



Safety – Health – Environmental Protection

SHE Brochure

(‘SGU-Broschüre’)

**For the
Maschinenfabrik Reinhausen GmbH
(MR)
and the
Reinhausen Power Composites GmbH
(RPC)
Construction and
Assembly Sites**

Safety and Environmental Management
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Safety – Health – Environmental Protection

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Safety and Environmental Protection at MR's Construction and Assembly Sites

Introduction

We at our company place very great value on **environmental protection** and **employee safety** (i.e., greatest possible safety for all employees, visitors, neighbors and the environment).

That is why it is important that we inform you of the rules and regulations that apply to your company and ours before you begin work at our plant. In addition, our company safety rules and regulations concerning your special area of work here at our company are **binding** for you.

The following information (except information that is not applicable) is intended to help you understand and also adhere to the rules and regulations of our company.

The applicable DGUV (DGUV, Deutsche Gesetzliche Unfallversicherung, German social accident insurance) rules, regulations, information and principles and any applicable law, regulation, standard or guideline (such as ArbSchG, BetrSichV, ArbStättV, GefStoffV, DIN standards, VDE and VDI guidelines, and so on) can be viewed at the department of work safety and environment or the standards office.

Disobeying the regulations (e.g., signs that prohibit, inform, warn or demand certain behavior as well as in-house directives) can endanger both yourself and our employees. Should you be unsure of what to do in case of unclear situations or instructions, please clarify this with your contact person.

The regulations of this SGU brochure must be adhered to by all companies that carry out work on the company grounds of MR (called "contractor" here). We reserve the right to use occasional random checks to determine whether the regulations of this SGU brochure are being adhered to at your/our construction and assembly site and in case of non-adherence to stop the work if necessary. Costs and damages resulting from the delays created thereby will be paid for by the contractor. However, we assume that the health of both your employees and ours is in the interest of everyone concerned and we hope that you will have an accident-free stay.

Reinhausen Group
Safety and Environmental Management

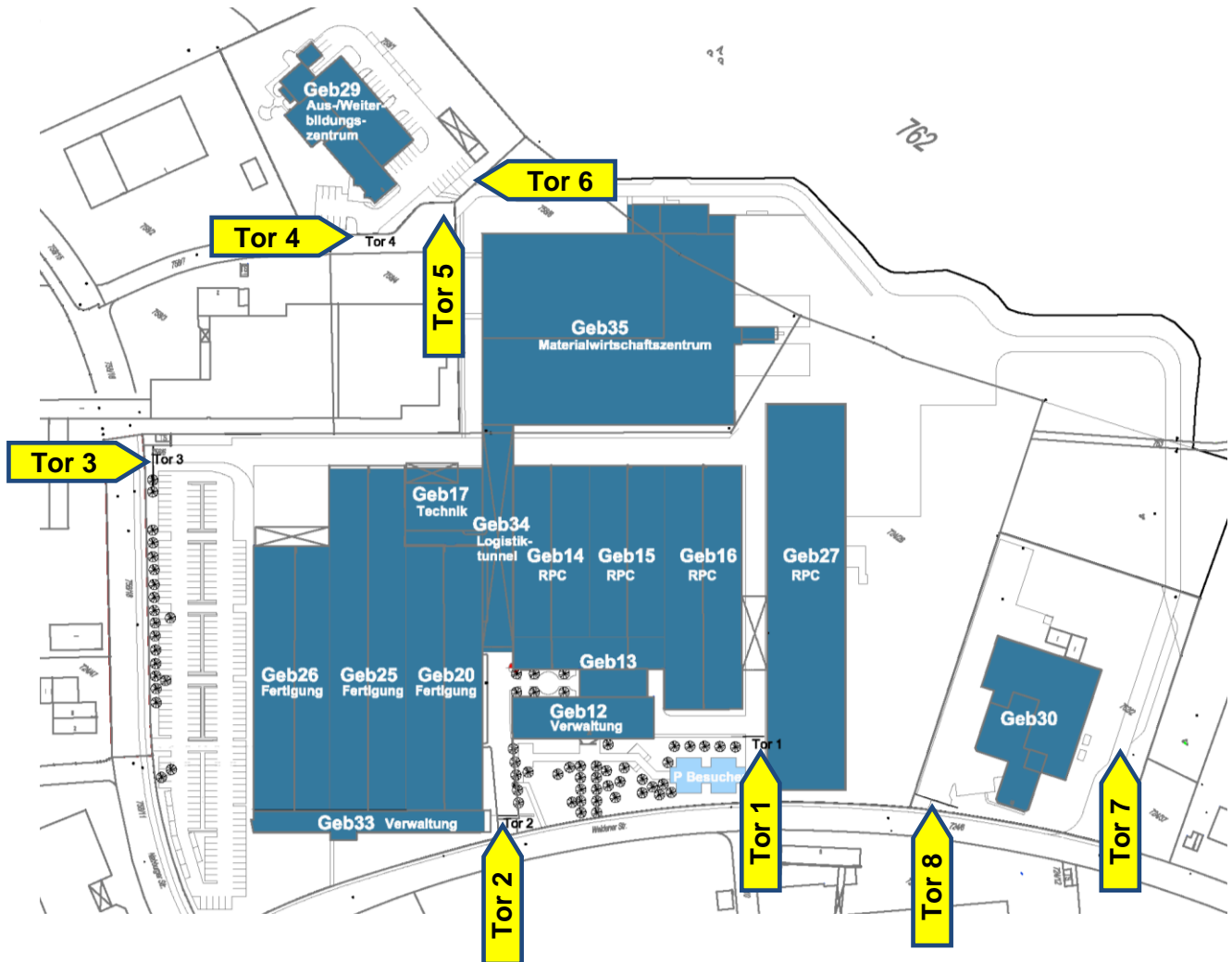
Maschinenfabrik Reinhausen GmbH (MR) Layout of the Reinhausen Plant

