IMPULSE
MAGAZINE

4 NEW PRODUCTS
10 SALES TOOLS
14 BEST EXPERIENCE
Dear reader,

In this issue of IMPULSE, we are happy to bring you information about a number of promising product news. At the LIGNA wood coating trade show in Hannover in May our new one-component water-borne intumescent coating for wood, Fontefire WF, created a lot of attention and interest with customers. We are further introducing a new two-component glossy UV-resistant polyurethane lacquer Fontedur Clear Plus for customers that require gloss levels above 90, we also introduce a new value for money fast drying/recoating epoxy primer Temacoat EP Primer and a gloss 10 matt MED-approved polyurethane primer for marine and protective purposes. For flooring purposes we are introducing a new solvent-free self-levelling elastic polyurethane Temafloor PU Flex for technical and crack-bridging areas. In addition a new water-borne trowelling screed Fontefloor 4000.

Also in this number we bring you updates on a number certificates for low flame spread, approval for food grain contact, non-surface contamination and approval under the Biocidal Products Regulation. In this issue of IMPULSE we also bring you details from some recent case histories with use of our advanced steel structure protective coatings systems used to protect Metsä Group’s bioproduct mill under construction in Finland, success with use of water-borne acrylic coating protecting underground operating water pipe drilling machines for Bohrtec in Germany and use of self-levelling epoxy flooring coating Temafloor 3000 in the maintenance and repair hall for rail wagons for Lodz in Poland.

We hope you enjoy the reading and we wish you all a relaxing and sunny summer holidays.

Sincerely yours,

Michael Aamodt
Tikkurila Group Business Development Director
Contents

New product 4–9
Fontefire WF 4–5
Fontedur Clear Plus 6
Temacoat EP Primer 7
Temadur 10 7
Temafloor PU Flex 8
Fontefloor 4000 9

Sales tools 10–11
New certificates and approvals 10
Updated brochures (Wood and Floor) 11

Good to know 12–13
5 earning days at the Ligna exhibition in Hannover 12–13

Best experience 14–19
Metsä Group’s bioproduct mill is a massive steel project 14–15
Tikkurila WB industrial coatings launched onto the German market 16–17
Hall maintenance and repair of wagon in Łódź 18–19
FONTEFIRE WF
Intumescent coating of highest protection class for wood

Fontefire WF is a matt, one-component intumescent coating for wooden surfaces. When subjected to heat, Fontefire WF expands and forms an insulating layer of foam, protecting the wood from fire. The product has been tested in an accredited laboratory according to EN 13501-1:2007+A1:2009 and has received the highest class of wood protection B-s1, d0.

Fontefire WF has been developed in cooperation with the wood industry, thus optimizing the application properties for industrial lines. The amount of layers has been minimized in order to save the costs. Fontefire WF is suitable for interior and exterior wood, fibreboard, chipboard and plywood surfaces.

Fontefire WF contains protection agents, thus protecting the paint film against mold, algae and other microbes. Therefore, it can be used directly on a wood surface without any priming treatment. Approved topcoat for exterior use is Ultra Pro and for interior use Akvi Top FD 30.

Find more information on our web-site: www.tikkurila.com/fontefire
NEW PRODUCTS WOOD

PROMOTIONAL VIDEO

The purpose of this video is to show the functional principle of the fire protection paint and to open its advantages for people and wooden construction.

See the video on YouTube: www.youtube.com/watch?v=yJVfzTDejlg
FONTEDUR CLEAR PLUS
Durable glossy appearance with WB PU lacquer

A new two-component glossy lacquer supplemented the Tikkurila water-borne polyurethane product range. As is typical for polyurethanes, this paint has an excellent UV-resistance. Due to its water-borne binder nature, Fontedur Clear Plus can be used in factories that mandate high standards of user- and environment-friendly solutions.

This lacquer has a gloss level of over 90 (60°). Fontedur Clear Plus is easy to apply, however high relative humidity during its application and its drying period should be avoided.

The product Fontedur Clear Plus has already gained popularity and is being applied with success by Rapala Oy and Admor Composites Oy.

Product codes:
00556550060
Can size:
10l

Recommended to be used in WB and SB PU systems where high gloss and color stability is required.
NEW PRODUCTS METAL

**TEMADUR 10**
**Matt polyurethane MED-approved paint**

A new gloss level has been added to the Temadur series: the Temadur 10 paint. This is a two-component matt polyurethane paint containing anti-corrosive pigments.

