

Specialized repair and maintenance services

Damage management and specialized fitter services for graphite-, PTFE- and SiC-equipment and systems



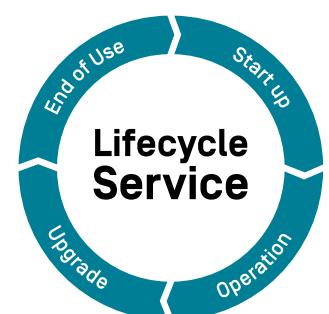
↑ Lifting of a DIABON® heat exchanger

Standard maintenance often is carried out by the companies that run the plants. Yet complex demands and special materials, such as graphite, require the support of a specialized partner. Our experience enables us to provide a full scope of services, from advisory and supervision right up to complex hands-on repairs.

We can set up extensive customer-specific maintenance and re-conditioning approaches to ensure uninterrupted high performance of your systems and equipment along the lifetime.

As unexpected equipment failure cannot be completely avoided, a reliable service partner is vital. We offer a structured damage management including high-quality troubleshooting combining fast response with our in-depth competence.

Our experienced and specialized fitters and experts will enable you to restart your system or equipment with minimal down-time.



Your benefits

- **Efficiency:** Access to specialized service and repair know-how for graphite, PTFE-lined and SiC equipment and systems.
- **Reliability:** Uncompromised focus on high quality execution and secure operational reliability of valuable installations.
- **Control:** Full transparency and control on service activities by structured alignment procedures.
- **Economic:** SGL Carbon repair know-how enables large variety of repair options before considering new equipment.
- **Agility:** Extensive and flexible global service network with a large team of Service specialists for troubleshooting and instant support [incl. service hotline].

Our offer

- Maintenance and repair; on-site (field) and off-site (in-house)
- Comprehensive portfolio of standard repair procedures and options
- Emergency procedures and troubleshooting
- Transparent investigation and failure analysis
- Equipment cleaning¹⁾ and re-conditioning services
- Genuine (OEM) and code compliant spare parts
- Inspection, diagnosis, and expert advice

¹⁾ partial limited availability

Transparency on repair and maintenance management procedure

Initial damage analysis

The extent of damage/scope of work determines whether the equipment can be repaired at the customer's site or best shipped to the manufacturing plant for repair. This naturally has an impact on [lead times] down time and cost.

Customer



Contact SGL Carbon and share information about damage/maintenance needs

- Prepare fabrication shop order number/photo of nameplate
- Prepare photos, sketch, explanation on damage or service request
- **New Option:** Use of SGL Carbon remote expert services for digital real-time support via video call

SGL Carbon



Agile expert support by SGL Carbon

- Provide ad-hoc support via phone/email/video call
- Share timely insights and recommendation about field service, in-house repair options and requirements

Customer

Decide about repair/maintenance option [field or in-house]

Field service

Preparation of field service

SGL Carbon

Prepare field service

- Prepare and provide field service offer
- Align fitter availability, tooling, and dispatching process

Customer

Place order for field service to SGL Carbon

- Prepare field service to ensure smooth execution (e.g. remove isolation; prepare lifting devices, auxiliaries, etc); checklists available by SGL Carbon

Execution of field service

SGL Carbon

Execute field service

- SGL Carbon provide after execution a field service summary incl. timesheet for review and customer approval

In-house repair

Preparation of in-house service / damage assessment

SGL Carbon

Prepare In-house assessment and repair service at SGL Carbon workshop:

- Prepare and provide quotation for disassembly and detailed damage assessment
- Provide details about Shipment Management and documentation requirements (e.g. decontamination statement, customs clearance, collection, etc.)

Customer

Place order for in-house damage assessment, provide necessary documentation and arrange shipment

- Place order for damage assessment to SGL Carbon
- Provide decontamination declaration and if required customs documents
[Attention: Be aware that without decontamination declaration we must send back the equipment due to ESHA requirements]
- Initiate shipment of equipment to SGL Carbon workshop; ship with decontamination documents attached to the equipment.
- Inform SGL Carbon about arrival data of damaged equipment

SGL Carbon

Arrival of equipment and execute damage assessment

In-house damage analysis of your equipment at an SGL Carbon site will reveal the details needed for a repair.

- Full transparency on damage evaluation (step-by-step guidance through damage assessment and repair options)
- Fast and transparent cost-/ benefit analysis of repairs for your further decision making
- Coordinated time schedule for repair works
- No repair works/further costs without your approval

Option: SGL Carbon can provide remote inspection of the damage after disassembly and a discussion with our repair expert which is of high value.

In-house repair and maintenance

SGL Carbon

Prepare and provide aligned repair offer based on damage assessment

The repair strategy and scope will depend on your requirements. SGL Carbon aims for full transparency and partnership with you at this stage.

Customer

Place order for repair/maintenance to SGL Carbon

SGL Carbon

Execution of aligned in-house repair and maintenance

New Option: Remote e-FAT after repair (e.g. TÜV/ASME/NBIC approval, final pressure testing of unit)

Service center and points of contact

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Certified Service Partner
DIABON® | POLYFLURON®



In addition to our global presence of Service Centers our Lifecycle Service is offered by Certified Service Partners of SGL Carbon to ensure a maximum of availability and a minimum of reaction time to our customers worldwide located.

All of our external service partners are continuously trained and fully equipped to offer standard maintenance procedures in the same quality as Service Centers. In any case our partners are available to take care of the specific request of our customers at any time.



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