

# PAINTING METAL newsletter

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## R&D is important to improving the metal industry's competitiveness

Teknos' metal industry sales grew in January-April of 2013, but profitability decreased. Regardless of the difficult market situation in Europe, Russia and China doubled their sales.

The metal industry is under greater pressure in Europe than anywhere else in the world. Research, product development and new

innovations will continue to play an important role in the improvement of competitiveness.

Teknos has initiated the recruitment of researchers for the new research centre to be established next year, in conjunction with the completion of the St. Petersburg plant. The new research centre will primarily serve the

needs of Russian industry. In addition, the research centre in China has reinforced its staff, and feasibility studies have begun on the establishment of a unit in India.

 **Jari Schneider**  
Senior Group Vice President



The new low-floor trams are 27.3 metres long. They have 73 fixed seats, with a total passenger capacity of more than 140. In addition, the tram has room for four wheelchairs or prams.

## New Transtech trams are built **to withstand** the harshest of conditions

A new tram designed and manufactured by Transtech will be introduced to the streets of Helsinki. Able to withstand the harsh city's maritime climate and urban conditions, these new trams are designed to meet the transport needs of the Helsinki metropolitan area for several decades.





Transtech's engineering workshop has an impressive 5.1 hectares of space; you could fit six football fields inside it.

Helsinki City Transport **HKL** and Finnish rolling stock manufacturer **Transtech** have concluded a contract for 40 new trams. This contract includes an option for another 90 trams, if the expansion of Helsinki's tramway system progresses according to plan.

The roll-out of the first new tram took place in Otanmäki on 13 June. In addition, the new trams will be tested in practice during the winter of 2013, before actual serial production begins.

#### Anti-corrosion warranty lasting decades

Seasonal temperature variations can be relatively substantial in Finland. In summer, the temperature can climb to +30 and above, while in winter, it may drop well below -30 degrees. Even within a 24-hour period, the temperature can easily change by dozens of degrees. In addition, the humid maritime atmosphere and sand and salt spread over the streets in winter create conditions that are highly conducive to corrosion.

#### Designing steel structures with painting in mind

Compatibility of materials is an important aspect in the surface treatment of steel structures. The steel structure design involved planning the anti-corrosive treatment of the tram's body, including painting. Structural steel was selected after examining various steel types. Choosing the right materials is very important to anti-corrosive treatment. In addition, hollow shapes that would compromise the tram's corrosion resistance have not been used in the structures forming its body.

Painting-related research involved field testing and laboratory experiments. The zinc epoxy paint **TEKNOZINC 90 SE** was selected as the primer.

*– Zinc is a good solution. As a less precious metal, it absorbs the punishment in possible damaged sections and provides cathodic protection for the area affected by a corrosive element. For example, we performed salt spray tests on test sheets cleaned using*



*a specified pre-treatment method and coated with zinc-rich paint*, explains Production Engineer **Jukka Savilampi** of Transtech.

**TEKNODUR COMBI 3560-78** high solids polyurethane paint was selected as the top coat.

*– This EPZn(R)PUR paint system complies with ISO 12944-05 and falls into wear resist*





Transtech's Director Esa Rintala of Otanmäki Works (on the left) and Production Engineer Jukka Savilampi of Transtech.



ance category C5-M. Another decisive factor in selecting this paint system was its low VOC emissions, Savilampi continues.

– In the surface treatment process, method development was used to determine the correct order of process steps when spraying the zinc-rich paint. This is important to the outcome of the paint work, because coating the tram's body structures using the wet painting method often means that paint ends up beyond the target areas. Application of the finishing coat is carried out in a different order, Savilampi adds.

Once the finishing coat is complete, the tram carriage receives a coat of protection spray that shields the painted surface from blows and wear and tear. The efficiency of all coating solutions has been tested for any combination of products, and they complement each other in providing anti-corrosion protection.

### Each step is inspected

Surface Treatment Quality Inspector **Marko Sorvisto** checks the surface treatment reports carefully. Each step of the process is inspected in accordance with standards, and possible deficiencies are corrected. Work does not continue until all of the steps have passed the inspection. The results are also documented in the company's quality management system.



Surface Treatment Quality Inspector Marko Sorvisto checks the surface treatment reports carefully.

The first inspections of steel work concern the quality grade and degreasing, and are performed before blast-cleaning. Before priming, it must be ensured that the surface is sufficiently coarse from the blast-cleaning.

The batch numbers, paint film thickness, pull-off test results and painting conditions of the primers and top coats used are faithfully recorded in tram-specific measurement

reports. Sorvisto states that the paint system used for the new trams has excellent adhesion; in fact, the pull-off test results have more than met the requirements of the standard. The painting process for each tram includes tests sheets, some of which are stored for future reference, while others are placed outdoors for field testing.

– A product can be traced using measurement reports, which can also be used to perform quick analyses later on, explains Marko Sorvisto.

As the surface treatment quality inspector, Sorvisto has a comprehensive view of the level of quality of the finished products.

– Our employees are highly skilled professionals, Sorvisto commends.

