of SMI is today the world's largest supplier of PCC, with over 55 PCC satellite plants operating or under construction in 17 countries around the world with a sales volume exceeding 3 million tons of PCC per year.

In addition to the Satellite PCC concept, SMI has introduced a portfolio of new technologies in the "FulFill™" series to assist papermakers in achieving higher filler levels. By the launch of its "Envirofill" and "NewYield" technologies, SMI is also demonstrating its full commitment to developing technologies designed to alleviate the increased pressure pulp and paper mills are facing in terms of sustainable handling of its solid waste streams.

China Paper Newsletters Reporter: China has been the global largest producer of paper and boards for several years, and MTI has built some satellite plants of Paper PCC in China, please give us more details about these plants.

Mr. Tony Blixt: SMI constructed its first satellite plant in China in 2005 through an exclusive joint venture partnership with the giant pulp and paper group APP. Together, the joint venture constructed three satellite plants in China, one for Opacarb® coating PCC and the other two for the Albacar® filler PCC family of products.

After the recent expiry of APP's special exclusivity, SMI has signed seven additional satellite agreements in China, including three satellite operations (filling, coating, and NewYield®) with Sun Paper, and a large filler plant at UPM's facility in Changshu.

《造纸信息》记者：中国是全球最大的纸及纸板生产国，MTI 针对中国市场也重点建设了多家造纸 PCC 卫星工厂，这些工厂的运行状况如何？

Tony Blixt 先生：SMI 早在 2005 年就和制浆造纸巨头 APP 集团建立了独家合资企业战略伙伴关系，并在中国建立了首家卫星工厂。目前合资企业在 APP 中国共建有 3 家卫星工厂，一家生产 Opacarb® 涂布级 PCC，另外 2 家生产 Albacar® 填料级 PCC 产品。

近期和 APP 独家合作协议到期后，SMI 在中国新签署了 7 个卫星工厂协议，包括和太阳纸业的 3 个卫星工厂（填料级、涂布级和 NewYield® 产品）以及位于芬欧汇川常熟纸厂的大型填料卫星工厂。

和欧洲、美洲以及东南亚地区的绝大多数未涂布文化用纸厂不同，中国造纸企业近年来倾向于自己研磨生产 GCC，来满足各自填料需求。

日益增加的国际竞争要求更高的纸张质量和更低的制造成本，中国一些大型造纸生产商目前正在考虑至少是将部分 GCC 转换为 PCC。鉴于此，SMI 目前正和至少 10 家对 MTI 技术感兴趣的造纸企业进行不同程度的商务洽谈。

《造纸信息》记者：2016 年，MTI、山东太阳纸业股份有限公司及清华大学环境学院在北京钓鱼台国宾馆共同出席了中美绿色合作伙伴计划签字仪式，三方结对的碱回收白泥 100% 资源化利用研究项目入选。请您介绍一下该项目的具体实施情况。

Tony Blixt 先生：MTI 和太阳纸业、清华大学于 2016 年建立绿色合作伙伴关系，致力于对制浆工艺中产生的某种固体废物进行 100% 功能化处理的技术能力提升，为

Contrary to most uncoated paper mills in Europe, America, and Southeast Asia, the Chinese manufacturers have until recently mainly relied on satisfying their filler demand by producing GCC using their own grinding facilities.

As increasing international competition is forcing higher quality and lower manufacturing costs, several major producers in China are now also seriously contemplating at least a partial conversion from GCC to PCC. Consequently, SMI is currently in various stages of business development with at least 10 papermakers currently interested in the company's technology.

China Paper Newsletters Reporter: MTI, Sun Paper and Tsinghua University formed one of six new EcoPartnerships announced in Beijing during the 2016 U.S.-China Strategic and Economic Dialogue. Would you please introduce the implementation status of the project on 100% resource utilization of white mud from alkali recovery process?

Mr. Tony Blixt: The objective of the 2016 EcoPartnership alliance of MTI, Sun Paper and Tsinghua University is to demonstrate the capability of repurposing essentially 100 percent of a specific waste stream generated in the pulping process, providing a roadmap for the Chinese pulp and paper industry to reduce the adverse impact on soil and groundwater.

A major step in demonstrating this capability was the construction of an SMI satellite plant on the premises of Sun Paper with the explicit objective to convert the lime mud waste generated by Sun



中国制浆造纸企业减少其生产可能对土壤和地下水带来的负面影响提供了方案指引。

证明该种能力水平的重要一步是在太阳纸业建设了 SMI 卫星工厂，其明确目标是将太阳纸业碱回收工艺产生的白泥废物制成纸机可以使用的填料。

目前由太阳纸业烧碱法制浆碱回收产生的年产 3 万 ~ 4 万 t 白泥制成的 NewYield 填料，被太阳纸业的纸机成功使用。但该工艺升级并未停止。太阳纸业在 6 个月内计划扩产其碱法制浆能力，这将使白泥总量达到 6 万 t/a。同时，SMI 致力于工艺的不断优化，以使更大量的 NewYield 填料可以被太阳纸业的纸机顺利使用。

除了太阳纸业，SMI 正和另外 5 家造纸企业洽谈 NewYield® 概念，并明确还有其他更多厂家可以从该技术上受益。

《造纸信息》记者：近年来，造纸行业非常重视造纸固体废弃物的资源化利用。据了解，MTI 在这方面也加大了研发力度。能否与我们分享 MTI 在此领域的最新研发成果，并请谈谈今后 MTI 在新技术研发方面的一些举措。

Tony Blixt 先生：如前所述，SMI 推出其 NewYield® PCC 平台将纸浆厂的白泥固废转变成造纸用涂布颜料。

除此之外，MTI 正准备将 NewYield® 平台的一项新技术进行产业化。该技术在碱回收过程中可直接生产出高质量的 PCC，而无需将已经产生的低质量白泥在此进行功能化处理。

最后提到的是，SMI 已研究出一项新技术，将纸浆脱墨污泥转化成合格的造纸填料。目前该技术

已经在欧洲某纸厂使用。经过优化，在不远的将来，该技术有望被中国的造纸企业采纳和使用。



NewYield® 填料

Paper's alkali recovery process, to useful filler material on its paper machines.

Today between 30,000 and 40,000 tons of the lime mud generated from the soda recovery process is converted to "NewYield" filler and successfully consumed by Sun's paper machines. But the progress is not stopping there. Within six months Sun Paper plans to expand its soda pulp capacity. This will increase the amount of available lime mud to 60,000 tons per year. In the meantime SMI is busy working on further optimizing our process to allow for the corresponding higher loads of "NewYield" filler to be used by the paper machines of Sun Paper.

Beyond Sun Paper, SMI is currently working with five papermakers to adopt the NewYield® concept and has identified several others that could benefit from the technology.

China Paper Newsletters Reporter: Resource utilization of solid waste from paper industry has received lots of attentions recent years. MTI has also stepped up the R&D in this area. Would you like to share some R&D achievements on this area and the measure on new techniques R&D in future?

Mr. Tony Blixt: As mentioned earlier, SMI has launched its NewYield® PCC platform of technologies that converts a pulp mills' lime mud waste into a usable pigment for papermaking.

In addition, the company is preparing to commercialize a new application in the NewYield® platform aiming to directly produce high quality PCC during the alkali recovery step, i.e. without need to repurpose or enhance lower grade lime mud already produced.

Finally, SMI has developed a technology for converting deinked pulp sludge to a commercially useful filler material. The technology has so far been deployed in one European paper mill and we are optimistic that it will be adopted by Chinese papermakers in the future as well. ▀