Falkensteinstrasse 8
93059 Regensburg







Maschinenfabrik Reinhausen GmbH, Reinhausen Power Composites GmbH Layout of the Haslbach Plant

Weidener Strasse 20
93057 Regensburg



In-House Regulations

1. It is agreed to that **highway traffic regulations** will apply to the MR plant grounds and parking areas. **Walking speed** (7 km/hr) will apply while on our plant grounds.
2. MR **parking spaces** are reserved for the exclusive use of MR employees. In case of legitimate demand, third-party companies will have access to the factory premises after registration at the reception. Furthermore marked parking spaces are available (Reinhausen: in the multi-story parking deck). Delivery vans will receive a **parking permit** at the gate. This must be clearly displayed in the vehicle. Private cars of non-company employees will not have access or parking authorization. Parking on company grounds is only permitted in designated parking areas. 
3. **Do not under any conditions park** in front of access or exit roads, escape or rescue routes, power supply facilities, fire engine access roads and on basement accesses.
4. Entry to the **plant grounds** is only permitted via the main entrance (gate) and after registration and receipt of a visitor's ID. When the work is completed, the plant must be exited by the main entrance after returning the **visitor's ID**. Employees of other companies must sign in and out at the gate when they **start** and **finish work** and each time that work is interrupted.
5. Prior authorization must be obtained from the Contractor for **working hours** before 7:00 a.m. or after 5:00 p.m. and on Saturdays, Sundays and public holidays.
6. **Access to other company departments** is not permitted unless necessary for the performance of current work. Access is not permitted otherwise.
7. All other companies (contractors) working for us must comply with the government regulations and the regulations of the Institute of Statutory Accident Insurance and Prevention (Berufsgenossenschaften). To the extent that **personal protective equipment** such as protective goggles, hard hats, safety shoes etc. are required, it is imperative that such equipment be worn.
8. The **use of freight elevators** is **not permitted** without prior instruction. Passenger elevators may not be misused as freight elevators.
9. Prior **notification** must be given to Facility Management or the responsible department concerning the **delivery of construction equipment**, systems or materials by external companies working on the building. Vehicles of any kind whatsoever (cars, trucks, forklifts, etc.) must be operated on company grounds by the employees of the external company in compliance with the signs and may only be parked in the designated areas. Other outside areas must be kept free and may not be used for parking. Mobile cranes may only be set up in the presence of someone from Facility Management or the maintenance department. Entrances to the construction site must be marked off in such a manner that no access of any kind is possible for unauthorized parties.
10. A **general ban on smoking** exists inside all buildings of the Reinhausen and Haslbach plants. Smoking is only allowed in designated smoking areas. Contact the Dortmund, Erfuhrt and Berlin locations for their smoking regulations. 
11. The consumption of **alcohol** is **prohibited**. 
12. The **preparation of drawings** or company-related publications and the use of cameras and tape recorders is not permitted without prior permission. 
13. To protect our rights, the samples and documents provided by us and the information obtained during the visit must be treated confidentially if not already common knowledge or known to the visitor.
14. **Entry to the canteen** is only permitted for the purpose of repair or maintenance work. If desired, the employees of external companies may eat lunch in the canteen (in-house telephone 1519). The meal must be paid for in cash. Seating for breaks must be provided at the construction site by the contractor himself. Drinks and meals may not be provided by other companies. Drink machiens are provided at different locations around MR.
15. If necessary, the employees of external companies may use the **sanitary facilities** of MR as agreed to with MR.

