

Full service for your success:
Services for all domains within the quality management.





A century of experience gained through your tasks

The industry sector of the Zeppelin Group is among the leading manufacturers of plants for storing, conveying, blending, and dosing of premium bulk solids. Thanks to our world-wide activities and locations in all important industrial centres we can always provide our clients with the latest, most innovative and reliable technology to ensure maximum economic success.

As the direct successor of Count Ferdinand von Zeppelin who turned the human dream of flying into reality by building his legendary airships over a century ago, we are used to looking ahead. Constantly innovating, striving for perfection and maximum customer satisfaction has turned us into the company that Zeppelin Quality-Service is known as today: leader for QM services in Southern Germany.



Services from all domains of the Quality-Management:

As a business division within the industry sector, the Zeppelin Quality-Service assures you all advantages of an internationally active and locally rooted service provider.

Zeppelin certifications – Quality promised by write with hand and seal

**Trust is good – certifications are better!
Therefore, Zeppelin has always tried to fulfil not only standards, but far beyond to achieve all important and relevant certificates, approvals and accreditations.**

The Zeppelin Quality-Service is subjected to annual certification procedures. The results identify us over and over again as a professional service provider for the global aviation industry, the automotive industry as well as for general mechanical and plant engineering

Obviously, the Zeppelin Quality-Service is certified, e.g., according to **DIN EN 9100**. All our labs are accredited in accordance with **ISO/IEC 17025** and therefore also satisfy the requirements of **ISO/TS 16949**.

Zeppelin Quality-Service owns special approvals through:

- EADS Deutschland
- Premium Aerotec
- Liebherr Aerospace
- MT Aerospace
- Rolls-Royce Deutschland
- ZF Luftfahrttechnik



Specific aeronautic accreditation for the special processes PT/MT crack detection.



Zeppelin is certified according to DIN EN 9100.



As a subcontractor of Lloyd's Register (LRQA) Zeppelin is authorized to approve welders tests and welding procedure tests as a so called „notified body“ within the meaning of the DGRL.



Zeppelin is qualified as a DKD body (according to DIN EN/IEC 17025) and fulfils all requirements of a professional testing laboratory.



Authorization for welding of aerospace components by SLV Berlin.

Consulting for Quality Management Systems.

If it is about building up a quality management system you should have trust in experienced professionals.

Zeppelin leads you to the readiness for certification and this at reasonable cost and as efficiently as possible. Because we always advise you in such a way as we live the QM system in our own company as well. Together with your employees we will install a lean QM system, well adapted for the needs of your enterprise which will guarantee you an economic benefit.

Efficient as possible and therewith economical as possible to the certification – without compromising on quality. With Zeppelin you have all the trump cards in the hand.

Your advantages at a glance:

- competent, practical consultation
- low costs: slender system – as little as possible bureaucracy – a minimum of documentation (process-oriented)
- quick – short distances – the highest quality demands
- many years of experience with different QM systems in our own house
- more benefits for the customers through extensive examination services by the Zeppelin Quality-Service
- many years of experience with QM systems, especially in medium-sized enterprises
- Zeppelin is a partner of various certification companies – cooperations, which bring you time and cost benefits reflecting the expertise of our quality employees



Zeppelin supports you in the following certifications and quality management tasks:

- DIN EN ISO 9001
- DIN EN 9100
- ISO / TS 16949
- VDA 6.4
- DIN EN ISO 3834
- IRIS
- DIN 15085
- DIN EN 14001
- QM in the social and health care
- takeover of internal audits
- supplier audits
- certification preparation and monitoring
- takeover of QM tasks

Extensive training programme for all interests of modern quality management.

To implement a quality management effectively and efficiently in the own enterprise, purposeful trainings of all employees are essential.

Experienced professionals of Zeppelin Quality-Service offer practical training in all substantial QM systems at market-driven cost. The training is carried out either in our own training rooms, or directly as in-house training in your company. Take advantage of the long experience of our instructors.