The Temadur 10 is recommended as a primer for polyurethane systems or as a topcoat for epoxy systems exposed to weathering and chemical stress.

This product has been developed according shipyard requests and has got MED (Marine Equipment Directive) certificate no VTT-S-01194-17. Accepted to paint surfaces inside the ships it meets the requirements on material with low flame-spread characteristics and not producing excessive quantities of smoke and toxic products or not giving rise to toxic hazards at elevated temperatures.

Temadur 10 is also suitable for the painting of transport and haulage equipment, storage tank exteriors, steel frameworks and other steel structures, machinery and equipment.

**TEMACOAT EP PRIMER**
**As an alternative for economical solution**

This new two-component epoxy primer has an optimal quality-price ration. Temacoat EP Primer contains zinc phosphate and can be used as a primer or an intermediate coat on epoxy and epoxy-polyurethane systems.

Quite good adhesion to steel and zinc surfaces with fast drying and overcoating time making this epoxy paint quite competitive in the economical level segment.

**Product codes and can sizes:**
- Temadur 10 TVL
  - 34V72260360, 10l
- Temadur 10 TCL
  - 34V72230360, 10l
- Temadur 10 THL
  - 34V72300360, 10l
- Temadur 10 TML
  - 34V72400360, 10l

**Product codes:**
- Temacoat EP Primer
  - 82VR7350470, 20l
- Hardener
  - 00856000040, 4l
This new two-component polyurethane coating has excellent elastic properties and elongation at break value of 180% (7 days). Temafloor PU Flex was especially designed for air-conditioning rooms and other technical areas. It gives the concrete floor a seamless and water-impermeable surface. Temafloor PU Flex has impact resistance perfectly comparable to other polyurethanes.

As a self-leveling coating, it can easily apply to the old or new concrete floors with serrated or steel trowel without shrinking and cracking problems.

Another big advantage of this paint is that it is a solvent-free product with VOC-content of less than 10 g/l. Recently it got M1 approval and accordingly emits extremely low levels of compounds into the atmosphere.

The Fontefloor EP Primers Temafloor 400 and Temafloor 220W are recommended primers and Fontedur FL Matt can be used as a topcoat to reduce high gloss levels.

**Product codes and can sizes:**

<table>
<thead>
<tr>
<th>Product</th>
<th>Item number</th>
<th>Filling rate /can size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temafloor PU Flex RAL 7035</td>
<td>48VR7350370</td>
<td>12/20 liters</td>
</tr>
<tr>
<td>Temafloor PU Flex TVT 0229</td>
<td>48V02290370</td>
<td>12/20 liters</td>
</tr>
<tr>
<td>Temafloor PU Flex Hardener</td>
<td>00840150030</td>
<td>3/3 liters</td>
</tr>
</tbody>
</table>

Note! High humidity can cause pinholes in some cases as in all polyurethanes.
FONTEFLOOR 4000
Water-borne troweling screed

Fontefloor 4000 can be prepared by adding sand to the water-borne, two-component epoxy varnish Fontefloor EP Clear. The appearance of the concrete floor depends on the used sand. The optimal mixing ratio is 1 part varnish and 2.5 parts sand.

Good water-vapor permeability and relatively high abrasion resistance are the main properties of this screed. However, the impact resistance is inferior compared to the solvent-free troweling screed Temafloor 4000.

The final appearance of the screed can vary from matt to glossy depending on the overcoating varnish. Fontedur FL matt will provide a matt surface and relatively speaking, Fontecoat EP Clear will provide a glossy one.

Product codes and can sizes:
Fontefloor EP Clear
00845720360, 10l
Fontefloor EP Hardener
00845710330, 3l
SALES TOOLS

NEW CERTIFICATES AND APPROVALS

**Low flame spread**
Temacoat GPL-S Primer /Temacryl EA 50
Temacoat GPL-S Primer/Temadur 50
Temadur SC-F 50

**Grain contact approval**
Temadur 90,
Temadur HS 90
Temasolid EZ80

**Decontamination approval**
Fontefloor EP 100

**Biocidal products regulation approval**
Pinja Priming Oil

**MED certificates**
Temadur 10 and Temalac SC-D 80

**Tank linings approval in Russia**
Temaline EPL 100, DFT 320µm
UPDATED BROCHURES

We recently updated Product Catalogues for all three segments Wood, Metal and Floor. Also a lot wood brochures were updated for Ligna.
5 EARNING DAYS AT THE LIGNA EXHIBITION IN HANNOVER

We thank all the visitors, customers, dealers and other guests for visiting our booth at Ligna Fair 2017.

