

Safety instructions for the R&D-magnet-test facility

General instructions:

- If there is a fire or an accident call 2500.
- **Wear a helmet.** Helmets are available in front of the entrance.
- **Recommended: ear protection.** Ear protection is available in front of the entrance.
- **Open fire in the hall are forbidden.**
- **Watch for crane work. Stay clear of hanging loads.**
- **The escape routes are signed as yellow/black stripes on the floor.**

- If you hear anomalous noise (whizzing or whistling) leave the hall immediately and inform the cryo control room (at 2000) in the first floor.
- It is not allowed to go and explore areas which have nothing to do with the R&D-magnet-test facility. If you want to visit the HERA cryo system ask the cryo control room.
- It is not allowed to work on modifications of the experimental set-up alone. At least two people must work together, except for data taking.
- It is forbidden to work on systems, if the voltage is switched on.

In case of fire

- Small fires elsewhere in the hall may be attacked by you with a fire extinguisher. You can find one on the outer wall of the control room. If you succeed inform F. Sefkow, H. Lierl, J. Schaffran and Technischen Notdienst (Tel.:5555).
- If there is a larger fire, call the emergency number (2500). Leave the hall as fast as possible.

In case of accident

- If a person is injured call the **Technischen Notdienst at 2500**

Explain them: **Who** you are, **what** happened **where**, **when** and **if there is danger of life** (strong bleedings, electrical injury, etc.).

They will call the ambulance and guide it to the building 54. Do not directly call ambulance or fire brigade yourself!

- Remember your First Aid Training. The next first aid supplies are available in the orange locker in the direction of the compressors and additional in the workshop and the cryo control room.

Radioactive compounds

- Before you work with radioactive compounds ask Mr. Zeuner (at 3150) for instructions.

Magnetic field

- Ramping the magnet is expert work. Do not ramp the magnet without permission.
- It is not allowed to work inside the fenced area if the solenoid is switched on. The forces on tools due to the magnetic field can be very high and you can squeeze parts of your body.
- Make sure that no people with pacemakers enter the prohibited area. This area is signed.
- Do not touch or enter areas which are signed as electrical area (current leads, dump switches, etc.). In case of problems inform the experts and the security administrators.

- If you need a fire extinguisher on an electrical system make sure that the distance between the extinguisher and the system is larger than one meter.

Cryogenic

- Be aware that the R&D-magnet is a pressure vessel. Perform no mechanical work (like drilling) on the system.
- Keep distance to the big safety valve and the pressure relieve valve (vacuum). In case of overpressure it may release cold Helium.
- Be aware that you are surrounded by liquid gases. If there is a high heat introduction (accident) the volume will increase by about a factor of 700 rapidly. In case of a quench it is possible that you hear a loud noise.
- If you hear anomalous noise (whizzing or whistling) or if you see fog leave the hall immediately and inform the cryo control room (at 2000) in the first floor.

- Due to the possibility that liquid oxygen can be produced on the cold pipes, it is not allowed to use fire in the hall.
- If you see liquid gases (oxygen) protect your body. The best protection is a large distance between you and the danger zone.
- Do not touch frozen pipes. It is possible that you stick and cannot withdraw without injury. If it is necessary to touch them use gloves.
- If you work with liquid gases use gloves and glasses for protection.

High voltage (HV)

- If you work with high voltage systems make sure that you signed the area with the standard warning sign.
- It is forbidden to work on the HV system, if the HV is switched on.
- If you need a fire extinguisher on a HV system make sure that the distance between extinguisher and the HV system is bigger than one meter. For HV systems use CO₂ fire extinguisher only.

Gas system

- Read the instruction manual before you work with the gas system.
- The gas system is equipped with a safety system. If you integrate your own equipment **make sure that you do not destroy the camber.**
- Argon is heavier than air and can accumulate in low areas. For this reason it is not allowed to enter the pothole next to the control room. If you need access, call the cryo control room or ask the safety administrator. **Make sure that they do not enter without an oxygen sensor.** Argon is invisible and odourless.
- **Before braking a gas line make sure that the system is without pressure. Do not work mechanically on a running gas system.**