Leo Bucher
QM training
QM methods
auditor training



Arno Schaepers
QM training
QM methods
auditor training



Martin Staiber
welding training, aeronautic
examination officer
acc. to DVS 2715-2

Our training offer at first sight:

- QM basics for newcomers
- QM methods for advanced
- auditor training
- FMEA method
- APQP process
- PPAP process
- statistical methods
 - statistical process control (SPC method)
 - measuring equipment capability (MSA / VDA 5)
- materials standards
- welding standards
- welding training
- NDT training (EN 4179)



Dieter Schüch
NDI training
EN 4179 / EN 473



Manfred Vogel
welding training and
training in aluminium
DC-welding procedure



Helge Bohlbrinker
statistical methods
QM methods

Zeppelin is qualified as an EASA production and maintenance organization

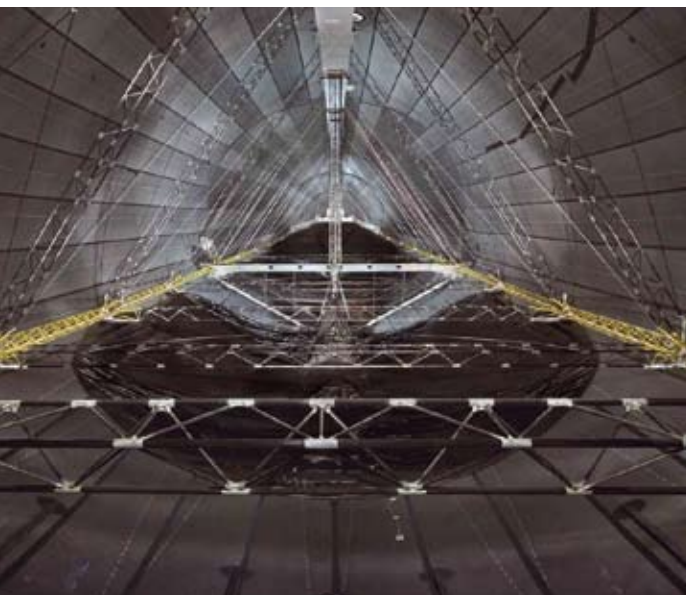


Zeppelin is qualified as an EASA production and maintenance organization

The Zeppelin Quality-Service was certified and approved by the Luftfahrt-Bundesamt as production and maintenance organization in accordance with EASA 21 G and part 145. Thus we are able to produce (according to our capability-list) and to examine aviation components in our aeronautical qualified test labs (NADCAP approved) and to confirm the aviation capability of the produced components by a „Form One“ certificate. With Zeppelin our customer disposes thus of a partner as a system supplier, who can produce and carry out aeronautical examinations on aviation components. All this without many time-consuming interfaces, quasi from one source.

Zeppelin welding engineering in aeronautics

In particular we are also capable to produce qualified aeronautics-specific weldments (see pictures below). The Zeppelin Quality-Service has all the necessary qualifications and is authorized for welding on aeronautical devices according to DIN 2303. Of course all welding procedures and welding are supervised by experienced welding engineers. Aeronautical welder's examination can be approved by the Zeppelin Quality-Service as well by our welding engineer accredited according to DVS 27 15-2 (examination officer).



Our specialty – Aluminium DC-welding

Due to our long experience and competence in welding as well as on account of our authorization as aeronautical manufacturing plant (EASA 21G), the Zeppelin Quality-Service welds in quantity, among other things, components for the Airbus.

On this basis exigent aviation components can be produced and worked on in aluminium as well as in steel. The welding quality can be examined by our non-destructive testing techniques immediately after the completion.



By means of an innovative and special welding procedure, the aluminium DC-welding procedures, we are able to repair distortion-free in particular damaged or faulty aluminium components without any damage on fits or tolerance of position.

Advantages TIG-aluminium DC-welding:

- dense weld metal structure with high strength
- low-warpage, nearly non-porous welding
- no preheating required
- no violent and stable direct current arc
- good penetration behaviour
- low thermal load of the tungsten electrode at the negative pole
- crackless welding on hot crack-endangered aluminium alloys
- higher welding rate compared with the TIG AC manual welding
- high cost saving by repair of damaged aluminium components



Zeppelin repairs free of distortion finished aluminium components with the aluminium DC-welding process.