Tikkurila participated in the worldwide exhibition of the wood industry and presented its new intumescent coating, Fontefire WF.

Ligna is the world’s leading trade fair for machinery, tools and coatings for the woodwork and timber processing industry.

The exhibition was held 22-26 May in Hanover, Germany.

During Ligna, we presented our latest innovations: the water-borne Ultra Pro-series paints for claddings and exterior panels, the Pinja Color Plus tintable semi-transparent wood stain, the polyurethane paint system Pinjadur Primer and Pinjadur 30 for exterior doors and windows.

Our new intumescent coating for interior and exterior use, Fontefire WF was, as expected, the hit of this event regardless of surfaces to be treated.

Please check the official website of the fair:
http://www.ligna.de/
GOOD TO KNOW
Metsä Group’s bioproduct mill in Äänekoski Finland is a huge project

Metsä Fibre, which is part of Metsä Group, is building the world’s first next-generation bioproduct mill in Äänekoski in Central Finland. Once ready, the mill will produce 1.3 million tonnes of pulp a year, which is nearly three times the annual production of the current pulp mill of Äänekoski. The new mill’s main product is high-grade softwood and birch pulp.

The Äänekoski project is Finland’s largest ever forest industry investment: It is valued at EUR 1.2 billion. It will have a major impact on the national economy: of EUR 0.5 billion a year.

Not just due to the size of the investment, but also because the components brought to the building site are numerous and large. To make the assembly work easier, as much as possible of the steelwork was delivered ready-painted.

The steel structures were painted at the factories. They were made at workshops in Ylivieska and Peräseinäjoki in Finland and a workshop in Oborniki in Poland, from where the sub-assemblies are transferred to Äänekoski for final assembly.
Epoxy provides great protection for steel

The boiler’s frame was painted using a three- and four-layer paint system. A zinc-rich epoxy paint was used for priming the external structures. Zinc provides galvanic protection when the paint film is damaged by a scratch or dent, for example. Exterior steelwork was additionally given an intermediate coat to improve durability and polyurethane topcoat to provide weather resistance.

“The painting process itself was very traditional, with the weather regarded as the biggest challenge. In fact, the components had to move in and out of the paintshop as quickly as possible, to minimize their throughput time at the workshops,” says Mikko Soini, key account manager of Tikkurila Oyj.

He comments that the same level of protection could have been achieved with just one paint film, using modern paint technology. However, in order to avoid surprises, the customer opted for a traditional, time-proven and trusted method.

The customer chose gray as the color, to avoid extra work for the painters due to the subtle color differences between the undercoat and the finish. This also avoided differences in the shades of parts painted in different workshops.

Text: Lauri Lehtinen (Abridged version)
Photo: Sami Karppinen

Paint systems

<table>
<thead>
<tr>
<th>Paint system</th>
<th>Color</th>
<th>DFT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interior steel workshop (color RAL 7046)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EP160/3-FeSa21/2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temacoat GPL-S Primer</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>Temacoat GPL-S Primer</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Temacoat GS 50</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td><strong>Total DFT:</strong></td>
<td><strong>160</strong></td>
<td></td>
</tr>
<tr>
<td>Exterior steel workshop (color RAL 7043)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPZn(R)EPPUR240/4-FeSa21/2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temazinc 77</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Temacoat GPL-S Primer</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>Temacoat GPL-S Primer</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>Temadur 50</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td><strong>Total DFT:</strong></td>
<td><strong>160</strong></td>
<td></td>
</tr>
</tbody>
</table>

High volumes of steel delivered

IMPULSE 1/2017 | 15
BEST EXPERIENCE

Tikkurila WB industrial coatings launched onto the German market

We have successfully taken a great step forward in the introduction of Tikkurila industrial water-borne solutions to the German market. Three customers there are already using our coatings.

At the end of March, Tikkurila held its Industrial Metal and Floor Business Support Days. In addition to other interesting topics, the event introduced new customer cases. Among them were at least three significant cases in the German market, where Tikkurila water-borne solutions have been implemented or have replaced old solvent-borne products.

Following global trends and in line with Tikkurila’s decision to focus on sustainable water-borne products, the German industrial management team, in cooperation with Swedish colleagues, did a great job obtaining new industrial customers. We would like to present one of the cases here.

