

Task Risk Control Sheet

Use of Abrasive Wheels and Angle Grinders

RCS No: NR/L3/MTC/RCS0216/SP01
Issue: 3

Key Risks !

- Ejected Particles (including sparks, etc)
- Contact with disc
- Motor Kickback
- Wheel / Disc Jamming
- Disc Shattering

Personnel Involved

E&P	✓
S&T	✓
Track	✓
Off Track	✓
Property	✓

Tools / Equipment

Abrasive Wheels
Angle Grinders

Plant

None

Key Risks	Controls	Implemented By
Pre Use Checks	<ul style="list-style-type: none"> • Planned preventative maintenance programme shall be implemented • Only trained and competent staff shall use abrasive wheels • Pre use visual inspection for damage prior to use and check equipment is within its inspection date 	Line Manager Team Leader Competent Staff
Sparks, airborne particles or dusts	<ul style="list-style-type: none"> • Use of Personal Protective Equipment may include: <ul style="list-style-type: none"> ➢ Safety goggles to BS EN 166 1.B ➢ Dust mask to EN149 ➢ Flame retardant overalls / trousers or chaps and spats ➢ refer to specific plant TRCS for detailed PPE requirements • Remove all flammable material prior to starting work • Where fumes will not disperse one of the following shall be used: <ul style="list-style-type: none"> ➢ Local exhaust ventilation ➢ Respirator ➢ Positive flow system • Follow instructions of COSHH Assessments and controls • Use screens, guards and exclusion zones where necessary 	Team Leader / All Staff
Being struck by ejected particles due to bursting of wheel / disc	<ul style="list-style-type: none"> • Discs shall be correctly stored • Pre-inspect disc, including checking against inspection date (3years shelf life from date of manufacture) • Use and correctly position guards • Check that discs are compatible for grinder (check RPM of disc against RPM of machine) • The correct grinder shall be used for the task and material to be cut / ground • Run new disc free of load at full throttle for a short period before use • Replace blade/disc when any adverse vibration is detected • Burst discs shall be reported immediately to Team Leader/Line Manager/Area Workforce Safety Advisor 	Line Manager Team Leader / All Staff
Stroboscopic effect on rotating wheel	<ul style="list-style-type: none"> • Check that any lighting within workshops is designed to prevent stroboscopic effect 	Line Manager
Ignition of flammable substances	<ul style="list-style-type: none"> • Remove all flammable materials / liquids / gases before work starts • Use of a Hot Work Permit where necessary 	Team Leader / All Staff

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Contact with disc causing lacerations or entanglement with disc	<ul style="list-style-type: none"> Always use guards and check that they are properly adjusted No loose clothing shall be worn No hanging jewellery shall be worn 	Team Leader / All Staff
Kickback from motor	<ul style="list-style-type: none"> Plan preventative maintenance programme for all tools Use trained and competent operators Pre-inspect equipment, including checking against inspection date Use equipment at full throttle Maintain firm foothold and balance Eliminate pinching by supporting and / or clamping work piece Do not cut / grind anything above shoulder height Use both hands and grip handles firmly Be extra vigilant when inserting disc into existing cut 	Line Manager Team Leader / All Staff / COSS
Vibration	<ul style="list-style-type: none"> Use abrasive wheel at full throttle Use both hands and grip handles firmly Gloves may help to prevent vibration injury by keeping hands warm and dry. Anti vibration gloves are not a control factor Rotate staff to reduce exposure or include rest periods as required Example amounts of work to meet EAV & ELV (in 8 hr shift):- <ul style="list-style-type: none"> EAV: 40 minutes of trigger time ELV: 2hr 40 minutes of trigger time Refer to SMF/SE/0311 Small Plant HAVS & Noise Data Sheets for further information 	Team Leader / All Staff / COSS
Hand / Arm Vibration or Lacerations due to incorrect cutting technique	<ul style="list-style-type: none"> Support work piece at all times and maintain a firm foothold and balance Always cut material at full throttle Cut with blade fully vertical i.e. 90° angle to work piece Only use cutting edge of the disc Only use edge of wheel (not end) when grinding Move disc slowly backwards and forwards Use correct feeding pressure Use correct disc for task being undertaken <ul style="list-style-type: none"> Type 41 or Type 42 for cutting Type 27 for Grinding 	Team Leader / All Staff
Jamming of the wheel / disc	<ul style="list-style-type: none"> Stressed rail shall be flame cut prior to disc cutting Use of rail clamps – Rails shall not be cut free hand 	Team Leader / All Staff / COSS
Abrasive Wheels	<ul style="list-style-type: none"> Unplug machine before fitting a wheel Use the proper tools to change/fit wheels. Check that the appropriate wheel/disc is used for the task to be undertaken <ul style="list-style-type: none"> Type 41 or Type 42 for cutting Type 27 for Grinding 	All Staff Team Leader
Eye Damage	<ul style="list-style-type: none"> Wear correct eye protection to BS EN166.B 	Staff
Noise	<ul style="list-style-type: none"> Ear protection to EN352 shall be worn when using angle grinders The noise level at the operators ear is 106dB Hearing protection shall be worn by any operators or non-operators within 15m of angle grinding operations Refer to SMF/SE/0311 Small Plant HAVS & Noise Data Sheets for further information Set up safe warning system (i.e.: Touch Lookout) 	Team Leader / Staff