A) Responsibility at Construction or Assembly Sites

Contractor:

1. The MR department responsible for the performance of the planned construction and assembly work must be informed as to the responsible **supervisors of the contractor** before work begins. If not already done, this is usually done during registration at the gate. The gate then notifies the applicable MR department. The gate must also inform Building Management of any work on buildings, outside facilities or plant roads.
2. The contractors are obligated to provide all equipment and take all precautions which are required for **adherence to state and BG regulations (BG, Berufsgenossenschaft, German employers' liability insurance association)** or other conditions for the protection of the insured persons.
3. The contractor whose employees use the workplaces, traffic routes, scaffolding, plant equipment, and protective devices, etc. is responsible for ensuring the correct handling and using without prejudice to the civil and penal liabilities of the owner, manufacturer and suppliers of the contractor.
4. Construction and assembly work must be monitored by a **supervisor authorized to give directives (co-ordinator)**. This requires that the supervisor have sufficient knowledge. The fulfilment of his/her supervisory duties requires that he must always be continuously present while the work is in progress.

The supervisor's responsibilities include the following:

- Obtain the work release in writing from the contracting department of the client.
 - Present a copy of the work approval to the gate before work begins. No one will be allowed to enter MR until this requirement is fulfilled. This work approval must be carried for the duration of the above work at the job site and must be returned to the responsible parties at MR or to the stated MR contact partner after the work is concluded.
 - Ensure that work is carried out safely!
 - Provide training in safety at construction and assembly-related sites in a manner that is easily understood by foreign employees in particular.
 - Monitor the safety instructions and measures (daily!).
 - Coordinate measures regarding hazards arising from work being carried out by other companies.
 - Stop work until appropriate measures have been introduced when "imminent danger" threatens.
 - Check the construction and assembly equipment (scaffolding, etc.) for safety.
 - Protect existing buildings and facilities. Use suitable measures to avoid dust.
 - If waste water collects, do not use the sewage system without first examining the pollutants and reaching a prior agreement with MR.
5. When a contractor or subcontractor intends to have work done on **Sundays**, he must obtain the authorization himself early enough from the trade supervisory board.
 6. We must be notified **in writing** when **subcontractors are used**. Awarding (partial or full) orders to subcontractors does not release the contractor from his responsibility. He is obligated to instruct his subcontractor in all matters, in particular the safety measures. (Data sheet 4/work approval).
 7. **All types of storage media**, notebooks or PCs may not be used on machines and systems until approved by the CPIE department (tel.: 0941 4090 (8) 2266) or the OI department (tel.: 0941 4090 (8) 2600).

Client:

The client issuing the order (MR department) is the coordinating office!

The client has the **authority to issue instructions** to its contractors and their employees. Its presence or the ability to be reached during the work is always required so that the coordinating office (or representative of the authorizing officer) can fulfill its supervisory duties.

Its individual duties:

- Issue the work approval in writing (use form from MR's form folder).
- Provide suitable storage space for construction and assembly material.
- Brief the contractor regarding assembly site, activity, what to do in an emergency, sanitary facilities, use of the cafeteria.
- Ensure safe work processes by providing information to the MR departments involved, organization of close-off measures, internal general information as needed.
- Monitor the safety instructions and measures that have been agreed to.
- Coordinate measures in case of dangers due to the work of other companies.
- Approve the work after its completion.
- In case of "imminent danger," the coordinating office has the authority to stop the work until suitable measures have been implemented.

B) Setting Up Construction and Assembly Sites

1. In the case of foreseeable **accident and environmental risks**, an agreement must be reached between the divisions concerned (division heads, Facility Management, Production Planning) and the responsible construction or assembly site managers with regard to the necessary safety measures to be taken before a construction or assembly site is set up. The CPI safety and environment department must also be consulted.
2. Before construction or assembly begins, the person who will be responsible at the applicable company for the performance of the required **safety measures** must be clarified. This also applies to additional safety measures such as securing of traffic paths, coverings, guard rails, protective devices and similar (cf. data sheet 4 / approval of the work).
3. All **work areas** above or below which additional work areas are located (also grating) must be covered.
4. All **work areas** starting at a height of 1 m must be equipped with **railings** and starting at a height of 2 m also with boards and side rails. Open holes must be covered or enclosed in such a way that it is safe to walk on them.
5. All **accesses** and **traffic paths** to the various assembly sites must be kept free of stored goods.
6. The unavoidable creation of noise, dust or other **emissions** must be reported in sufficient time to the contact person or Facility Management. **Smoke detectors** may have to be turned off in order to avoid false alarms. **Unnecessary calling of the fire department** costs approximately €1000 and this will be charged to the party that called the fire department. When work is performed indoors, smoke and vapors from solvents (i.e., paints, cleaning agents, glue, resins) must be led off to the outdoors.
7. **Environmental pollution and hazards** of any kind caused by exhaust air, waste water, storage of trash, storage of fuel and so on must be strictly avoided.
8. The use of **devices belonging to MR** (e.g., machines, equipment and materials) is prohibited. Exceptions are only permitted when authorization by facility management or approval by the responsible company department is obtained.
9. Work involving **open fire** (e.g., welding, cutting, soldering, separating, etc.) always requires **written authorization** (permission slip) from MR. The contact person is the client from the side of MR (cf. data sheet 2).
10. The use of open fire (e.g., welding, cutting, soldering, etc.) in explosion-endangered areas (e.g., paint shop) is **always prohibited**. Approval of work in Ex areas can only be provided by the department of safety and environment or facility management. A separate work approval must be provided by the department that specializes in Ex areas.
11. **Trees** on company grounds must be protected. Facility management must be contacted regarding this before the construction site is set up. **Official permission is required for all tree felling jobs!**

