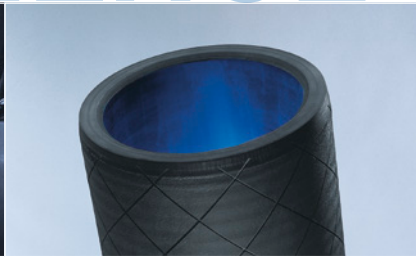




BöttcherTec

Roller Solutions for the Aluminium Industry

EXPERIENCE + KNOW-HOW



Our Commitment, your Advantage:

■ Highly developed products

BöttcherTec Roller covering materials in rubber and polyurethane, specially designed for aluminium production, hardness and temperature resistance tuned to the specific requirements of each process step. Outstanding quality for stable processes, long roller life and minimum downtime.

■ Global presence

Central rubber compounding in our highly automated mixing facility ensures identical quality and material characteristics wherever in the world you are. Local application on rollers in our 20 roller manufacturing plants provides local service and short lead times.

■ Complete, systematic solutions

Individual support and material selection on site by our technical support staff. Laboratory tests reinforce the selection and identify any compatibility issues before they have a chance to negatively impact your process. Fast and cost-effective service all over the world through our manufacturing network – Böttcher is always close to you!



■ In-depth application competence

For decades, Böttcher has been working with customers at all levels in the production and processing of aluminium to fine-tune the performance of roller materials to fulfill the ever-increasing demands of the industry. Unrivalled technological capabilities and laboratory equipment make it possible to develop and produce materials which transcend the limitations of conventional roller coverings.

Aluminium: Heading for a bright future!

More than 45 million tons of aluminium were produced in 2011 – twice as much as in the year 2000 and one thousand times the amount produced in 1911. Today, aluminium figures in many innovative applications: it protects the contents in a huge variety of packaging materials, is the

material of choice in many startling and attractive buildings, is environmentally friendly, corrosion-proof, infinitely recyclable and helps reduce the weight of planes and motor vehicles, minimising their fuel consumption and environmental impact. Continuous further optimization of

aluminium's unique properties leads to an ever-increasing demand for this in every respect modern material, posing new challenges for the aluminium industry to provide the necessary production capacity on the one hand and systematic recovery and recycling systems on the other.



Böttcher: global partner of the aluminium industry



As the world's largest roller manufacturer, the Böttcher Group is not only at home in the aluminium-producing industry itself: from the mining of the raw materials through the manufacturing of flat rolled products and the conversion of the material into foil, flexible packaging and beverage cans, Böttcher rollers are at the heart of many process steps. This in-depth knowledge of the processing chain is the foundation of Böttcher's incomparable understanding of aluminium's properties and the

specific demands at every stage of production and conversion. We know not just what you yourself need, but also understand the demands your customers are placing on you and can help you to fulfil them. All over the world.





Roller Coverings: Tailor-made for each process step

The production of flat rolled aluminium involves a variety of different processes and machines, each with its own specific needs and challenges. Selecting roller materials ideally matched to these requirements is the key to stable and reproducible manufacturing processes. The rollers have to maintain their dimensional and chemical stability, their hardness and surface characteristics throughout a wide range of temperatures and chemical environments. When squeez-

ing off excess liquid after degreasing or other baths, they have to be hard enough to achieve a good and even result, but soft and pliable enough not to damage or mark the aluminium strip itself, even when processing foils only a few microns thick!

Chemical resistance of the roller material against rolling oils, coatings, etc. is another high-priority demand, as are surfaces which are at the same time finely structured and mechanically very robust, in order not to be

damaged by the material running over them. Böttcher has developed a broad range of highly specialised rubber and polyurethane roller materials to meet these diverse demands. Every one of them was developed in our central R & D laboratories in Cologne, Germany and all rubber compounds are manufactured in our own, state-of-the-art rubber compounding plant. Made by us for you, to make it easier for you to meet the challenges the marketplace and your customers place on you.

