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## SAFE OPERATION

### of Abrasive Wheels / Power Tools for Cutting & Grinding

REVISION HISTORY	ISSUE DATE	DESCRIPTION	REVIEW / STATUS

<b>PREPARED BY:</b>  <b>QHSE ENGINEER</b>	<b>REVIEWED &amp; APPROVED BY:</b>  <b>SR. PROJECTS ENGINEER</b>
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## 1. SCOPE OF WORKS

The work method statement is Safe Operation of Abrasive Wheels / Power Tools for Cutting & Grinding.

## 2. PURPOSE

- 2.1. The purpose of this standard HSE procedure is to provide guidance on the safe operation and use of abrasive wheels used as high-speed power tools for grinding and cutting operations on construction sites or in offices and households.
- 2.2. Project management including the project manager, HSE manager and discipline engineers are responsible for the implementation of this standard procedure.
- 2.3. Any person using a high-speed tool with the abrasive wheel attached should be trained and assessed as competent before them using the tool on-site.

## 3. HAZARD IDENTIFICATION AND RISK ASSESSMENT

- 3.1. When an abrasive wheel shatters, the results are often serious and sometimes fatal.
- 3.2. Many of these incidents happen because the wheel is being operated at too high a speed, or the wrong wheel for the task has been chosen.
- 3.3. It is essential therefore that all persons who fit or mount abrasive wheels are trained and competent, guards are fitted to the machines and eye protection is worn by the operatives all the time.

## 4. LIST OF RISKS ASSOCIATED WITH ABRASIVE WHEEL

- 4.1. Wheel bursting
- 4.2. Contact with wheel
- 4.3. Hit by flying materials
- 4.4. Entanglement
- 4.5. Exposure to noise
- 4.6. Exposure to dust
- 4.7. Exposure to fume (in confined or restricted space)
- 4.8. Improper storing of wheels/discs

## 5. CONTROL MEASURES FOR SAFE OPERATION

- 5.1. Once a trained person has been deemed competent their name will be entered into the site training register and appointed to use such a tool.

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- 5.2. Where the appointed person is found to have fitted a wheel incorrectly, the appointment can be revoked from the register and the person retrained before being permitted to use that equipment again.
- 5.3. The tool operator must ensure that only the correct wheel is used for the machine and material to be worked on.
- 5.4. The RPM should be marked on the wheel and the machine, the (RPM) of the machine should not exceed that of the wheel.
- 5.5. The machine spindle and flanges should be in good condition and the flanges of equal diameter, and not less than one-third that of the wheel.
- 5.6. The flanges should be recessed on the side next to the wheel and the drive flange keyed to halt any slipping possibility.
- 5.7. The correct tool should only be used for changing wheels and care should be taken not to overtighten flanges.
- 5.8. Make sure that the tool is properly isolated /disconnected from the energy source whilst the blade is being replaced.
- 5.9. Guards should be in good condition, properly adjusted and secured in position.
- 5.10. On bench-mounted grinders, the machine should be securely fixed, with all guards and rests properly adjusted and set at the correct distance from the wheel. (Rests should be no more than 3-millimetres away – Working Gap).
- 5.11. Loose clothing, which could become entangled with the machine/wheel, should not be worn.
- 5.12. Eye protection and earmuffs/plugs should always be worn. Mandatory warning signs are to be displayed in noise.
- 5.13. Care should be taken when operating portable machines in enclosed areas, to ensure adequate ventilation is provided.
- 5.14. If dust is being generated, then suitable respiratory protection should be worn.
- 5.15. Suitable protective footwear should always be worn when using this type of machinery.

## 6. STORAGE OF ABRASIVE WHEELS / DISCS

- 6.1. Storing the wheels is of great importance, stacking these wheels one on top of each other could lead to disastrous outcomes due to the wheels not being able to breathe and collecting moisture.
- 6.2. When fitted to machines and suddenly turning at High RPM these wheels can fracture and shatter.
- 6.3. The wheels should be stored on a steel peg/pin vertically and spaced out.
- 6.4. To minimize deterioration, wheels must be stored in a room which is dry and not subject to extreme temperatures.
- 6.5. It is recommended that the wheels should be marked with the date they are received from the supplier.

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- 6.6. Older wheels should be issued before newer wheels and if there is any doubt, or if wheels have been in stock for more than three years, the manufacturer should be consulted about their suitability for use.
- 6.7. Suitable racks, bins or compartmented drawers should be provided to accommodate the various types of wheels used.
- 6.8. Most plain and tapered wheels are best supported on their edges or central support.

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## 7. EMERGENCY CONTACT NUMBERS

Project Engineer	
HSE Engineer	
Police	
Ambulance	
Fire	

## 8. MANPOWER RESOURCING

<b>Total</b>	

## 9. APPENDICES (AS APPLICABLE)

Risk Assessment (Attached)

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