HOW TO PREVENT AND REDUCE TRENCH ACCIDENTS

Doug Riseden | Technical Support Manager, Krausz USA, the makers of HYMAX

Working in trenches are among the most dangerous work environments that utility workers and contractors can find themselves in. I have literally spoken to hundreds of pipe repair professionals across the country about this issue, and do everything I can to have it taken seriously. While the threat of being killed can't be taken lightly, I often say that perhaps the worst thing that could happen is an injury that leaves workers disabled and a burden to their family. The costs in terms of lost wages, medical expenses and home care are staggering, and change lives forever.

According to the National Occupational Safety and Health Institute, there are an average of 54 deaths per year involving trench work and cave-ins in the U.S. alone with more than 1,000 injured. The tragedy of these statistics is that many of these accidents are preventable by simply having the right people on site with the right equipment and knowledge. Here are four critical steps to prevent and reduce trench accidents, and help ensure that workers come home safely after working within trenches.

1. STOP TAKING SHORTCUTS/IMPLEMENT STANDARD OPERATING PROCEDURES

Probably the simplest and most effective action to prevent trench accidents and death is to stop taking shortcuts and do what's required to maintain safety. Sometimes installers won't use a trench box, for example, because they'll only be in the ditch for short time. When I was at one site, I heard a worker give the excuse that "nothing's happened yet" so it wasn't a problem.

This kind of mentality is very short-sighted and dangerous. Every trench wants to cave in due to pressure on the walls of the ditch and gravity. You might have gotten away with not having an accident without the proper equipment or safety standard operating procedures but that just means you are getting closer and closer to the time you will have an accident.

Standard operating procedures need to be created and, more importantly, followed every time without exception. These include making sure you have the tools you need, such as trench boxes, ladders, gas detectors and other equipment required for successful trench repair operations. These procedures must also include having a competent person on site who has the combination of training and on-the-job experience in soil analysis, protective systems (e.g. shoring, sloping and shielding) to properly oversee the safety of the operation.

Usually the crew leader, a competent person should evaluate the ditch prior to anyone entering it, and identify and evaluate hazards on a continuous basis throughout the job. Most critically important, a competent person must have the authority to correct any hazards to the point of shutting down an operation. Any employee should have the ability to stop a job for these same reasons or refuse to enter a job which they consider a hazardous. This is not a popular thing to do sometimes but taking this kind of action should be acceptable within the context of maintaining a safe work environment.

2. GET THE PROPER TRAINING

Before even getting into a trench, all workers must have the proper training that will help them stay safe while working in the ditch. The National Safety Council, the U.S. Department of Labor, Occupational Safety and Health Administration (OSHA) and many private companies provide the training that all workers need to have. These classes include shoring, ditch safety and training to have a competent person on work sites. It is also critical to stay current with certifications as required for each one.

3. ESTABLISH LINES OF COMMUNICATION

Perhaps as important as anything is communication between crew members, local emergency services, media and residents. Before the job starts, supervisors should have a brief meeting to ensure all team members understand what will take place at the work site, what their role is, and where they will be. Supervisors can draw attention to hazards, processes, equipment, tools, environment and materials to inform all workers of the on-site risks.

For large, planned projects make sure that other department heads, finance officers, affected residents and the media are all part of your meetings. Your willingness to make these stakeholders a part of your project and future projects shows your professionalism and willingness to consider all parties affected. Your city commissioners will be more willing to listen to future funding requests, and approve projects based upon your past and ongoing performance. Residents love to be informed about changes in their neighborhood and how their tax dollars are being used. It's smart business!

Be in touch with local emergency services and discuss the hazards involved with trench work, and how they would respond to an emergency cave-in situation. It's also critical to be in communication with the emergency dispatch service (e.g. 911) for your area. Explain what will be required from them to handle an emergency involving a confined space or trench entry, and the special services required within such an environment. You may want to sit down with the emergency services workers prior to any

operation and discuss the hazards associated with trench operations. After obtaining details from emergency services, share this information with the installation crew, explain how rescue crews will respond and what workers can expect from them.

4. USE THE RIGHT PRODUCTS

When making repairs in trenches, time is of the essence. The less time workers are in the ditch, the chances of something going wrong also decrease. Having the right product on hand to make the repair can make all the difference in completing the job quickly and safely. The critical factor is being prepared with the right products on hand.

Make sure that you keep good records of pipes found in the ground each time a repair is made. With the correct information on pipe size and material, you can build your repair inventory and ensure you'll be ready when an emergency arises. It's important to choose reliable, large OD range repair couplings and repair clamps with large OD ranges that can transition from one type of pipe to another, making repairs faster and easier.

The HYMAX 2 Flip Gasket is the latest version of the proven HYMAX coupling that has two top-facing bolts, wide range and dynamic deflection of up to 4° on each end to reduce pipe damage. The HYMAX 2's flip gasket gives installers the flexibility to quickly adjust the width of the coupling's gasket to accommodate different pipe ODs within the product range. If the gasket is too small, you can flip the gasket out to allow for more space. If the gasket is too big, you can flip it back in to make the size smaller. Gasket removal mistakes are also eliminated as the gasket's size can be adjusted as necessary without ripping out one of the gasket layers.

The HYMAX VERSA is an all-in-one stainless steel product that can be used as a coupling or wrapped around pipe as a repair clamp. It can couple pipes by either cutting and reconnecting pipe, or wrapping the damaged section in one easy step. HYMAX VERSA offers versatile performance by connecting a wide variety of piping materials and diameters, and gives installers the flexibility to make repairs within a wide range of circumstances.

HYMAX 2 Gasket

All the above four steps are critical to prevent and reduce trench accidents. Stop taking short cuts and ensure that standard operating procedures are created and implemented. All workers need to have the proper training, and communications with crews and emergency services are vitally important to handle any unexpected circumstances. Finally, make sure you have the parts you need to minimize time in the ditch. At the end of the day, it's up to us to create a safe working environment for installation crews. We must make every effort to do all that we can to ensure the job is done right, and workers go home safe and sound.

ABOUT THE AUTHOR

Doug Riseden is the Technical Support Manager for Krausz USA, the makers of HYMAX, and has worked in the public utility field for over 20 years. His extensive experience with water and wastewater repairs and operations includes working for municipalities and private contractors, and providing water services to the NATO-led security mission in Afghanistan as part of Operation Enduring Freedom.