



**SPECIAL  
REPRODUCTION**

# A P R

## AKTUELLE PAPIER-RUNDSCHAU

CROSSMEDIA-INFORMATION FÜR ENTSCHEIDER DER PAPIERWIRTSCHAFT

2012 | Nr. 02  
www.a-p-r.de

[ VDP ]  
Energiewende erfordert  
Anstrengungen

[ CEPI ]  
Schlüsselaussagen zur  
Bioökonomie

[ WASSERBEREITUNG ]  
Mit weniger mehr  
erreichen

[ WARTUNG ]  
Kabelloses Condition  
Monitoring

[ SPECIAL ]  
WARTUNG UND  
INSTANDHALTUNG,  
ENERGIECONT  
RACTING

[ ULTRASCHALL ]  
Zellstoffproduktion mit  
neuer Qualität

### RICHTER Ceramics

Ri Wa Mat *rollcovers*

Thermal- and ceramic composites





RiWaMat center roll ceramic coating by Plasma process

[ INNOVATION ]

## RICHTER ROLLS "CERAMICS ROLL COVERS"

Roll covers made of ceramics or carbide layers are always significant, especially when special properties are required. This includes extreme wear, temperature and corrosion resistance, maximum and durable smoothness as well as various surface structures and properties.

Wolfgang Richter Company located in Düren, the specialist in the refurbishment, modernization and finishing of worn parts related to the paper industry, is now installing a new facility for thermal coating of rolls. „It has been already my intention for years to invest in the field of thermal spraying for high quality rolls. Now we are going to realize this project“, said Jr. Chief Dirk Richter. The decision was taken beginning of January 2012; the order was already committed mid-January into a new, highly modern facility. With this investment, Richter is now rapidly extending his offer for roll service with both processes HVOF (High Velocity Oxygen Fuel Spraying HVOF) and plasma spraying.

With the new equipment, a wide range of rolls can be coated by thermal spraying. This includes center rolls and shoe press rolls, calender, forming and suction rolls, size press, grooved press rolls, dryer rolls, conveyor rollers for winders and rewinders as well as roll cutter and sheeters, drive rolls, reels as well as guide, spreading and regulating rolls if they are subject to extreme wear. The rolls mentioned at the end of the list are today already processed by Richter and

coated with own developed advanced composite materials which have, compared to rubber coatings, not only an increased wear resistance, but also have other benefits such as anti-adhesive properties and a greater resistance to corrosion as what for example rubber coating may offer.

With the new roll coating process, rolls are suitable not only for use in extremely demanding areas, but for the most sensitive applications in the paper machine. A major contribution to the quick implementation of the project has been the expertise and judgment by a renowned specialist in material who has

company in charge of development and production of covers, particularly for thermal spray technique of ceramics and carbides. Under his direction, various roll covers were developed from 1980 till 2011 and several thousand rolls processed, among them more than 300 rolls for any positions in the paper machine up to 3 m in diameter, 12 m long, 65 t weight.

These sizes will not be achieved by Richter's new facility; they end up to a diameter of 2.40 m, 12 m length and 30 t weight.

Richter has expanded in 2000 its range of products for the paper industry around the roll service and since then, thanks to various materials, Composite covers partly developed by Dirk Richter, it could be ensured that each guide roll is optimally coated. The roll covers are entirely produced at Richter's Plant II Rolls in Düren. Services include removal of old covers, surface beaming, balancing as well as the roll processing. Full processing from a single source is also valid for the new coating line and ensures the well-known Richter service quality for thermal spray surfaces with the required properties. Dirk Richter:

» Hard roll covers for all positions up to 11 m face length. «

been operating for over 30 years in the field of surface and coating technology. He has been responsible for many years as a technical manager in a large coating



RiWaMat calender roll Tungsten carbide coating by HVOF process



RiWaMat composite ceramic cover on the grinding machine



Plasma ceramics center roll on the dynamic balance machine

„Center and shoe press roll covers, for example, have a hydrophilic polar surface with a defined porosity, which have a longer constant surface structure, thus ensuring a longer optimal sheet release. Calenders, on the other hand, must have an extremely smooth surface.“ They will be ground at Richter at the lowest roughness value and polished. Regarding suction, forming and grooved press rolls, attention in the choice of coating materials is requested, particularly high adhesive strength of the cover for maximum edge stability of lands and holes as well as the coating process must be strictly carried out to avoid chippings. Reels, regulating, conveyor and drive rolls need again different roughness depending on the application to ensure a good traction. The roughness is defined so that in case of, for example, regulating rolls and wiring drive rolls, no significant wear appears by the slippage. Reels with an excessive roughness would damage the paper web. This is also valid for applications in roll cutter and sheeters.

„Once the equipment is installed in our plant II “Rolls”, the complete service will be performed here. We do already all other works inhouse”, says Dirk Richter. The entire infrastructure is already available: grinding, turning, milling, and balancing - for all these tasks is the plant II perfectly equipped. The new coating line also fits easily into the existing building and will be used after an appropriate training by Richter’s staff. By investing in one of the most advanced coating systems in the field of thermal coating, Richter wants to expand

his range of products quickly. „Our customers are already using some rolls which are coated by the two methods and we want them to offer, as a new supplier, in addition to the conventional coating processes, HVOF and plasma spraying, too „, says Dirk Richter. „With the new process, we are able to provide hard roll covers for all positions and requirements in the paper machine. The new facility is the final module.“

» HVOF and plasma spraying is both necessary. «

The total investment including foundations amounts to the six-digit euro range and is entirely financed by the family company of Düren with their own capital. „It is our business philosophy,

investing and always financing by our own capital. This approach allows us to go to the market with new products without cost and time pressure.,

.With the new equipment, Richter becomes the leader regarding ceramics coating having the most modern Spraying Technology on the worldwide market. Higher quality than before can be achieved and, secondly, the existing qualities can be cheaper produced than before.

The company has four locations in the district of Düren offering full service in the business areas Pulp & Reject, Rolls and Pumps. About 130 paper mills in Germany, Austria, Switzerland and Benelux countries belong to the customers of the family Company with around 200 employees. | DB



RiWaMat rollcovers

Telefon 02421 / 20 85 69 0  
 Fax 02421 / 20 85 69 990  
 E-Mail walzen@richter-industrie.de