



Overview of GSI's services

WE RAISE YOUR QUALITY AND EFFICIENCY

Our welding assignment:
Training people and bringing companies further forwards



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WELDING TECHNOLOGY 4.0

We teach, research, qualify – and consult.

GSI (Gesellschaft für Schweißtechnik International) is the non-profit-making limited liability company which was founded by DVS in 1999 and deals with training and further education, qualification and advice in the fields of welding and joining technology, testing technology and corrosion protection. GSI has eight national and six international locations.

When consulting companies, we place our faith in well-founded analyses and individual solutions as well as quick technology transfer. With process-oriented methods, we elaborate efficient strategies for fabrication, inspection, assessment and much more.

Our Welding Training and Research Institutes (SLVs) have over 85 years of experience in training and education and, in this respect, also place their faith in the most modern methods such as e-learning and virtual reality welding.

For welding technology competence of all kinds, you are in the right place with us.

Profit from...

- Over 85 years of experience in practice
- High-quality ranges of education on offer for personnel qualification
- Practice-oriented specialist personnel
- Interlinking between industry and research
- Work extending across different specialist fields
- Individual consulting and process optimisation
- Translation of requirements in standards for your needs
- Great specialist competence in all questions relating to joining and testing technology
- High flexibility
- International scope





Training & Education

Personnel qualification according to your needs.

The individual training and education of specialists in all welding technology procedures at home and abroad in German, English and other languages constitute one of our elementary tasks.

All the training courses are staged according to nationally and internationally harmonised guidelines such as IIW and EWF. This may lead to the approval of the qualifications in more than 50 countries.

Moreover, we ensure all the necessary certification measures for welding coordination personnel.

Our range on offer for inhouse training courses is directed at companies which provide their specialists and managers with further education in relation to the needs.

Theoretical training

- Welding coordination personnel (IWE, IWT, IWS, ...)
- Specialised welding personnel (welding shop foreman, welding inspection personnel, welding designer, ...)
- Specialised corrosion protection personnel (FROSIO coating inspector, ...)
- Personnel for non-destructive testing (VT, MT, PT, UT, RT)
- Adhesive engineer, bonder and specialist (EAE, EAB, EAS)
- Thermal sprayer and spraying specialist (ETS, ETSS)
- Resistance welder (practitioner, specialist)
- Specialist for additive manufacturing (metal)
- Training of specialised safety personnel - SCC (safety certificate contractors)
- Education programme for new managers
- Seminars
- Conferences

Practical training

- Individual welder training in all processes, oriented to the learning progress with qualification, e.g. according to DIN EN ISO 9606ff
- Training for special welding processes
- Virtual welding trainer

e-learning

- IWE, IWT, IWS, WSF, WD
- Welding inspection personnel
- UT 1
- Tailor-made company-specific solutions

Certified employment promotion measures according to the Accreditation and Authorisation Regulation for Employment Promotion (AZAV)

- Theoretical training
- Practical training

Personnel qualification/certification

- International welding coordinators
- Welding instructors
- Welders, operators and brazers/solderers according to the Pressure Equipment Directive

Individual education

- Customer-specific inhouse training courses
- Modular education

Study course

- Master of Engineering in Surface Technology and Corrosion Protection



Materials & Processes

Create the right basis.

In addition to our all-encompassing customer consultation about materials and process engineering, we elaborate all the necessary expert reports, including the damage analysis as well as the accompanying of the process optimisation.

Consultation about welding technology and the optimisation of welding parameters are carried out by our employees in situ. Furthermore, we have all the procedures necessary for destructive and non-destructive materials tests available in our branches.

Consultation and expert reports

- Technical consultation about all aspects of the fields of materials and process engineering as well as corrosion technology
- Damage analysis from the evaluation in situ via the report right up to the process optimisation on your premises in the fabrication in order to avoid any damage in the future
- Weldability tests, e.g. on old steels

Simulation

- of materials
- of welding processes
- of welding deposit properties
- of influences of the procedure parameters

Material acceptances on your premises or on your customers' premises

- Checking that supplied materials match with the corresponding inspection document
- Issuing of inspection certificates

Materials tests

- Destructive and non-destructive material tests on base materials as well as on welded joints
- Spark spectral analyses in order to determine material compositions
- Determination of diffusible hydrogen in welded joints, in welding consumables as well as in base materials
- Corrosion tests in specific corrosion systems
- Metallographic analyses on metallic materials as well as on non-metallic coat systems
- Fractographic investigations using a scanning electron microscope (SEM)
- Chemical analytics by means of EDX analysis
- Determination of the vibration fatigue strength, also on large components and on subassemblies

Process engineering

- Customer-oriented optimisation and testing of process and procedure variants
 - welding
 - brazing/soldering
 - cutting
 - coating
 - adhesive bonding
 - mechanical joining
- Support with regard to automation and robotics





Qualification, Inspection & Certification

Safety for companies and products.

As a notified testing, surveillance and certifying body according to national building regulation we review manufacturers, test products, certify companies and also specific products.

In the field of the Pressure Equipment Directive we act as a recognised third party organisation and certify welding and brazing/soldering processes.

We carry out all the audits and quality controls also for the customers or ancillary suppliers of our clients, paying attention to country-specific peculiarities.

Moreover, our inspectors are available for comprehensive construction and fabrication inspection and elaborate all the necessary expert reports on our clients' behalf.