### Product development has deepened cooperation

Teknos and Transtech have cooperated for many years. Product development activities have led to even closer cooperation. Transtech's Director **Esa Rintala** of Otanmäki Works mentions customer service and problem solving as Teknos' strengths.

– The engineering industry is among the most significant users of paint, making us a convenient partner for testing and searching for new solutions, says Esa Rintala.

The future is looking bright for Finland's largest engineering workshop. Transtech's order-book is looking good. New labour force is required to supplement their existing personnel of 440 or so employees.

– As a company, we aim to be a forerunner in both materials and products, Esa Rintala concludes.

The Northern exposure and understanding of local conditions ensure the high quality and functionality of the new trams in the most challenging of environments – just as with any other product manufactured by Transtech.

For further information: [www.transtech.fi](http://www.transtech.fi)

 **Merja Jakobsson**  
Publicist, Metal Coatings





## Roof safety products and rainwater systems with over 50 years of experience

**Orima-Tuote Oy**, located in Orimattila, is a metal-fabrication and engineering company designing and producing rainwater systems, roof safety products, façade cassettes, and, as subcontracting, other sheet metal products. In-house product development, design and manufacture and the skilled and committed staff guarantee high product quality.





Orima-Tuote began cooperation with Teknos back in the 1980s, when the company gave up dip paints in favour of powder coatings. A couple of years ago, Orima-Tuote invested in a new powder coating shop, where the heat generated by the equipment can be recovered and utilised in heating the around 12,000 sqm production facilities.

### **The secret behind the career of over half a century**

A skilled and committed staff is one of the most important resources a company can have. At Orima-Tuote, a large part of the staff has been in the company's service for a long time. **Sakari Hilarto**, retiring this summer following a career lasting over 50 years at Orima-Tuote reveals the secret behind his long career.

*– Persistence and enthusiasm, that's what it's all about. You have to learn from bad experiences but not dwell on them. You cannot get experience if you don't collect it, says Sakari Hilarto.*

The main market areas of Orima-Tuote are Finland, Sweden, Norway, Russia and the Baltic countries. In Finland, the company has a comprehensive retail and installation network.

The roof safety products manufactured by Orima-Tuote and the gutter brackets of the rainwater systems are coated with Teknos's INFRALIT powder coatings, tinted to match the polyurethane-based Pural coatings by Ruukki.

Sakari Hilarto describes powder coating as superior and the service provided by Teknos as excellent.

*– I must say that I have no complaints whatsoever, Sakari Hilarto praises.*

On its own behalf, Teknos would like to thank Sakari Hilarto, a buyer at Orima-Tuote, for his long and constructive cooperation and wish him well in his well-earned retirement.

 **Merja Jakobsson**  
Publicist, Metal Coatings



Sakari Hilarto is retiring this summer following a career lasting over 50 years at Orima-Tuote.







## Virtual spray painting at Scandinavian Coating 2013

Visitors were queuing up to try out virtual spraying at Scandinavian Coating in Gothenburg.



Marketing Manager Göran Sigfridsson of Teknos and Oy Powderline Ab's Marko Saukko.

The Teknos stand was the subject of a good deal of attention on both days of the fair. Not only did Teknos present a complete range of products for industrial coating, including powder coating and wet paint for metal, wood, mineral and plastic surfaces and fire retardant paint, but it was also possible to test your skills as a spray painter.

Interested spectators formed a snaking queue around the stand, watching to see if those trying out their skills in virtual spray painting did a good job or not. The most tal-

ented had the chance to win an iPad mini on each day, and the levels of interest in the professional spray system were huge. On the first day, an iPad mini was won by Oy Powderline Ab's **Marko Saukko**. On the second day, there were two winners; Barco's **Philip Hall** and Rottne Industri AB's **Mats Sundberg**. The virtual spray painting equipment is also used by technical schools for educational purposes.

 **Karin Skov**  
Teknos A/S



## A 13-metre singing pike

Made of steel and aluminium, this 13-metre-long pike travelled over 600 kilometres last summer, from the northern municipality of Ii, to stand on the square outside the Helsinki Music Centre. Designed by Oulu-based sculptor **Reijo Hukkanen** as part of the artwork "*Hukkasen Laulupuut*", the pike sculpture was inspired by the poem "*Hauen Laulu*", a pike's song, by the Finnish poet Aaro Hellaakoski. Four trucks transported the sculpture to Helsinki last summer, in a special convoy.

Weighing over 49 tonnes, the sculpture was welded together for over a year at Halikko IKP Works Oy's workshop in Ii. Parts made of steel were painted with the EPZn(R)EPPUR paint system and aluminium parts with the EPPUR paint system. TEKNODUR 0130 polyurethane top coat was used as a top coat for the entire sculpture, as it produces a semi-matte, UV-resistant film with good mechanical and weather resistance.



**Merja Jakobsson**  
Publicist, Metal Coatings



## Opening hours on Midsummer

Teknos factories in Finland will be closed on Friday, June 21st, 2013.

On Thursday, June 20th the telephone exchange and order processing will be open 8 a.m.–2 p.m.

## We wish you a nice summer!

The next issue will come out in September.