C) Electrical Installations at Construction and Assembly Sites

1. **The contractor must always provide his own power distribution box with built in or mobile RCD-protection (Residual Current Device).** Otherwise the MR power supply can not be used. The built-in / used RCD must be suitable for the used electrical (working) equipment.

Please note: Speed-controlled electrical devices (for example via frequency converters) often require an RCD type B.

Only after special consultation with the Department of Electrical Maintenance, special protection sockets (with RCD protection) of the operational power network of the MR can be accessed. Other sockets may not be used.

2. Plant electrical maintenance is responsible for the correct type of **temporary power distribution box for construction site work** (if provided by MR) as well as its installation and maintenance, including installing the supply cables to this box.
3. **Changes** to the systems of the temporary power distribution box for construction site work to the extent that this box was provided by MR, may only be performed by plant electrical maintenance.
4. **Rubber hose lines** for non-stationary current consumers for connection to welding devices, welding transformers, light-weight electrical tools and heavy-weight electrical tools (construction machines, mobile motors) must comply with VDE regulations.
5. Approval from plant electrical maintenance must be obtained before any work is performed on existing **switching or distribution stations**.
6. The power must always be turned off or an effective protection against touching must be provided when work is being performed in the vicinity of open, unprotected, **voltage-carrying systems**. Plant electrical maintenance must be informed that the voltage will be turned off or that protection against touching is being installed early enough to avoid production downtimes.
7. **Switching voltage on and off** as well as installing and removing protective devices may only be performed by the plant electrical maintenance department of our company.
8. The **construction work to be performed**, equipment, machines, systems and so on must be provided under strictest adherence to the regulations and guidelines applicable to the particular area (e.g., DIN sheets, DGUV and VDE regulations). This applies in particular to the opening of holes and underground canals under traffic routes.
9. These measures also apply analogously to other **power lines**. MR's department of plant electrical maintenance must always be given prior notification concerning work on electrical lines and networks. Basic fundamental: Arbitrary manipulation of the power lines and equipment is prohibited.
10. Electrical work on or in the experimental field office or on systems which could affect the **experimental field office** may not be performed until permission is obtained from the head of the experimental field office.

D) Equipment: Tools - Machines - Devices - Vehicles

1. The **equipment** being used (machines, tools, devices, equipment, and so on) must comply with the product safety act or the ordinance on operational safety.
2. The operation of vehicles is subject to **road traffic regulations**.
3. Only **ladders** can be used that comply with technical regulations for safety in the workplace (Technische Regeln Betriebssicherheit, TRBS 2121) and that have been tested.
4. **Scaffolding** must be erected in compliance with the scaffolding regulations and be provided with toe boards, knee rails and chest protectors! Only scaffolding materials that are in good condition may be used. Extensive scaffolding must be erected by qualified personnel.
5. **Assembly scaffolding** in company departments must be secured in such a way that the people working there will not be hurt by falling objects. Moving the scaffolding while people are on it is strictly forbidden.
6. After **the assembly and construction work is completed**, the companies working there must clean up their work place and leave it swept clean. This also applies to roofs and pits. Any trash must be properly disposed of. The disposal services of MR are **not** available for this.
7. It is imperative that regulations DGUV-V 68 / DGUV Regel 100-500 section 2.10 be observed when your own or MR's **industrial trucks/lifting platforms** (if provided) are used! The fork-lift/lifting platform operator must be at least 18 years of age, be in possession of a valid driver's licence for industrial trucks and have been instructed in the handling of the lifting platform in accordance with the DGUV Grundsatz 3008-008 principle and the operation of lifting platforms by his employer. Moreover, there must be a written order for the contractor (company) for its employee for both the industrial truck and the lifting platform present at the work site and the work must have been coordinated with the client.
8. The use of **MR's own crane systems** by the workers of the contractor is only permitted if the workers have been instructed in writing by MR and briefed in the technical handling.
9. **Environment:** Excessive noise, exhaust fumes or leaks involving the escape of mediums (water, oil, gas, coolants etc.) that are the result of faulty or incorrect settings must be remedied immediately. Soil must be disposed of properly (see also Section G/Environmental Protection). **Accidents with an impact on the environment must be reported immediately (in-house emergency number 555).**

