Respiratory Protection NCDOT

Why is Respiratory Protection Important?

The road construction is connected to the building, maintenance, repair, and renovation of infrastructure and roadways. It is often one of the certain indicators that a certain area is advancing in terms of economy. The more infrastructure is being built, the more progressive the area is.

Even though road construction may appear to be a fascinating one, there are risks involved with the activities that are linked with it. One of the dangers that is frequently encountered is the possibility of being exposed to toxic particles and odors.

These dangers have the potential to cause damage to the lungs and can lead to cases of lung illnesses that range from extremely acute to fatal.

For NCDOT to be able to offer appropriate safeguards and protect their personnel when they are exposed to such risks, it is essential to get familiar with these hazards since they are crucial.

Common Respiratory Hazards

It is vital to first understand the frequent risks that have the potential to cause injury to the lungs of workers to gain a better understanding of why respiratory protection is required on job sites. This will provide us with a more accurate understanding of the importance of the precautions that must be taken during work to protect workers from the risks that are there.

Respiratory Protection from Silica Dust

Silica, or specifically known as crystalline silica, is common in road construction sites. It is often found in rocks, sand, gravel, and clay, which are common materials used. Crystalline silica has the possibility of being breathed in when working with materials that contain this product. In road construction, grinding and drilling can often produce these fine silica dusts, which are dangerous when inhaled. Breathing in silica can cause silicosis, which is a very serious lung disease that can cause death. Other than silicosis, breathing in silica can also cause lung cancer, chronic obstructive pulmonary disease (COPD), and kidney diseases.

Paint Vapor

There are several applications for painting in NCDOT. It may be used to make lanes and intersections. There are respiratory risks associated with paints. Volatile chemicals included in paints have the potential to be detrimental to our respiratory systems. Both immediate and long-term effects are possible. Breathing problems, eye, ear, and nose irritation, and dizziness are possible short-term side effects. Long-term consequences may result in irreversible harm to the lungs and other organs.

Engine Exhaust

On the job site, engine-powered machinery and equipment are essential. Strong heavy equipment with high-torque diesel engines, such as cranes, loaders, bulldozers, and excavators, provide the power needed for heavy lifting and material handling. Additionally, equipment powered by engines offers versatility and mobility. They can be utilized in places where power is not available. Despite their ease of use on the job site, they nonetheless carry risks that we should be aware of. Their engine exhaust is one of the risks they pose to the respiratory system. Inefficient engine combustion produces carbon monoxide, a naturally occurring byproduct. Inhaling the odorless gas carbon monoxide might result in headaches, disorientation, and lightheadedness. Furthermore, individuals can die by breathing in high amounts of carbon dioxide.

Ways to Provide Respiratory Protection

After going over the dangers that were mentioned, it is now common knowledge that the human lungs are extremely susceptible to the dangers that are present on job sites. These dangers have the potential to cause irreversible harm to the respiratory system; hence, it is imperative that employees take precautions to protect themselves from these dangers.

Provision of proper PPE

It is common sense that soldiers wear appropriate armour before going to the battlefield. Not wearing any would make soldiers very vulnerable to flying bullets, explosions, and falling debris. At job sites, like soldiers deployed to war, employees should wear the proper gear to counter and protect themselves from the existing hazards in the field. These gears are called personal protective equipment, or for short, PPE. And since we have discussed the respiratory hazards present in the workplace, appropriate respiratory protection PPE should be provided to shield the human lungs from the dangers of inhaling silica, asbestos, fumes, vapors, gas, and particulates.