“We made our first contact with the Bohrtec* company in October 2016. We had to fight against famous and well-known competitors such as PPG and Osnatol,” says Mr. Carsten Hummel, Tikkurila Group key account manager.

The main challenge during the negotiation and preparation work was that Tikkurila, as a producer of industrial coatings, is almost unknown in the German market. Further, our task was not only to demonstrate that our water-borne coatings perform sufficiently well, but also to prove that we offer the best water-borne solution on the market at the moment.

“It was not an easy task to prove the performance of the coatings. We warmly thank our Swedish colleagues for their assistance in this project. They prepared painted samples and helped with their knowledge,” says Carsten.

Bohrtec carried out three internal tests according to its own requirements: a fire test, a saltwater test and an abrasive test. The results showed that our paint systems were the best. Bohrtec accepted two paint systems, one hybrid and another one-component acrylic.

The drilling area on this machine, which goes inside the hole, is painted with Fontecryl SC 50 RAL 7035. It is a water-borne topcoat with nice performance.
Acrylic one-component system:
Fontecryl SC 50 RAL 7035, DFT 160µm
The coating system for the other areas is a hybrid system:
Temazinc 99, DFT 50µm
Fontecoat EP 50 beige, DFT 120µm
Fontedur HB 80 RAL 7035, DFT 80µm
Paint deliveries to Bohrtec started in March 2017. The potential volume estimates are EUR 40,000 in 2017 and EUR 60,000 in 2018.

In addition to the brilliant performance of our water-borne coatings, this case is also a good example of how the desired results can be achieved through good cooperation inside of the company.

*Bohrtec, based in Aachen, Germany, has been designing and manufacturing machines for the trenchless construction of sewers for more than 30 years. More information is available on the company’s website: www.bohrtec.com/en/company/about-us.html
Hall maintenance and repair of wagon in Łódź

Hall maintenance and repair of wagons in Łódź takes place in a 5,200 square meters area. The facility was built in 2015 and has been in use ever since. Facility has four tracks and an additional one treated as a train wash.

Resinous floor was supposed to meet the expectations of a design engineer. It means that it had to be enduring, wear resistant, alkali resistant, etc. Additionally, it was to provide preservation of cleanliness and a lustrous finish. The whole area was applied using the self-levelling technology Temafloor 3000. This epoxy screed is used in the case of new, but also already used concrete floors, that are exposed to heavy loads and chemicals.

The coating recommended for the chemical industry, the pharmaceutical industry, laboratories and in other industrial premises. In the case of new concrete floors, it is important to provide an appropriate adhesion between concrete floor and the Temafloor 3000 system. This kind of adhesion was provided by the primers Temafloor 400 and Temafloor 220W Primer.

On a separate track of the hall, which should be used for washing the wagon, the solvent-free, self-levelling coating Temafloor P300 was applied with skid resistance using silica aggregate to provide safeness for the staff. This area in the hall is exposed to prolonged and repeated contact with water and detergents used for washing rail vehicles.
BEST EXPERIENCE
TOP PRODUCT LIST

CONCRETE FLOORS

Water-borne coatings
- Fontedur FL Matt Polyurethane lacquer
- Fontefloor EP 100 Epoxy paint
- Fontefloor EP Primer Epoxy primer
- Fontefloor EP Clear Epoxy varnish
- Fontefloor 4000 Troweling screed

Solvent-free coatings

Paints
- Temafloor 150 Epoxy paint
- Temafloor P300 Epoxy coating
- Temafloor PU Polyurethane coating
- Temafloor PU Flex Elastic polyurethane coating
- Temafloor PU-UV UV-resistant polyurethane coating

Lacquers
- Ensi Urethane oil
- Temafloor 200 Primer Epoxy varnish
- Temafloor 210 Clear Epoxy varnish
- Temafloor 220W Primer Epoxy varnish
- Temafloor 25 Clear Polyurethane primer and top lacquer
- Temafloor 400 Epoxy varnish
- Temafloor 401 Solvent-free epoxy varnish
- Temafloor 310 ESD Primer Electrically conductive epoxy primer

Screeds
- Temafloor 3000 Epoxy-resin screed
- Temafloor 4000 Grinding screed
- Temafloor 4000 ESD Electrically conductive grinding

Temafloor AC and AC Clear Acrylic binders and lacquers