Diving Underwater Work Safety Meeting Kit

WHAT’S AT STAKE

Underwater work refers to any type of work or activity that takes place underwater. This can include various industries and professions that involve tasks performed beneath the surface of water bodies such as oceans, seas, lakes, rivers, or even artificial water bodies like swimming pools.

WHAT’S THE DANGER

POTENTIAL RISKS AND HAZARDS UNDERWATER WORK

- The risk of drowning is one of the most significant dangers in underwater work. Any failure or malfunction of diving equipment, loss of air supply, or entanglement can lead to a potentially fatal situation if not promptly addressed.
- Also known as “the bends,” decompression sickness occurs when dissolved gases, mainly nitrogen, form bubbles in the bloodstream due to rapid ascent from depth without proper decompression stops. This condition can lead to severe pain, joint and muscle damage, neurological symptoms, and, in severe cases, death.
- Barotrauma refers to injuries caused by changes in pressure, both during descent and ascent. It can affect various parts of the body, including the ears, sinuses, lungs, and teeth.
- Underwater work often exposes divers to potentially dangerous marine life and aggressive species. Encounters with sharks, jellyfish, venomous fish, or other marine creatures can result in injury or even death if proper precautions are not taken.
- Divers may encounter entanglement hazards, such as fishing nets, ropes, or vegetation underwater. These entanglements can restrict movement, limit air supply, or lead to panic.

- Poor visibility underwater can make it challenging to navigate, communicate, and perform tasks. Divers may lose sight of their surroundings, equipment, or fellow divers, increasing the risk of accidents, disorientation, or becoming trapped.
- Fatigue and physical strain can impair judgment, coordination, and reaction times, increasing the risk of accidents with underwater drivers.
- Underwater work often takes place in challenging environments such as offshore locations, polluted waters, or confined spaces.
- Any malfunction or failure of diving equipment can put divers at risk. Issues with breathing apparatus, communication devices, diving suits, or other tools can lead to potentially life-threatening situations.
- Working underwater can induce panic anxiety, and other psychological factors which can impair a diver’s ability to respond effectively to emergencies.

HOW TO PROTECT YOURSELF

UNDERWATER WORK SAFETY GUIDELINES

- All personnel involved in underwater work should undergo proper training and certification specific to their roles. This includes learning about diving techniques, equipment operation, emergency procedures, and underwater hazards. Divers must possess the necessary certifications such as SCUBA (Self-Contained Underwater Breathing Apparatus) or commercial diving certifications.
- Before any underwater work commences, a comprehensive dive plan should be established. This plan should include a thorough risk assessment, identifying potential hazards and establishing measures to mitigate those risks.
- All diving equipment, including breathing apparatus, diving suits, helmets, communication devices, and tools, should be regularly inspected and maintained to ensure proper functioning.
- The buddy system is an essential practice in underwater

work. Divers should always work in pairs, with constant communication and visual contact. Buddies serve as safety backups for each other, providing assistance in case of emergencies or equipment failures.

- Clear emergency procedures should be established and communicated to all workers involved in underwater tasks. This includes procedures for handling equipment failures, loss of visibility, entanglement, decompression sickness, and medical emergencies.
- Proper dive time limits and decompression procedures should be followed to prevent decompression sickness (also known as “the bends”). Divers must adhere to the prescribed maximum dive times and ascent rates based on the depth and duration of the dive.
- Effective communication systems should be in place to maintain constant contact between divers and support personnel on the surface. This can be achieved through the use of underwater communication devices, such as diver-to-diver communication units, underwater radios, or hand signals.
- Divers should undergo regular medical examinations to ensure they are physically fit to perform underwater work. Conditions such as cardiovascular problems, respiratory issues, or ear and sinus infections can increase the risks associated with diving.
- After completing a dive, it is important to prioritize post-dive care. Divers should take appropriate rest periods and avoid activities that could further strain their bodies. Hydration, nutrition, and adequate sleep are crucial for recovery and reducing the risk of decompression sickness.
- Continuously monitor and assess the underwater work site and conditions during the project. This includes monitoring water currents, visibility, weather conditions, and potential changes in hazards or environmental factors.
- Take appropriate safety measures to mitigate the identified risks. This may include establishing safety zones, installing barriers, using dive flags or buoys to mark the work area, and implementing proper lighting and visibility

aids.

SKILLS, KNOWLEDGE AND QUIALITIES FOR UNDERWATER WORKERS

- **Develop Strong Swimming and Diving Skills:** Regularly practice and maintain swimming and diving abilities.
- **Follow Safety Procedures and Guidelines:** Follow established safety protocols.
- **Develop Technical Skills:** Develop and enhance your technical skills related to the job.
- **Adaptability and Problem-Solving:** Develop adaptability and problem-solving skills to address unforeseen circumstances effectively.
- **Attention to Detail and Quality Work:** Follow procedures meticulously and ensure that tasks are completed accurately.
- **Teamwork and Collaboration:** Underwater work often involves working in teams or with colleagues.
- **Continuously Learn and Improve:** Stay updated with industry advancements, and safety protocols.

FINAL WORD

Underwater work provides valuable contributions to scientific research, resource extraction, environmental conservation, infrastructure development, and various other sectors.