Zero incidents
Zero harm
Zero compromise
Keeping you healthy and safe, every day at work.

ESSENTIAL STANDARD no. 35

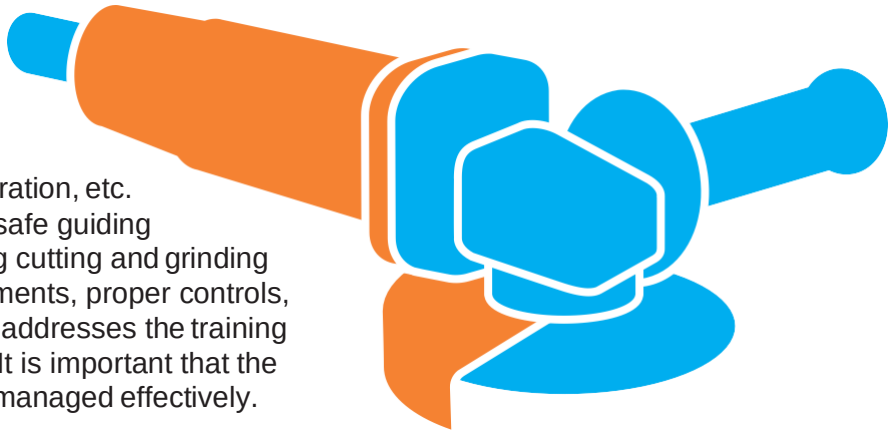
# Abrasive Wheels

Thames Water

## KEY MESSAGES

- Anyone operating abrasive wheel equipment must be trained, authorised (permit to cut) and demonstrate competency
- Keep abrasive wheel equipment properly maintained
- Have a sufficient workspace available that's clean and clear of debris

## 1. Introduction



Work is done on Thames Water assets every day that requires mechanical cutting and grinding. These works can be on pipes of differing materials, wood, metals, concrete, asphalt or on surface preparation, etc. The aim of this standard is to set out safe guiding principles and standards to use during cutting and grinding operations. This includes risk assessments, proper controls, permits, alternative methodology and addresses the training and competency standards required. It is important that the associated risks are understood and managed effectively.

## 2. Definitions

**Abrasive Wheeled Equipment:**
Machines using wheels with abrasive compounds to cut or grind.

## 3. Competence


It is expected that all abrasive wheel equipment operators will undertake an industry-recognised training course that includes practical operation of the equipment. This course is expected to supplement the basic classroom-based training normally received.

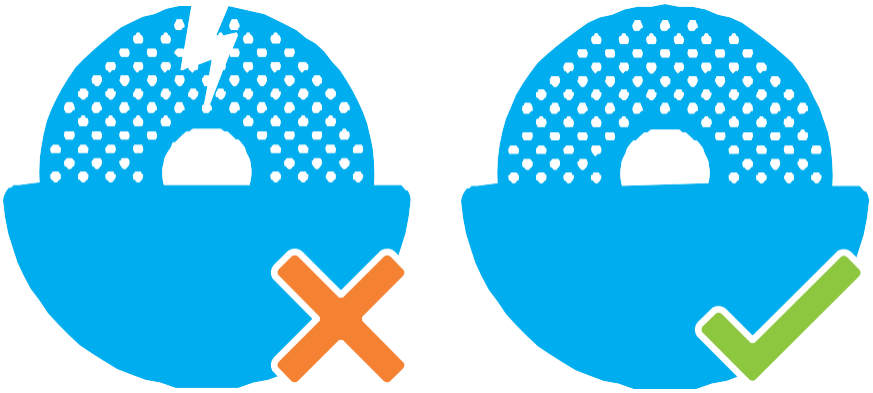
The competence of operators will be assessed prior to being allowed to use abrasive wheels for the first time.

