



TRAIN WHEELS AND TYRES
TEST AND QUALITY



About Us

Griffin Star Rail is a leading manufacturer of metal products, playing a significant role in advancing the national supply chain and fostering self-sufficiency. With extensive experience in industrial production and a commitment to organizational excellence, we consistently deliver innovative solutions across various sectors.

In recent years, we successfully developed Monobloc Wheel prototypes that comply with international standards, and we became the first company to officially commence production of these advanced wheels. Furthermore, we are proud to be the first private enterprise to manufacture freight and passenger wagon wheels, marking a significant milestone in the country's industrial capabilities.

At Griffin Star Rail, we are dedicated to driving technological advancements and providing high-quality, reliable products that meet the demands of both domestic and global markets.

A close-up, artistic photograph of a Monobloc Wheel, a type of railway wheel. The wheel is metallic and shows concentric circular patterns from its manufacturing. Embossed on the rim are the numbers '2320779', 'ER7', '0423', and '103517'.

Monobloc Wheel

Griffin Star Rail is a leading innovator in the production of high-quality Monobloc Wheels, designed to meet a wide range of industry needs. Our wheels are manufactured in compliance with EN, GOST, ISO, and BS standards, ensuring superior performance and reliability. Available in multiple sizes and grades, our Monobloc Wheels are ideal for various applications, providing durability and efficiency that meet the highest industry expectations.

Production Process:

- Advanced Steel Making
- Secondary Metallurgy and Precision Vacuum Degassing (LF/VD)
- High-Quality Ingot Casting

With a commitment to excellence and cutting-edge technology, Griffin Star Rail delivers products that set the standard for performance and dependability in the global market.

Wagon Tyre

Griffin Star Rail manufactures Wagon Tyres that meet international standards, including ISO, GOST, BS, and UIC. Our tyres are tailored to customer specifications, ensuring precise fit and performance. We offer a wide variety of tyres in different sizes and grades to meet the specific needs of various industries.

Production Process:

- Advanced Steel Production
- Precision Manufacturing
- Customization to Client Specifications

At Griffin Star Rail, we prioritize quality and reliability, delivering high-performance products designed to withstand demanding operational environments.



Train Tyre

Production Size Range

Dimention	D		D1		b		b1	
mm	mm		mm		mm		mm	
850	855	+8/-0	690	+0/-10	139	+3/-1	40	+3/-0
920	925		760					
940	945		800					
960	965		800					
1000	1005		840					
1040	1045		880		144		30	
1100	1105		940					
1250	1255		1090					

Inner Dimension	550 - 1100
Bandage Width	80 - 150
Flange Width	15 - 50
External Dimension	600 - 1300

Wheel

Production Size Range

Hub Hole Length	150 - 250
Hub Hole Diameter	160 - 230
Web Area Thickness	15 - 80
Rim Area Width	90 - 160
External Diameter	700 - 1250

Heat Treatment

Griffin Star Rail operates a state-of-the-art continuous heat treatment line, equipped with precision furnaces and advanced thermocouple technology. Leveraging the expertise of our highly skilled specialists, we execute a variety of heat treatment cycles, including Annealing, Normalizing, Normalizing and Tempering, Quenching and Tempering, and Solution Annealing. These processes are meticulously designed to meet the stringent physical and mechanical specifications required for our Monobloc Wheels and Wagon Tyres, ensuring full compliance with international standards.





Machining Capabilities

Griffin Star Rail is equipped with advanced CNC machines, strip cutting saws, and precision drilling tools, enabling us to perform high-precision machining and produce final parts to exact specifications. Our state-of-the-art equipment ensures superior accuracy and efficiency, meeting the demands of various industrial applications.



TEST AND QUALITY

Quality Assurance

At Griffin Star Rail , we are dedicated to delivering products of the highest quality to meet and exceed our customers' expectations. Ensuring the reliability and safety of our products is fundamental to maintaining our commitment to excellence.

We place a strong emphasis on adhering to international quality standards. By developing robust and standardized implementation methods, we ensure that our processes are transparent, systematic, and efficient. Our success is driven by the continuous improvement of our quality management system, which is designed to fully satisfy customer needs.

To further enhance our quality management practices, we collaborated with our Quality Control Department and obtained the ISO 9001:2015 certification from DQS, Germany, reaffirming our dedication to world-class standards.

Our quality department actively works to maintain strong relationships with our customers, seeking their valuable feedback to improve our processes and enhance product compatibility with global standards. We are committed to protecting customer confidentiality while implementing a comprehensive management system that continuously evolves to meet their needs.



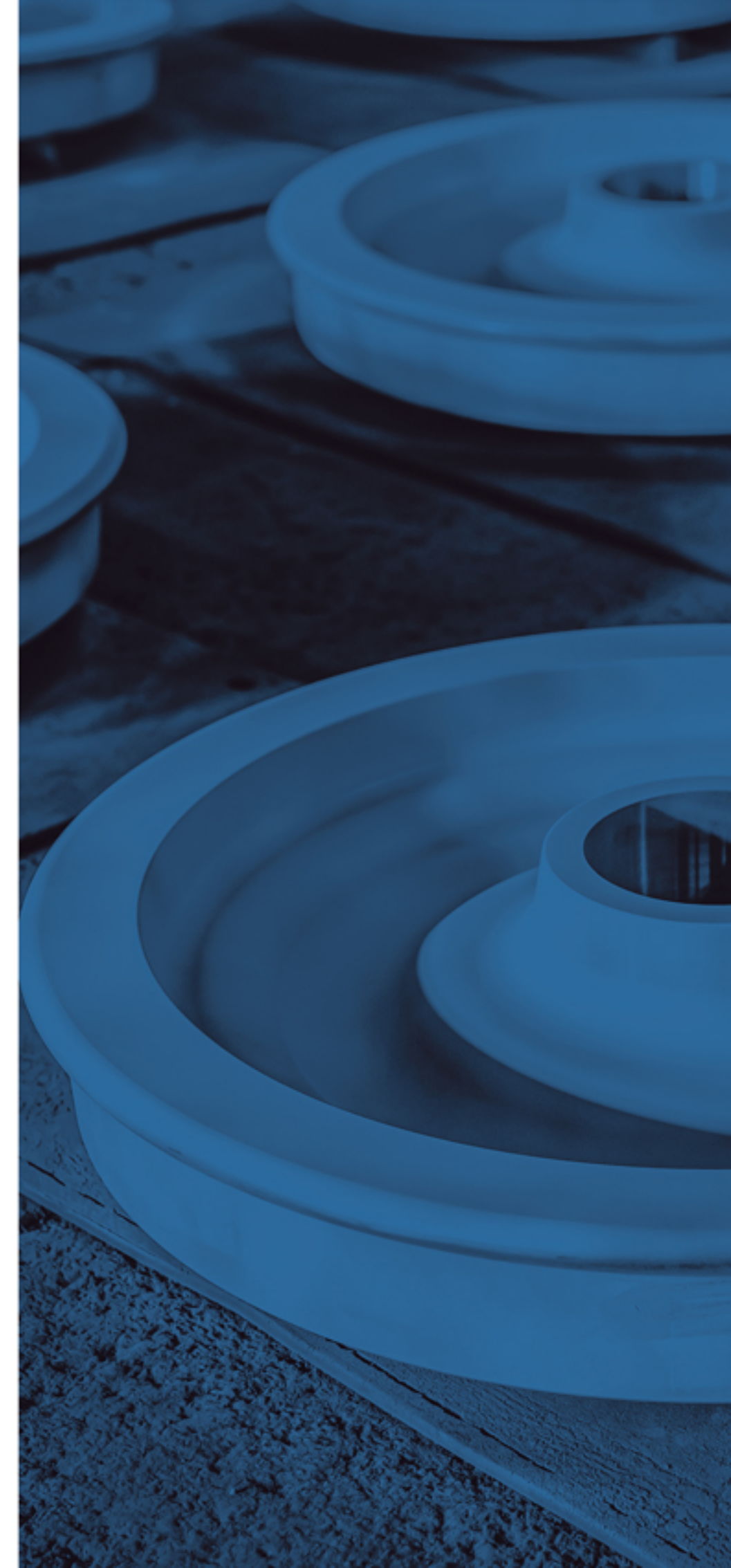
Quality Control

To ensure the independence of the quality control process and maintain the highest level of customer satisfaction, Griffin Star Rail has partnered with our Quality Control Department, a reputable third-party entity. This collaboration oversees the entire quality control process, from sourcing raw materials to the final production stages. Our Quality Control Department is a distinguished team, equipped with advanced testing and inspection facilities and staffed by highly educated and experienced experts.

Thanks to this partnership, Griffin Star Rail's products are now produced in full compliance with international quality management system standards. Each product is assigned a unique identification code from the initial stages of production, allowing for precise tracking throughout the manufacturing process.

All necessary tests, measurements, and inspections are carried out meticulously by our Quality Control Department's team of professionals, following standardized procedures. Once each product has passed these rigorous evaluations and meets the highest quality standards, it progresses to the next stage of production.

The data and results from these tests are systematically integrated into the ongoing development and improvement of our processes, ensuring that the final product matches or exceeds the quality of leading European counterparts.



Metallurgy Lab

Our Quality Control Department's materials laboratory has been at the forefront of metallurgical testing and has actively advanced toward becoming a reference lab in the rail industry. Our lab is equipped with the latest state-of-the-art experimental and measurement equipment, ensuring precision and accuracy.

All equipment is routinely monitored and calibrated to maintain the highest testing standards.



Our expert team consists of highly skilled and educated specialists with in-depth knowledge of testing and rail product standards. This expertise enables us to perform comprehensive product testing for our own needs and offer testing services to other customers.

Capabilities:

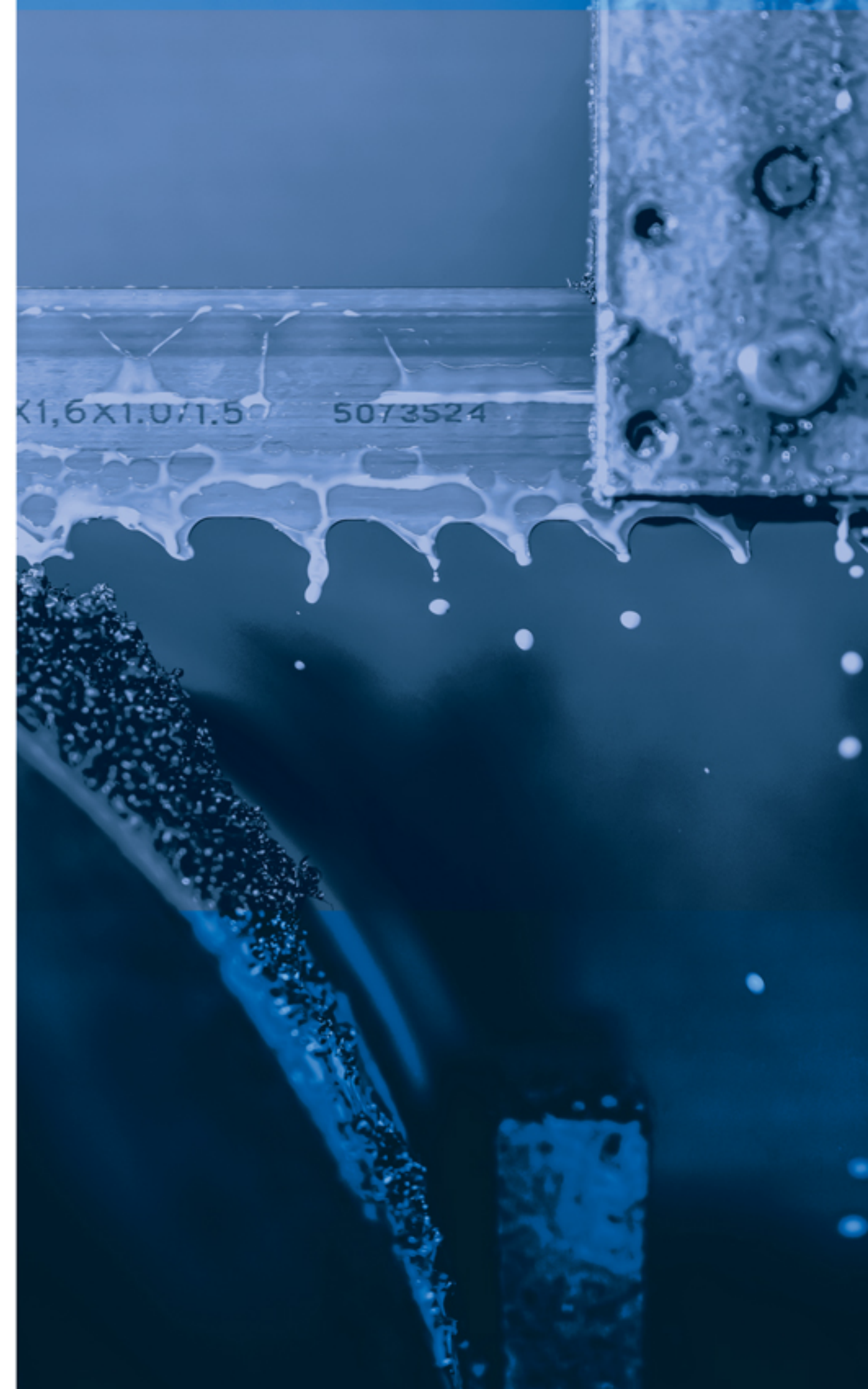
- Chemical Analysis
- Tensile Testing
- Hardness Testing
- Impact Testing
- Bending Testing
- Fatigue Testing
- Metallography
- Residual Stress Testing



The various inspection methods for bandages and Monobloc products include the following:

- Visual Inspection
- Dimensional and Geometric Control
- Surface Smoothness Evaluation
- Portable Hardness Testing
- Balance Control
- Ultrasonic Testing
- Magnetic Particle Inspection

After completing these inspections, the results from all metallurgical and mechanical tests are carefully reviewed to ensure full compliance with the required quality standards. As an independent and trusted entity, Griffin Star Rail issues product quality certificates in accordance with EN 10204-3.2.





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