

EXECUTIVE *Report*

Finns Find Profit in Special Products

Superior Quality and On-Time Delivery Lead to Success

Finland is perhaps better known as an exporter of mobile phones and paper machines than as an exporter of automotive heat exchangers. Yet, Suomen Jäähdytintehdas Oy (SJT) has been doing just that since 1926.

Also doing business as The Finnish Radiator Manufacturing Company Limited, SJT is a low-volume producer of various types of heat exchangers for heavy-duty trucks and off-road vehicles such as construction and agricultural equipment. It is very long on experience and has developed close relationships with its OEM partners.

SJT is known as a company that tailor makes products to the specifications of its customers. It provides superior quality, fast turnarounds and on-time delivery. It built its reputation on superior service to its customers in Scandinavia, Central Europe and Japan.

The main reason why SJT is determined to be one of the first suppliers of CuproBraz[®] products is that CuproBraz[®] will further bolster its reputation as a high-quality, service-oriented company.

SJT is located in the same industrial property as Suomen

Jäähdytinosa Oy (SJO), the sister company that will manufacture the CuproBraz[®] heat exchanger cores, leaving SJT to focus on design, assembly, sales and marketing.

Watching Demand

As managing director of SJT, Mr. Hannu Vetikko has been aware of CuproBraz[®] since its infancy. In fact, he attended one of the first CuproBraz[®] seminars and has kept a close eye on the technology ever since. Mr. Vetikko enjoys frequent contact with Outokumpu, who supplies conventional metal strip

for soldered copper/brass products as well as the special copper and brass alloys for the CuproBraz[®] process.

Over the years, SJT has heard much about CuproBraz[®], verbally from its suppliers, and also through written materials, including the *CuproBraz[®] Executive Reports* from the International Copper Association. Still, like many companies, SJT was reluctant to invest in new equipment for CuproBraz[®] production until the demand for the products was strong.

In the past year, it became clear that CuproBraz[®] soon would have to be a part of its product offering,

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— Hannu Vetikko, Managing Director

because its customers were demanding it. Discussions with its customers revealed that they were strongly interested in CuproBraz[®]. Indeed, CuproBraz[®] captured the imagination of many of its customers, who had nothing but positive

things to say about this technology.

The durability of CuproBraz[®] heat exchangers was proven in a broad series of corrosion tests. Interestingly, many of these experiments were carried out at Helsinki University of Technology (See *Executive Report* Number 19 for more information on corrosion testing.) In addition, CuproBraz[®] heat exchangers typically provide the advantage of smaller size and/or greater heat rejection compared to any of the alternatives.

“We also considered aluminum,” says Vetikko. “We made an extensive study comparing aluminum brazing with CuproBraz[®]. We noticed in particular that aluminum charge air coolers would have problems at elevated operating temperatures. At the moment,



A prototypal CuproBraz[®] heat exchanger is examined at the Finnish Radiator Manufacturing Company. Pictured from left to right are Hannu Vetikko, managing director of SJT; Tuomo Tiippana, managing director of SJO; and Erno Hakala, design engineer.

The International Copper Association, Ltd. (ICA)

is the leading organization for the promotion of the use of copper worldwide. The Association's twenty-nine members represent about 80 percent of the world's refined copper output, and its six associate members are among the world's largest copper and copper alloy fabricators. ICA is responsible for guiding policy, strategy and funding of international initiatives and promotional activities.

With headquarters in New York City, ICA operates in 28 worldwide locations through a network of regional offices and copper development associations.

For general mailing information about the CuproBrazing process or ICA's CuproBrazing consulting services, please contact International Copper Association at mrosario@copper.org.

For technical information contact cuprobrazing@copper.org. For European inquiries contact ndc@eurocopper.org.



we don't see any alternative to CuproBrazing; hence our decision to move forward with the establishment of a CuproBrazing production line." According to Vetikko, CuproBrazing is the only way to meet coming requirements economically, without the need for pre-coolers for the charge air coolers.

Time to Act

"We are now evaluating suppliers and placing orders for new equipment," says SJO's managing director, Mr. Tuomo Tiippana, who is personally leading the CuproBrazing project. "We could not invest in this project without the assurance of a steady demand for these products. We are confident that the demand will grow as the economics of the process and the durability of the products are demonstrated to our customers."

SJO initially will make liquid-to-air heat exchangers for engine coolant or water (i.e., radiators); and air-to-air heat exchangers for reducing the temperature of the hot compressed air from the turbochargers of diesel engines (i.e., charge-air coolers). Later on, it will also make oil coolers. Meanwhile, SJT has already been working with customers and the CuproBrazing Center in Västerås, Sweden, to make prototypes.

A dedicated CuproBrazing production line will be ready in late 2004. It is a matter of specifying the product family, the tooling and equipment; and accepting delivery on the new equipment. SJO already has selected a semi-continuous furnace and will purchase its own high-frequency (HF) welding line for making HF-welded tubes. It will use a combination of manual assembly methods and semi-automated assembly equipment.

"One big advantage of the CuproBrazing process is that it is well suited to small runs of niche products," explains Tiippana. "We can

SJT is headquartered in Suolahti, Finland, outside the city of Jyväskylä, the base for the Neste Rally Finland each August. Because of its high speeds, the latter is known as the Grand Prix of the World Rally Championship Series, the premier rally racing series for passenger cars, taking place in 16 countries. Racing fans: Visit www.wrc.com for more information about the perennially popular WRC series.

monitor and control the quality of these products to a high degree by thoroughly testing the products at the end of the production line. If there are any leaks we can easily repair them before shipping. This approach greatly reduces the amount of scrap and adds to the profitability of our operations. At the same time, we can stay on schedule, which is of primary importance to us, and ensure that we are delivering a high-quality product to our customer."

Looking Ahead

"This will be a profitable business for us, based on our projections. A key to our growth will be the relationships we are forming with our customers in these early days of CuproBrazing," says Tiippana. "Once we prove our reliability and on-time delivery, we are confident that our customers will stick with us."

SJT joins a growing number of radiator manufacturers in Europe, Asia and North America who are finding profit today making CuproBrazing products. Several manufacturers in China and Thailand are slated to begin production in 2004, and more manufacturing facilities are opening in the US as well.

The CuproBrazing process has exactly the kind of scalability that is needed to expand the production volume as demand increases. "The early adopters of the CuproBrazing process can expect to grow along with the market for these products," says Nigel Cotton, automotive manager for the International Copper Association. "As CuproBrazing products prove themselves in the marketplace, they will be in an excellent position to ramp up production to meet the growing demand." ■

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