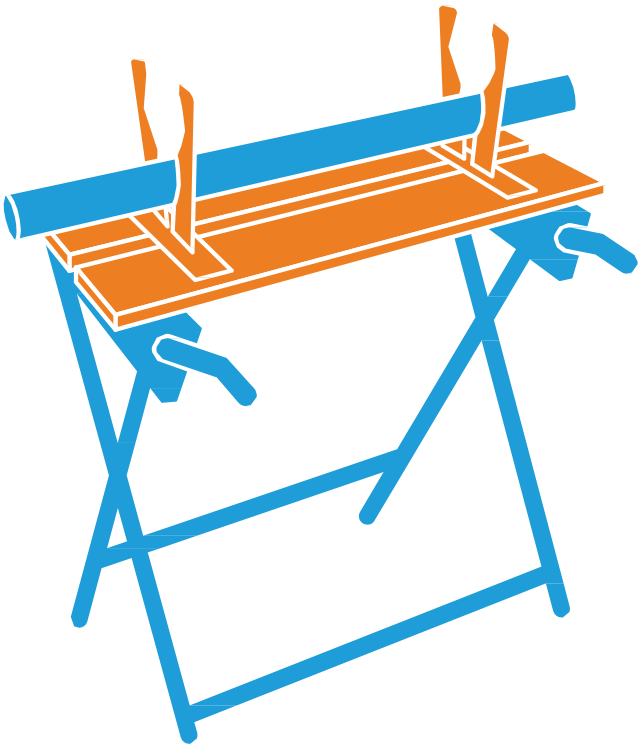
Regular, ongoing Coaching and Competency Assessment should be undertaken for operators to ensure skills are maintained and developed.

Only authorised, trained and competent people should be allowed to use cutting or grinding equipment.

## 4. Equipment

The Provision and Use of Work Equipment Regulations 1998 need to be understood and implemented to ensure the compliance and safety of equipment for use. Equipment, accessories and cutting blades should be compatible and inspected prior to use, paying particular attention to ensure safety features such as guarding, and emergency stops are fully functioning. Equipment must also be regularly serviced and maintained in accordance with manufacturer's requirements.





Given the hazards involved, substitution should be employed wherever possible to avoid the use of abrasive wheels. All abrasive wheel cutting equipment or cutting methods selected are to be challenged to ensure alternatives have been assessed and the safest practical option has been selected. A hierarchy of equipment should be provided to operatives for ease and accuracy of equipment selection.

Users must understand their responsibility to ensure that equipment has not been interfered with or is not misused.

Item to be cut needs to be secured, such as by means of a workbench or sawhorse, if not in-situ, to avoid movement during the cutting operation.

Where appropriate, damping and extraction measures should be employed to address dust and shavings.

The blade must be removed, and the tool stored and secured safely before transportation.

## 5. Working Environment

The workspace should be unobstructed, with adequate task lighting, and free from clutter. Sufficient working room must be available around the item to be cut, which allows the operator to perform the cut without impediment.

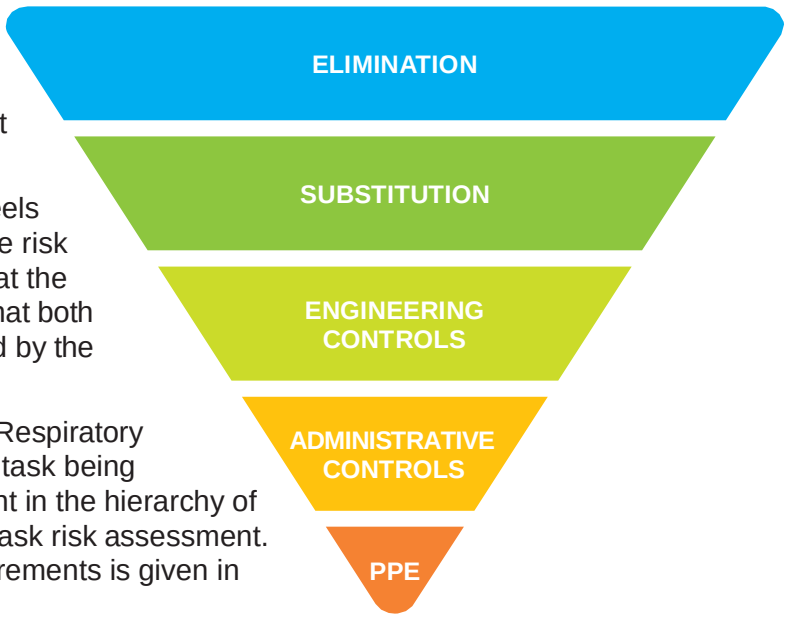
## 6. Hazards

The hazards involved can be both mechanical and non-mechanical. These should be addressed in the risk assessment.


## 7. Risk Assessment

The guidelines outlined in Section 3 of the Thames Water Health, Safety and Wellbeing Management System are to be followed in undertaking the risk assessment associated with the cutting operation.