Repair on motor housings – welded without preheating, cracks worked out and fully welded. Advantage: no critical deviations at fits or mechanically machined surfaces after welding.



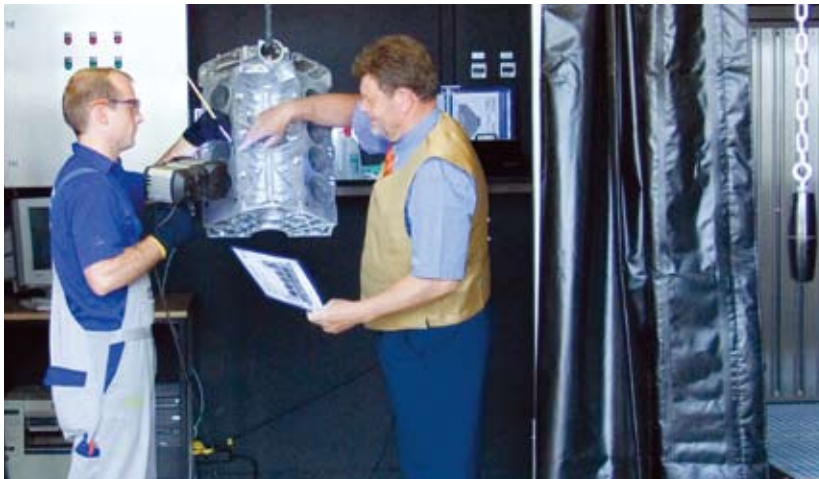
Zeppelin meets the highest aeronautical standards: NADCAP approval for NDE testing

The Zeppelin Quality-Service has been certified by the PRI (Performance Review Institute) that the applied „special processes“ in the crack inspection procedures “magnetic particle inspection” and the “penetrant inspection procedure” are fully met according to the aeronautical requirements NADCAP AC7114/1.

Most modern equipments and qualified personnel guarantee optimum test quality:

All NDI inspectors deployed at Zeppelin Quality-Service are trained both according to DIN EN 473 and in accordance with DIN EN 4179 / NAS 410 and satisfy the high NADCAP personnel requirements. Apart from several Level 2 examiners we also dispose of 3 redundant Level 3 inspection supervisors in accordance with DIN EN 4179 / NAS 410 and DIN EN 473.

Semiautomatic crack inspection unit for standard parts.



By means of the crack inspection procedures “penetrant inspection” and “magnetic particle inspection” all cracks are detected on ferromagnetic and non-ferromagnetic components.

Crack inspection procedure at the highest stage

Magnetic particle inspection

- 4 magnetic particle crack inspection equipments
- part sizes up to 1000 mm length

Penetrant inspection

- 3 penetrant inspection units
- electrostatic spraying
- dip unit
- methods: water-washable and postemulsifiable
- available for all part sizes



X-ray technology at Zeppelin – A guarantor for maximum security.

Aeronautical pickling at Zeppelin galvanic shop:

Zeppelin was approved for degreasing and pickling of aluminium parts for Airbus standard 80-T-35-0020 or 80-T-35-0100 by Premium AEROTEC. The pickling process, a pre-process for the crack inspection, is carried out without measurable metal loss and recognizable wrinkling of the surface. In addition with this procedure the electrical surface resistance is substantially reduced. This procedure is also the surface electric resistance is reduced significantly. The used bath dimensions permit components of maximum 3.4 m x 0.80 m x 1.4 m.

Pickling of aeronautical components at the Zeppelin galvanic shop approved by Premium AEROTEC.



For your highest requirements – Zeppelin has the appropriate technology.

Several high-performance test units belong to the equipment of our very modern X-ray lab to the determination of material defects for the aviation and astronautics, the automotive industry and plant construction. In our X-ray lab certificated by the TÜV (Technical Supervisory Association), we make available to you X-ray tubes for wall thicknesses up to 100 mm (steel). Our mobile tubes come into operation directly in your plant: We attend your X-ray tasks reliably and fast on site – you save the transportation costs.