E) Civil Engineering Work

1. **Civil engineering work** (excavations, pits, canals etc.) may not be started until the contractor has obtained information from the responsible departments (facility management, plant maintenance (mechanical or electrical) about the position of live cables, and water, gas, benzine, oil and compressed air pipelines! **It is imperative that the instructions of our departments be observed.**
2. **Construction sites**, excavations, pits, floor openings etc. must be sufficiently secured, marked with warning signs and illuminated at night!
3. **Entering narrow spaces and containers**
The relevant regulations of the Institute of Statutory Accident Insurance and Prevention must be observed and complied with before entering containers, canals, pits, shafts and similar (e.g., DGUV Information 213-001, work in narrow spaces).

Notes:

- Establishment of the dangers
- Determination of whether there is sufficient air for breathing
- Selection of work procedures, devices, locations
- Specification of protective measures
- Rescue equipment
- Support personnel in sight and within earshot

F) Handling of Accidents

1. If an **accident** should occur at a construction or assembly site, our company paramedic will be at your disposal or, if available, our company physician.
2. **This in no way affects your own company regulations concerning the reporting of accidents to the authorities. In addition, it is imperative that every accident be reported to our department of safety and environment (telephone 0941 4090 (8)1080 or 0941 4090 (8)2211) or facility management (telephone 0941 4090 (8)2222).**
3. **Emergency Telephone Number (In-House Telephone) 555**
(The valid emergency telephone numbers are displayed on every company telephone.)
4. **Material damage** to installations, machines and buildings must be reported as indicated in item 3. Immediate safety measures must be taken in case of imminent danger.

Guiding principle:

People protection always takes precedence
over property protection!

G) Environmental Protection

1. **Waste** of any kind that accumulates at construction and assembly sites must be properly collected and separated and then carried off quickly for disposal.
2. No waste of any kind may be deposited in MR's own containers **without the approval** of the Department of Safety and Environment (0941 4090 (8)1080) or 0941 4090 (8)2211 or Facility Management (telephone 0941 4090 (8) 2222).
3. **Pollution of soil**, canal, groundwater or air with wastewater, oils, chemicals, etc. is strictly forbidden. **Such environmental accidents must be reported immediately (emergency number 555).**
4. We expect the use of **environmentally compatible work procedures**, working aids, working materials and trained personnel.
5. **Emissions** caused by machines, systems or work procedures must be minimized. This applies in particular to dust, smoke, noise and so on.
6. When operational and auxiliary materials are **stored**, the applicable environmental regulations must be adhered to.

H) Work Carried Out Alone

When a hazardous job is carried out by one person alone, the contractor must provide suitable technical or organizational personal protective measures in addition to the general protective measures. The contractor must ensure that the required systems, materials and personnel are available for the administration of First Aid or rescue from the danger. The client must be informed of these measures!

Data Sheet 1

Work on Natural Gas and Acetylene Lines



The following regulations must be strictly observed and complied with in order to prevent explosions, fires and accidents while working on acetylene, oxygen and natural gas lines.

1. Unexpected **dangers** must be expected while you are looking for the disturbance and fixing the problem. For this reason, bring along suitable tools and proceed cautiously while looking for possible sources of danger and take suitable counteractive measures.
2. The **employees** must be sufficiently informed by someone having the authority to issue instructions concerning the dangerous properties of substances that can be set free during operational disturbances or repairs.
3. The MR contact person must be present during such work!
4. **Work** that generates heat (e.g., drilling, sawing, cut-off grinding and so on) may only be performed when all **safety precautions** called for in the regulations have been taken.

Written permission ("**Erlaubnisschein für feuergefährliche Arbeiten**", permit for work involving an increased risk of fire) is required for all of these jobs (cf. data sheet 2)!

5. **Hot work** on pipelines may only be performed after all acetylene residues have been flushed out with flame-quenching gases.
6. When a section of the pipeline is cut off for the purpose of **closing it down**, **the pipe with the gas** must be reliably closed with blank flanges or blanking plates.

Nitrogen must be used to extract all the gas out of the section of the pipeline that has been cut off.

The gases that escape from pipelines during blowing out or flushing must be safely disposed of.

A gas-free state must be verified with a gas detector device after flushing.

7. **Oxygen lines** must be thoroughly degreased after work, repairs or alterations.
8. **Clothing that is permeated with oxygen** must be changed or aired sufficiently before coming into contact with open fire or other sources of ignition danger.