Optimum materials for each process step

- Durometers from 65 to 95 Shore A (for coating applications from 40 Shore A)
- Temperature resistant up to 200°C – or more if required
- Excellent resistance to oils and other chemicals

Stability and process security at the highest production speeds

- Dimensional and durometer stability, even in extreme conditions
- High vibration damping properties at high speeds and on older machinery – no „dancing“ rollers

Longevity = less downtime and lower maintenance cost

- Very good mechanical resistance to edge marking, cutting and tearing
- High dimensional, durometer and surface stability – important when processing thin materials

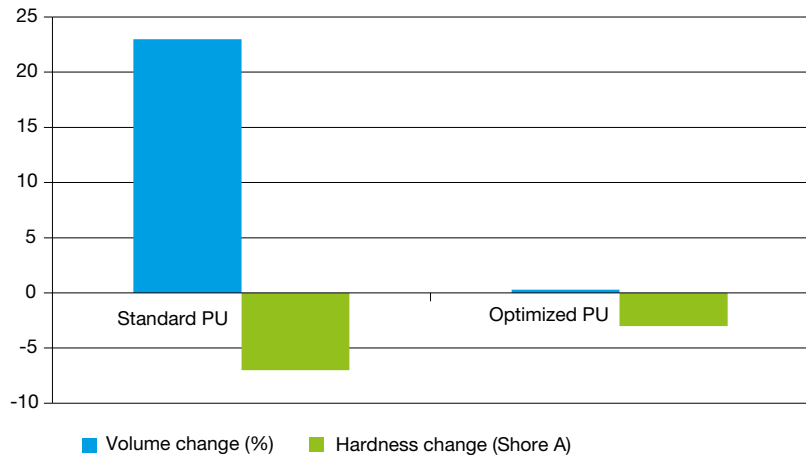
Set and forget: How roller quality makes your life easier

You know your machines and processes better than anyone, we know our materials and their influence on the result. Putting our joint knowledge to work enables the selection of the best material for your roller needs. When conducting on-site trials or investigating problems, we will be right there at

your side to support you in finding the best possible solution. We are happy to analyze your process requirements and develop customized materials to deliver the results you need. We see ourselves as a “Productivity Provider”: your rollers should simply do the job, day after day, week after week. Stable

performance and a long life cycle mean that in future you can concentrate more on your process and product quality, without being distracted by roller issues. That’s what we mean when we say “Set and Forget”: install, set and then concentrate on getting the best results from your process.

Swell Resistance in Oil



Test conditions: 7 days at 50°C

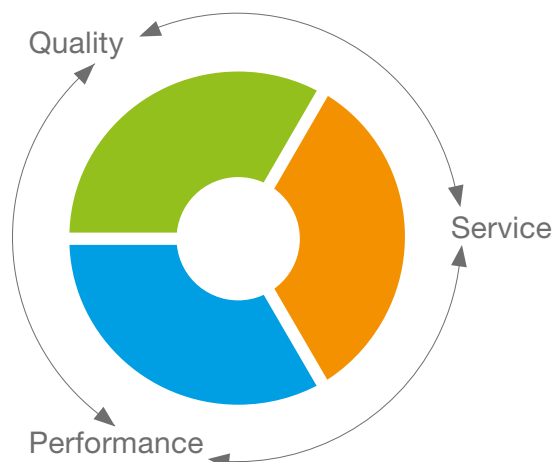
Böttcher polyurethane roller coverings for the aluminium industry are chemically extremely resistant to typical rolling oils. High long-term dimensional and durometer stability guarantees consistent rolling conditions and long roller life. Drive and braking rollers running under high mechanical loads last significantly longer with coverings with good swell resistance.

Rely on us for quality, service and performance

Böttcher quality is not merely the result of meticulous production. It also requires a great deal of research and development. We test 3,000 new compounds for rollers every year, for example. Of those, the field is narrowed to 300. And only the 30 materials that meet our requirements without reservation eventually reach the market – so that you can be sure of working with the best possible solution at all times.

Böttcher service combines the experience gained over 280 years with state-of-the-art know-how and ambitious commitment. That gives you the assurance of having a reliable partner who knows his business and has his eye on future developments to be prepared for each new trend and challenge.

Böttcher performance has only one objective: to make you even more productive with our high-quality solutions. We make your concerns our concerns, so that your processes become even more reliable and your production more economical.



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