Significant risk exists in using abrasive wheels for cutting or grinding. It is important that the risk assessment undertaken is sufficient and that the hierarchy of controls is applied to ensure that both operatives and those who could be affected by the operations are safeguarded effectively.




Personal Protective Equipment (PPE) and Respiratory Protective Equipment (RPE) specific to the task being undertaken must be worn. This final element in the hierarchy of controls should be specified as part of the task risk assessment. Further information on minimum PPE requirements is given in *Essential Standard 24*.

## 8. Permits to Cut


Controls are to be detailed in a ‘Permit to Cut’ which is to be put in place prior to undertaking abrasive wheel operations.

The permit will reference the risk assessment and will ensure that alternative methods of performing the task and alternative equipment have been reviewed prior to final selection. The work equipment must be suitable for its intended use.

All Permits to Cut must be authorised by a non-working supervisor or a more senior manager with the appropriate knowledge to give approval. This can be done remotely if the permit, together with any supporting documentation, drawings and photographs can be delivered to the authorising manager and returned as approved/not approved using an electronic application.

# Abrasive Wheel Cutting Permit

This permit must be completed by the Abrasive Wheel Operator and authorised by your Supervisor prior to any cutting take place on site.

| Section 1: Task Details | | |
|---|---|---|
| Location of Work / Site Address | | |
| Type of Material to be Cut | | |
| Please describe the task that you will be | | |
| | | |
| | ☐ Task Specific (One off cut required) | ☐ Day (Repetitive cuts required) |
| | | |

| Section 2: Equipment Details | | | |
|---|---|---|---|
| Abrasive Wheel Make and Model | | | |
| Serial Number | | | |
| Tool Hierarchy Number | | | |
| If you are not using the equipment stated as first choice in the tool hierarchy, please explain why you have selected to use this piece of equipment | | | |
| | | | |
| What dust suppression will you use? | | | |
| ☐ Water | ☐ Extraction | ☐ N/A | |
| What are using to hold the material while the cut is taking place? | | | |
| ☐ Sawhorse | ☐ Work Bench | ☐ Clamps | ☐ Ratchet Strap |

## Section 3: Pre-Cut Checks

| | | | |
|---|---|---|---|
| Please confirm that you have been trained on this abrasive wheel and have a current EUSR/CITB abrasive wheel qualification? | | Y | N |
| Please confirm that you are wearing arc/flame retardant coveralls, hard hat, safety boots with metatarsal protection, gloves, goggles and ear defenders? | | Y | N |

What type and model of Respiratory Protection Equipment will you be wearing whilst performing this task?

| | | |
|---|---|---|
| ☐ insert company standard | ☐ insert company standard | ☐ Other: |

| | | | |
|---|---|---|---|
| Have you been face fit tested for the mask that you will be using to perform the cut? | | Y | N |
| Have you carried out a visual inspection of the cutting equipment? Is it free from defects/damage? | | Y | N |
| Are the guards secure, adjustable, and free from damage on the machine being used? | | Y | N |
| Is the abrasive wheel the correct size, shape, type and speed for the machine and task and in accordance with the manufacturer's guidance? | N/A | Y | N |
| If you are using an electrical machine, does it have an in-date PAT test clearly displayed on the machine? | N/A | Y | N |
| Is the material being cut secure, stable and have balance points been used and put in the correct place? | | Y | N |
| Is the work area around where the cut is to take place free from obstruction and is the access clear? | | Y | N |
| Do you have a risk assessment and method statement covering this work and does it provide sufficient detail for your task? | | Y | N |
| Have you been briefed by your Supervisor/Ganger on this task and do you fully understand what you have been advised? | | Y | N |

**If NO is answered to any question in this section, work must not proceed.**

## Section 4: Abrasive Wheel Operator Sign Off

I confirm I understand the content of this permit and will undertake my duties strictly in accordance with the control measures identified in this permit and associated RAMS. I have undertaken my pre-cut checks as per Section 3. I understand that if there is any change to the agreed works that I must contact my Supervisor before continuing.

| Name | | Signature | | Date | |
|---|---|---|---|---|---|

## Section 5: Supervisor Sign Off

I authorise the use of the abrasive wheel for the task as detailed in this

Comments:

| Name | | Signature | | Date | |
|---|---|---|---|---|---|