Data Sheet 2

Safety Measures During Fire Hazardous Work (e.g., Welding)

1. **Approval of hot work (Erlaubnisschein für feuergefährliche Arbeiten, permit for work involving an increased risk of fire)**

If the job **involves open fire** (e.g., welding, cutting, soldering, cut-off grinding, etc.), **approval** must be obtained from MR. The person to contact is the client (i.e., the MR department). **Welding work or similar may not be started until after a written authorization (Erlaubnisschein für feuergefährliche Arbeiten, permit for work involving an increased risk of fire) has been issued.**

Written authorization does not free the executing party from his obligation to use due diligence. Fire extinguishers or buckets of water must always be available.

A copy of the permit must be left at the gate: a yellow copy before starting work, a blue copy after the work is finished.

Special cases: In urgent cases, a master maintenance technician or a master division technician (whoever happens to be present) can also issue an “Erlaubnisschein für feuergefährliche Arbeiten”. Forms are available at the gate!

2. **Clearing the area**

Everything that can start burning must be removed from the endangered area. If necessary, also from adjacent rooms. Paper, trash and glass bottles must also be removed from the endangered area!

Better to clear 5 meters too much than 50 centimeters too few!

3. **Covering**

Flammable objects (e.g., wooden constructions, bituminous sheeting, insulation, etc. which cannot be removed from the endangered area must be covered so that the objects do not come in contact with flames, sparks, splatters, and hot gases or are not heated by heat conductance (via metals, pipes or steel constructions) and can then catch fire! Lines made of plastic or rubber hoses must also be protected. Cover with moist sand, moist soil or suitable tarpaulins. Do not use fire blankets! Moisten wooden objects well before covering.

4. **Sealing off**

Be sure to use fireproof sealing for all openings, joints, cracks, pipe ducts and open pipe lines which lead from the vicinity of the workplace to other rooms! Clay, gypsum, mortar or moist soil can be used. Never use cloth rags, paper or other flammable materials!

5. **Smoke and heat differential detectors as well as linear smoke detectors**

Some factory halls and rooms are equipped with smoke and heat differential detectors or linear smoke detectors.

Work that causes cloudy air (e.g., fog, smoke, dust of all kinds, steam, etc.) can trigger the smoke, heat differential or linear smoke detector. When an alarm occurs, the municipal fire department is obligated to appear at the plant.

That is why smoke, heat differential and linear smoke detectors should be turned off during such work (the “Erlaubnisschein für feuergefährliche Arbeiten” permit gives the permission to do so). When the work is finished, the above mentioned departments must be informed so that the smoke, heat differential and linear smoke detectors can be re-activated again.

Caution: Linear smoke detectors can also be triggered by the careless handling of long objects or ladders. That is why linear smoke detectors require special attention in halls and rooms!

Data Sheet 2

6. Tools, gas bottles

Use of bottled gas during welding

- Deposit and store bottles in accordance with the regulations!
- The fittings of flammable gases must be inspected annually!
- After work is finished, close and screw on caps if necessary.

7. Precautionary measures

Provide a suitable fire extinguisher.

Bucket, hand-held fire extinguisher or fire extinguisher connected to the water pipe with mouth piece and sufficient length hoses. The welder must be very familiar with the fire extinguishers that are provided. The welder must know where the nearest fire alarm box and telephone are and must be able to access all endangered rooms.

8. Alarm in case of fire

**Emergency call : In-house telephone no. 555
Hammer open fire alarm box**



Fire department: 112 (cell phone) 112 (in-house telephone)

9. Check several times after work is finished

- After work is finished, carefully check the surrounding area of the work place for smoldering, fire pockets, etc. as well as suspicious heat and smell of fire!
- In an emergency, break open floors or coverings if there is reasonable suspicion of fire. It is particularly important to check repeatedly. If the welder himself is not able to remain near the work long enough, he must find a substitute, a reliable colleague or a suitable person to watch the situation carefully. Any other measures (follow-up inspection) beyond this should be agreed with the reception. Remember that most of the fires caused by welding work do not break out until several hours after the end of the work!
- The fire extinguisher must also be kept available as long as the situation is being monitored so that, in an emergency, extinguishing or cooling can take place immediately. Checks must not only be performed in the immediate vicinity of the work but also in all adjacent rooms, including the rooms above and below, which could be endangered by the work. This is the reason these rooms must remain accessible until the check is concluded.

Every welder is responsible for his work himself !

**REMEMBER:
TAKING PRECAUTIONS IS BETTER THAN PUTTING OUT FIRES!**

Data Sheet 3

Handling Hazardous Substances

Hazardous substances are substances which are marked as being (for example)

- | | |
|----------------------------|---|
| - Supportive to combustion | - Caustic |
| - Extremely flammable | - Irritating |
| - Easily flammable | - Carcinogenic |
| - Flammable | - Sensitizing |
| - Very toxic | - Teratogenic / endangering to reproduction |
| - Toxic | - Mutagenic |
| - Harmful to health | - Environmentally hazardous |



Special regulations apply here which are specified in the ordinance on hazardous substances.

