Abrasive Wheels

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Introduction:

Covered under the Provision & Use of Work Equipment Regulations 1998 (PUWER) and the Supply of Machinery (Safety) Regulations 1992 as amended, both sets of regulations set out the requirements for the prevention of accidents from the use of abrasive wheels. The HSE have produced document HSG17 with the aim of providing guidance for those exposed to the usage of abrasive wheeled equipment.

Knowledge Check:

What are the significant hazards associated with abrasive wheels?

Drawing in - Objects touching the wheel can get pulled in causing pinch points to fingers or contact with the wheel.

Wheel Breakage - Section of the wheel being ejected at high speed which could cause severe injury.

Dust - Potential for respiratory issues

HAVS - Lead to semi or permanent damage.

Noise - Leading to damaged or hearing loss.

What Are Abrasive Wheels?

In simple terms, abrasive wheels are part of a tool, both portable and fixed that rotate at speed designed for grinding, cutting various materials.

This includes tools such as table saws, bench grinders, angle grinders, chop saws and petrol saws.

The abrasive wheel itself is typically a wheel made of abrasive particles that have been bonded together. There are two main types of abrasive wheel used, those made using:

Organic Bonds - These are formed using a mixture of components including resin, rubber and shellac and cured at a low temperature. These wheels are typically shock resistant and hard wearing.

Inorganic Bonds - These are boned by an inorganic material such as metal, porcelain or glass. Normally used for more precision cutting and grinding applications.

BEWARE—Abrasive Wheels are Dangerous. It is a legal requirement under PUWER that anyone required to use abrasive wheels must attend formal training.

What Training Do I need?

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Abrasive wheels rotate at extremely high speed and have been designed to cut through or grind even the toughest of materials. This includes hardened steel, so wouldn't take a second to cause serious and potentially life changing damage to a person.

It is guidance given from the HSE that users of abrasive wheels undergo suitable and sufficient training in order to use the equipment. Abrasive wheels come in many types, forms and variations so the user must be competent in knowing what and how to use the equipment safely.

There are a number of training courses available in the market place. These include practical sessions, 'train the trainer' sessions and accredited practical NPORS courses. Note that an awareness course alone is not suitable or sufficient to demonstrate competence for using abrasive wheels. A face to face course is required.

An awareness course provides the basic understanding for the types, risks and basic fundamentals for working on and around abrasive wheels but will not provide you with the hands on experience of handling such equipment.

Before, During & After Use - What Should You Do?

Discuss amongst your team any considerations, processes, procedures that you should consider before, during and after using abrasive wheels? Provide some justification and reasoning for your thoughts too….

Below are some examples:

Is the person using the equipment competent, experienced and trained?

Is there a safe system of work in place to help protect the operative and others around them?

Are they and others wearing the applicable PPE? Including hearing, eye/face and respiratory protection?

Is the wheel being used suitable for the task?

Pre, During, Post checks complete?

Is the wheel speed suitable for the machine speed?

Has the equipment had a PAT or been serviced recently?

Who in the area will the works affect and have they been informed?

Where is the tool being stored pre and post use? Is this safe?

Do you need to apply any cooling fluid during use?

IF YOU ARE NOT COMPETENT AND TRAINED TO USE THE EQUIPMENT, DO NOT USE IT!

Register

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