Qualification

- of welding procedures
 - e.g. according to DIN EN ISO 15613, DIN EN ISO 15614ff., DIN EN ISO 14555 etc.
 - according to the Pressure Equipment Directive
- of cutting and flame straightening processes, e.g. according to EN 1090-2
- of welding fillers for railway construction (testing agency)
- of shop primers according to DIN EN ISO 17652

Inspection

- Testing and inspection of products
- Surveillance of welding and corrosion protection work, combined with non destructive tests, in workshops and on site
- Evaluation of suppliers
- Expert reports in cases of damage
- Solutions to problems in situ

Certification measures

- DIN EN 1090-2, previously: DIN 18800-7: welding, cutting, corrosion protection, calculation, etc. (steel structures / metal construction)
- DIN EN 1090-3, previously: DIN V 4113-3: welding, cutting, calculation, etc. (aluminium structures / metal construction)
- Construction products according to the federal state construction regulations
- DIN EN ISO 17660-1 and -2 (reinforcing steel)
- DIN 6701-2 (adhesive bonding in railway vehicle construction)
- DIN 2303 (welding in the military technology field)
- StaWaR (collecting basins up to 1,000 litres)
- AD 2000 technical bulletin, HP0/HP100R authorisation (pressure equipment and pipelines)

Country-specific peculiarities

- Attestation measures for products and services according to the set of rules of the National Association of NDT and Welding (NAKS), Russia

Auditing measures within the framework of certification measures via DVS ZERT GmbH

- DIN EN ISO 9001 (QM systems)
- DIN EN ISO 3834 (quality requirements in welding technology)
- EN ISO 1090-1 (factory production control systems for manufacturers of steel and aluminium structures)
- DIN EN 15085-2 and DIN 27201-6 (welding in railway vehicle construction / maintenance)
- SCC (safety certificate contractors)



Consultation & Process optimisation

We bring your company forwards.

Why GSI?

From our experience with advice, we know that markets and requirements are changing ever more quickly. The challenges for companies consist of producing products in ever shorter periods with considerable cost pressure and supplying them on schedule with constantly stringent quality requirements. In order to perform these tasks, processes must be structured and standardised. With the correct tools, as yet unrecognised potentials can be transformed into new values.

Your advantages

- **Core and practical competence in welding technology** from over 85 years of experience
- **Process competence** due to a team with wide-ranging qualifications and experience in the fields of Six Sigma and lean management
- **Independence** as a non-profit-making system supplier
- **Training and certification measures** according to your needs

Together with you, we define short-term and long-term project objectives for your company. The result is a plan of measures which we accompany until it has become established. We find solutions appropriate for the needs and implement these together with you.

Your benefits

Our offers for optimisation help you to master the latest challenges and to create additional advantages in competition in this way.

- Implementing DIN EN ISO 9001:2015 efficiently
- Shortening the throughput times
- Reducing internal costs
- Increasing the quality (less remachining)
- Raising the turnovers



Research & Development

Innovatively into the future.

All our research activities are close to the applications and are oriented to the customers and to our core competence.

In principle, upstream subjects are processed within publicly promoted projects. For these subjects, we strive for close partnerships with potential users who support our projects in different ways.

Within the framework of job research and development for industry and skilled trades, we adjust the processes exclusively to our clients' needs.

Publicly promoted research

- Possibility for industrial partners to exert direct influences on project objectives and results (e.g. within the Federation of Industrial Research Associations (AiF) and the Research Association on Welding and Allied Processes)
- Processing ahead of competition
- Publication of the research results
- Acquisition of promotion possibilities

Industrial research

- Application-oriented development and optimisation of technologies and procedures
- Fabrication of prototypes, small-scale series and zero series
- Neutral comparisons of procedures

Specialist fields

- Beam welding
(laser or electron beam welding, ...)
- Arc welding
(MAG, TIG, SAW, ...)
- Pressure welding
(resistance, friction and friction stir welding, ...)
- Thermal spraying
(arc spraying, flame spraying, plasma spraying, HVOF spraying and cold gas spraying)
- Thermal cutting
(flame, plasma and laser beam cutting)
- Mechanical joining processes
(self-piercing riveting, clinching and riveting)
- Brazing/soldering
(flame, induction, furnace, GMA and resistance)
- Designing
- Adhesive bonding





Your contacts within GSI

GSI – Gesellschaft für Schweißtechnik
International mbH
www.gsi-slv.de

Branches

SLV Berlin-Brandenburg
www.slv-bb.de

SK Bielefeld
www.dvs-bielefeld.de

SLV Bildungszentren Rhein-Ruhr
www.slv-bz.de

SLV Duisburg
www.slv-duisburg.de

SLV Fellbach
www.slv-fellbach.de

SLV Hannover
www.slv-hannover.de

SLV München
www.slv-muenchen.de

SLV Saarbrücken
www.slv-saar.de

Cooperating facilities

SLV Halle GmbH
www.slv-halle.de

SLV Mannheim GmbH
www.slv-mannheim.de

SLV Mecklenburg-Vorpommern GmbH
www.slv-rostock.de

SLV Nord GmbH
www.slv-nord.de

Foreign companies

Egypt: GEWC (German Egyptian Welding Center)

Estonia: GSI SLV Baltikum OÜ
www.gsi-baltikum.ee

China: GSI SLV Kunshan
www.gsi-kunshan.cn

Turkey: GSI SLV-TR
www.gsi.com.tr

Poland: SLV-GSI Polska Sp. z o.o.
www.slv-polska.pl

Czech Republic: SVV Praha
www.svv.cz



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