Applicable in particular:

According to the ordinance on hazardous substances (GefStoffV), each container must be labeled with information on the special hazards in addition to the name of the substance, the address of the manufacturer or distributor, a hazard symbol and the designation of the hazard.

Before handling hazardous substances, the **hazards** must be determined and necessary **measures** taken without delay.

In addition, the general medical **regulations** related to work and hygiene **must be adhered to**. Necessary, suitable **protective equipment** must be kept available at the site and used when necessary.

When **work place concentrations** must be expected which require measurement of the conditions, the work place must be assessed appropriately by the contractor.

Work and substance-related **operating instructions** must be kept available. This must include protective measures, dangers, waste disposal, first aid, behavior in case of danger – written so that employees can easily understand the content. The employees must receive instruction at least once a year.

When chemicals are involved, a list of the substances to be used must be provided to the client at Reinhausen (ordering department, user or work safety & environment) for approval before work begins.

Substances other than those approved may not be used and also not stored. The quantities stocked must be in line with the requirements

Use in other areas or for other jobs is not permitted without another approval!

The required operating instructions or safety data sheets must be kept on site.

Problems such as leaking fluids, etc. must be reported immediately to the gate (in-house tel. no. 555).

Flammable liquids



- All paints and paint additives, solvents, paint thinners, benzines, adhesives and cleaning agents are classified as flammable liquids.
- Flammable liquids must be stored in closed and appropriately marked containers! Storage of amounts greater than 100 liters must be reported.

The containers **must be marked** in accordance with the ordinance on hazardous substances (GefStoffV).

- Remember that solvents and thinners are often more dangerous than benzines.

Data Sheet 3

4. Flammable liquids may only be kept at the place where work is being carried out in the **amounts** which are required for the continuation of work. Spilt liquids must be wiped up immediately and correctly disposed of by experienced personnel in compliance with the required precautionary measures. Wiping up with clothes or similar is possible but caution is required (i.e., wick reaction). Place cloths in airtight containers until they are disposed of.
5. **Flammable liquids** which already become volatile at room temperature may mix with the air and, starting at a certain concentration, create explosive mixtures. Most of the flammable gases and vapors **are heavier than air** and collect near the bottom. They can easily create clouds which creep slowly over the floor and ignite somewhere else. There is a **danger of anaesthetization** when used in pits.
6. For the stated reasons, every **spark** caused by unprotected, spark-creating devices, machines or tools must also be avoided when **handling** flammable liquids and in potentially explosive rooms.

In this connection it is also necessary to point out the danger of electrostatic **charging** and **discharging** which can be caused in particular by synthetic fiber clothing.

7. **Open fire**, open light and smoking in potentially explosive and flammable rooms as well as while handling flammable liquids are strictly prohibited.
8. When handling flammable liquids and solvents, wear protective goggles, impermeable gloves and, if necessary, an apron!
Do not wear work clothes that are very soiled with paint residues and solvents.
9. Steel wool, cleaning rags and similar that have been soaked in flammable liquids should only be stored in non-flammable containers with cover. Never leave in work clothes (cf. no. 4).
10. **Flammable liquids may only be used for cleaning purposes when approved by the work safety department !**
11. Any leftover solvents must be disposed of correctly. **Used** flammable liquids and solvents may not be allowed to come in contact with drains or ground water.
12. Memorize **where fire extinguishers** and fire blankets **are kept**. The fire blankets are primarily provided for wrapping around people whose clothing has already caught fire and not for covering objects that are in danger of catching fire.

General notes:



1. **All traffic routes, escape routes and emergency exits must be kept free and may not be cluttered up.**
2. There is a danger of suffocating if carbonic acid leaks out into the room with systems that are equipped with **property fire prevention that use carbonic acid to extinguish the fires** (electrical discharge machining room, tool grindery)!
3. **Hot work** on all types of barrels and containers are strictly prohibited!
4. Follow the **instructions** of your supervisor and immediately report to him **malfunctions** and damages of any kind to equipment and objects.

Data Sheet 4

Safety checklist for preparing work on buildings and equipment

	General Preparations	Yes	No	Remarks
1.	Are there any special client construction site regulations and have you informed the outside company of these? (SHE brochure)			
2.	Do you know who has been commissioned by the outside company to manage and supervise the construction and assembly site? Name?			
3.	Have you visited the site yourself? Are you known as the contact person for the work and will you be available?			
4.	Are the outside companies acquainted with the conditions on site and the work order for the planned construction and assembly work?			
5.	Does the contractor (outsidel company) have qualified personnel at its disposal and are these persons present on site?			
6.	Is the lead time realistic and does it include time for unforeseen problems?			
7.	Has it been specified exactly what has to be done in the case of malfunctions in the work performance?			
8.	Have measures been planned for emergencies?			
9.	Might it be necessary to contact other outside companies?			
10.	Will the required work materials and protective equipment be provided?			
11.	Has safe handling of hazardous substances been ensured, incl. disposal and are approvals available?			
12.	Does the company require a permission slip for welding, soldering, abrasive cutting, thawing, and so on?			
13.	Can dust be created during the work that makes it necessary to turn off fire alarms in the affected area while the work is being performed?			
14.				
15.				