X-ray on aeronautical components by means of a 160 kV tube (picture above).

The most modern radioscopy indicates all critical defects inside of a component (picture at the bottom).

X-ray with the 420 kV high-performance tube and the omnidirectional radiation tube (picture at the bottom).



First class service by the Zeppelin calibration lab. – Your cost advantage!

Speed, flexibility and maximum reliability are our guarantor for the economic completion of your calibration orders. Thus, you save not only money and time – but also nerves. Finally, you have other fish to fry than worrying about the calibration of your measuring and inspection equipment!

Our universal calibration length measuring machine Helio-Com Supra guarantees highest precision.



In our accredited laboratory (DKD-K-34601) we dispose of the most modern technical calibration equipment with air condition for the calibration of mechanical measuring and inspection devices. Thus we assure always accurate and reliable calibration results.

Our service comprises among other things the following achievements:

- complete logistics management for the inspection measuring and test equipment: pick up and delivery service, the administration of your test equipment with punctual information about overdue calibration, etc.
- incoming and outgoing goods inspection as well as visual and functional tests
- cleaning and rework of light damages
- calibration of measuring and test equipment in accordance with DKD guidelines, VDI / VDE / DGQ-2618 requirements, DIN standards or factory specifications
- generation of DKD or factory calibration certificates with traceability to „National Standard“
- adjustment of gauges
- for calibration and management, we use the software QMSOFT



Materials testing by specialists for reliable results.

Our modern material test laboratory is accredited according to DIN EN ISO/IEC 17025.

All procedures are handled for and supervised by a qualified level 3 examiner. The performance and evaluation of non destructive inspections are performed by Level 2 examiners.



With modern ultrasonic-test technology, e.g., weld quality is proved.

Destructive tests:

- tensile test
- bending test and breaking tests
- hardness testing
- micro- and macrosections
- spectral analysis (mobile)

Non-destructive material inspection:

- magnetic particle inspection
- penetrant inspection
(if necessary pretreatment by pickling)
- ultrasonic examination
- x-ray examination
- digital radioscopy
- conductivity testing
- eddy current testing



With our mobile spectral analysis device material determinations can be carried out reliably without confusion on aluminium and Fe alloys.

The carrying out of tests in our accredited laboratory is ensured by trained examiners.



Test-technical services at the highest level.

Our offer covers:

- job order measurements
- FAI measurements with first article test report
- gear teeth geometry
- measurements according to provided CAD record
- calibration of large-sized test equipment

Rely on professionals – and on their modern technology! At Zeppelin extensive machinery is available to meet even the highest demands.

In the fully air-conditioned measuring centre different CNC measuring machines

are available (picture below). So that your parts and components can be examined fast, reliably and economically. Your parts are quickly available, your production can be optimally planned and you have little logistical effort – or brief: you use all the time and cost benefits!

ZEISS-UMC 850



MITUTOYO



ZEISS-PRISMO 10



Two new ZEISS Prismo 10 coordinate measuring machines complete optimally the extensive Zeppelin coordinate measuring machines offer for our customers:

For the most varied 3-D measuring duties we dispose beside highly precise coordinate measuring machines also of the necessary measuring software. From UMESS 300, UNIIX to Calypso any measurement programs can be processed. Thus we guarantee the compatibility to our customers and their measuring instruments at any time!

Also regarding the gear teeth measurement technique Zeppelin disposes of modern measuring software and is able to carry out a qualified and reproducible measurement not only on spur gears but also on helically toothed gear wheels.

3-D measuring centre by means of Zeiss coordinate measuring machines of all sizes.

Contourgraph: smallest radii and pricks are detected with highest precision.



Surface roughness measurement by means of the most modern measuring technology



Learn from professionals – welder training at Zeppelin



Welder's qualification tests by the Zeppelin aeronautical examination officer according to DVS 2715-2

The Zeppelin Quality-Service disposes of long-standing welding experiences and competence in the aerospace engineering as well as in plant and mechanical engineering. With pleasure we pass these experiences down to our customers in our training centre.

