Amusement parks, state fairs and local festivals are a source of enjoyment for all ages. To ensure the high-velocity thrills are secure, amusement rides are subject to several safety standards. Manufacturers and ride operators are responsible for proving and keeping the compliance of their rides with safety regulations. We provide professional assistance for ride operators with all necessary inspections and assessments to help them achieve maximum safety. Moreover, we can help you meet regulations specified in the German Directive of Temporary Structures as well as local and international state building codes. Documents required prior to testing and inspection can be checked and certified by our experts.

Before construction approval can be issued, several tests must be carried out during operation as in a test run (e.g.: dynamic, static, electrical and hydraulic, and safety function for mechanical and electronic components). Depending on your needs, we perform type approvals, pre-operation and annual safety tests. Additionally, we review all relevant informational materials such as instruction, operation and maintenance manuals.

Furthermore, our experts can assist you with the monitoring of your amusement park, inspecting for damage, corrosion and typical wear and tear. Our services include a broad scope of technical support in design, fabrication and construction, as well as project coordination and operation. We provide competent partner support, keeping you free to focus on your core business.

How does the inspection process work?
Rides must be in good condition and operate properly and safely. Compliance certification in accordance with EN 1090 or similar for welding qualification with the extension following DIN 4112 or similar is required. All documents should be available prior to inspection. These include information regarding stress calculation as well as electrical wiring diagrams, user and maintenance manuals. The owner of the ride is required to provide personnel who are familiar with and can operate the machinery during the inspection. We perform inspection of equipment and safety features, as well as conduct a test ride.

Standards for amusement rides in Germany, Europe and the United States

<table>
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<tr>
<th>Standard*</th>
<th>Title</th>
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<tr>
<td>ASTM F24 / ASTM F893-87</td>
<td>Amusement rides and devices</td>
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<tr>
<td>EN 1090 / VDTÜV 1507</td>
<td>Principle for inspection and testing of amusement rides</td>
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<td>DIN EN 60204-1 / EN 60204 / AFPA 79</td>
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<td>DIN EN 954-1</td>
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<td>DIN EN ISO 13849-1:2008-12</td>
<td>New rides</td>
</tr>
</tbody>
</table>

*Note: DIN are German standards, EN European norms, and ISO internationally applicable standards.
What is included in the scope of our technical support services for amusement park rides?

- Preliminary design review
- Analysis of structural and mechanical systems
- Analysis of hydraulic and pneumatic systems
- Analysis of electrical and electronic components
- Inspection of manufacturing and construction process
- Welding and material approval
- Welders approval
- Review of installation, maintenance and operation manuals
- Dynamic PC simulation tests
- Verification of static evaluations
- Electrical safety and emergency functions testing (backup systems)
- Functional testing of ride movements (e.g.: clearances, interlocking, pressure relief valves, brakes, speed and acceleration)
- Testing and commissioning

Your benefits:

- Receive a thorough review of documents to ensure regulatory compliance
- Prove adherence to safety standards with construction and on-site acceptance tests
- Find the best potential improvements for your equipment design approvals and test logs

Why TÜV Rheinland?

We have long-term experience in inspection and certification with a presence on all continents. Benefit from our deep understanding of all relevant standards, their revisions and updates through cooperation with research and other supporting institutions. With publication on the TÜV Rheinland Certipedia online platform, we document the conformity of tested and certified products and systems, strengthening your brand communication and integrity. We offer comprehensive services for amusement ride manufacturers and operators, including certification.

About TÜV Rheinland

TÜV Rheinland is a global leader in independent inspection services, ensuring quality and safety for people, the environment, and technology in nearly all aspects of life. When it comes to corporate sustainability policies and the responsible use of resources, we lead by example. That is why, since 2006, we have been a member of the United Nations Global Compact to promote sustainability and combat corruption.

TÜV Rheinland Group
Industrial Services
industrial-services@tuv.com
www.tuv.com