	At the construction/assembly site	Yes	No	Remarks
1.	Can the paths to the workplaces be walked over without tripping?			
2.	Are the ladders in use undamaged and does their use comply with the manufacturer's instructions?			
3.	Is work on ladders only carried out in exceptional cases? (max. 2 hours)			
4.	Have mobile working platforms (mobile scaffolding) and scaffolding been erected properly and are they stable?			
5.	Was the scaffolding inspected for any noticeable defects before being used (e.g., missing side guardrails and damaged planking)?			
6.	Have your employees received a written order for the use of aerial work platforms?			
7.	Is the regular inspection (BGV A3) of electrical hand tools performed every 3 months or every 6 months?			
8.	Does the site power distribution box have a fault current circuit breaker (RCD with ≤ 30 mA tripping) and is this inspected regularly? (up to 16 A)			
9.	Have lifting accessories for the hoisting gear (cranes) been inspected?			
10.	Is personal protective equipment being used? (Hard hats, shoes, goggles). Have the employees been instructed in their correct use?			
11.	Is there a first aid box at the construction site?			
12.	Is someone qualified in first aid?			
13.				

	Final inspection of the construction/assembly site	Yes	No	Remarks
1.	Has the work order been completed as per the instructions?			
2.	Were all work materials and protective equipment available?			
3.	Were there any malfunctions?			
4.	Were there any critical situations?			
5.	Were there any problems with the clients or outside companies?			
6.	Were there any problems with the employees (e.g., misconduct)?			
7.	Could improvements be made in the future?			

Approval of work

Permission for work at/in (location/system/system parts/construction site/part of building):

Work to be done:

Company performing the work:

Contractor same as operator Yes no

Briefing of the employees of the affected area necessary Yes no

Operator informed Yes Name/dept.: _____ / no: Reason:

The following specialized departments were informed or contacted (name/tel. no. 0941 4090 (8) XXXX):

CPIE / CPIM / CPIF /

CPIS / Operator / Other /

Information was received on the following local conditions and dangers.

Please tick

Information on dangers	Information / dangers
<input type="checkbox"/> Electrical systems/IT	
<input type="checkbox"/> Hydraulic systems	
<input type="checkbox"/> Pneumatic systems	
<input type="checkbox"/> Floor loads / statics	
<input type="checkbox"/> Hazardous substances /hazard to water	
<input type="checkbox"/> Incoming water/waste water	
<input type="checkbox"/> Wastes	
<input type="checkbox"/> Adjacent/affected machines & systems	
<input type="checkbox"/> Traffic routes/vehicles	
<input type="checkbox"/> Danger of fire/ex zones/gas	
<input type="checkbox"/> Storage area	
<input type="checkbox"/> Emissions	
<input type="checkbox"/> Fall from heights	
<input type="checkbox"/> Other	
<input checked="" type="checkbox"/> Welding permit required?	<input type="checkbox"/> Yes: _____ <input type="checkbox"/> No: _____
<input checked="" type="checkbox"/> Fire alarms deactivated?	<input type="checkbox"/> Yes: _____ <input type="checkbox"/> No: _____
Working time approved out of standard SHE Brochure <input type="checkbox"/> Yes <input type="checkbox"/> No (after 5:00 p.m. and on Saturdays, Sundays and public holidays)	

¹⁾In case of shortage of space use the flipside

²⁾Bulkhead firewalls must be temporarily closed before leaving the workplace at the end of the day. This must be done to a size of Ø 10 cm or 10 x 5 cm (e.g. with a pillow of bulkhead firewall)

Granted by the responsible party/parties at MR: _____

(Person to contact if not identical): _____

Time period of the work (date and time): _____

Responsible person of the company _____

(For annual approval/remote approval)

Responsible supervisor on site performing the work: _____

(for temp. approval)

The references to dangers were explained to the responsible party performing the work or the responsible supervisor. The responsible party of the contractor must ensure that all employees of his company (also subcontractors) working at MR were informed of the above stated dangers and the SGU brochure.

Storage media of all types, notebooks or PCs may not be used on machines and systems until approved by CPIE or OI.

- Signature of person responsible at MR -

- Signature of person responsible at the company performing the work -

A copy of the approval of work must be presented at the gate before beginning work. This is a condition entering the MR GmbH. It must be carried at the place of work for the duration of the above work and returned after conclusion of the work to the responsible party at MR or the stated MR contact person.