Welder training in aerospace technology:

Our welding professionals train your welders in line with practical in accordance with aviation standard. For the acceptance of the welder's performance qualification Zeppelin disposes of its own welding examination officer on basis of the DVS 2715-2. Thus we ensure extremely efficient and economical training and examination acceptance.

Our service in the welding engineering:

- generation of welding schedules and welding procedure specifications
- carrying out of welding-procedure qualifications
- education and training of the welders
- acceptance tests of welders according to DIN EN 287 Part 1, DIN EN ISO 9606 Part 2 to 5 and DIN 6700
- assistance in welding problems
- adjustment of welding power sources (calibration of your welding machines)
- licensed training of aluminium DC-welding procedure („VM Schweißtechnische Beratung“)

Welder training in plant and mechanical engineering:

On basis of a subcontract with our partner Lloyd's Register and as a so called "notified body" the Zeppelin Quality-Service is authorized for the professional training of your welders according to the desired standards and to approve the relevant welder's qualification tests as well as the welding-procedure tests.

Consulting and training in welding engineering. Our professionals support your employees in all questions related to welding engineering.



Education of NDI-Personnel – professional and related to practice

Aeronautic training school:

In a close cooperation with ZF Luftfahrt-technik the aeronautic training school of non-destructive inspection was relocated from ZF in Kassel to the ZEPPELIN Quality-Service in Friedrichshafen and reopened. In this by the NANDTB – Germany approved training school non-destructive inspection methods are trained and the examination is taken according to DIN EN 4179 / NAS 410 in following methods:

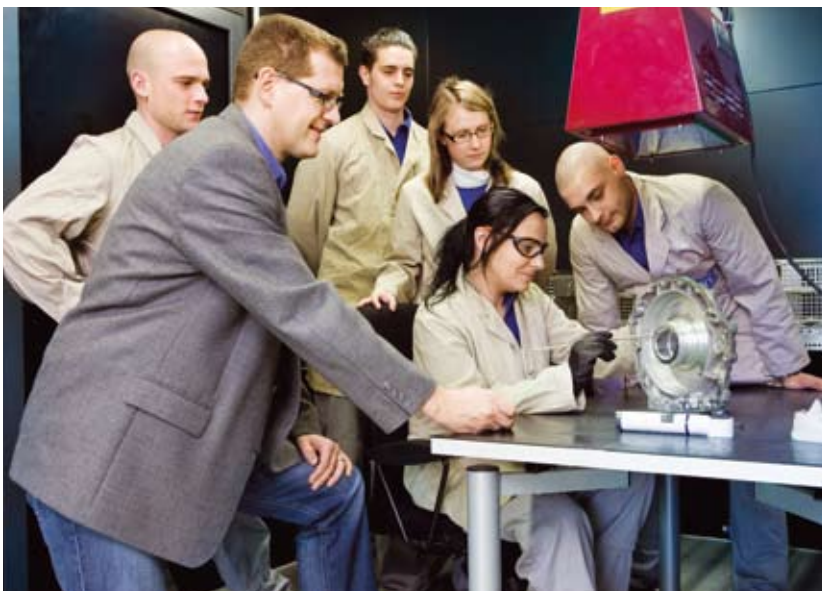
- magnetic particle inspection Level 1 (Level 2 in preparation)
- penetrant inspection Level 1 (Level 2 in preparation)

In this by the NANDTB-Germany approved training school by now we offer training for the inspection methods PT and MT and by this we comply with the requirements of EASA AMC 145.A30 (f). The offered trainings meet the requirements of DIN EN 4179 and NAS 410.

In our training school all participants get a high relation to practice by use of first-class inspection equipment and know-how.

For this we have evidence by the NADCAP accreditation of our crack inspection facility. The experienced course instructors provide a high training level. All participants get the best options for training with smooth training flow.

The throughout positive feedback to the already performed trainings for inspectors from well-known aeronautical companies as well as from the German Federal Armed Forces confirm high level of efficiency of our training school.



Extract of our partners and customers:

