OPERATING INSTRUCTIONS

FLEXTOOL SINGLE HEAD CONCRETE GRINDER FCG-250

Version 1.0 (April 2024)

FOR MORE INFORMATION VISIT flextool.com.au

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INTRODUCTION

Thank you for your selection of Flextool equipment.

Flextool has specialised in the design and manufacture of quality products since 1951 and have taken care in the assembly and testing of this product. Should service or spare parts be required, prompt and efficient service is available from our extensive dealer network.

The goal of Flextool is to provide power equipment that helps the operator works safely and efficiently. The operator is the most crucial safety component for this equipment and using caution and sound judgement is the best way to prevent injury. While we cannot cover all potential hazards, we have highlighted some key points. Operators should pay attention to and follow Caution, Warning, and Danger signs on equipment and in the workplace, as well as reading and following the safety instructions for each product in the operating instructions manual.

It is important to understand how each machine operates. Even if you have had experience with similar equipment previously, inspect each machine carefully before use. Get the “feel” of it and familiarise yourself with its capabilities, limitations, potential hazards, how it operates, and how it stops.

APPLICATIONS

The Flextool Single Head Concrete Grinder FCG-250 has been specifically designed for concrete surface preparation in small and medium domestic and commercial projects. It is ideally suited for surface removal of paint, epoxy and adhesive residues from concrete floors, levelling high spots and preparation of concrete substrates prior to the application of coatings.

FUNCTIONS AND KEY FEATURES

The Flextool Single Head Concrete Grinder FCG-250 is fitted with 1.8 kW single phase motor that operates from a standard 10 Amp, 240 V power outlet. The combination of the direct drive system and the motor positioned directly over the grinding head, allow for efficient and aggressive grinding.

Designed for professionals, the FCG-250 has a detachable grinding head for easier transportation, a folding handle with adjustable handlebar, easy access control panel and a central lifting hook.

The grinder is fitted with a unique floating shroud systems that adjusts to the floor profile ensuring a tight seal with the floor capturing harmful dust from escaping the grinding head when used in conjunction with a quality H-Class dust collector.

The Flextool Single Head Concrete Grinder FCG-250 includes the following key features.

GENERAL SAFETY AND HAZARD INSTRUCTIONS

Always follow the safety instructions outlined in this manual and review the associated product Risk Assessment prior to operating this equipment. Ensure that safety information and equipment decals are always well-maintained and legible. Compliance with safety instructions is mandatory.

For additional safety information relating to engines, motors and batteries, please refer to the manufacturer's Operating Instructions.

RISKS AND HAZARDS

- NEVER allow an untrained person to operate equipment without adequate instruction.
- ENSURE all users read, understand, and follow the operating instructions.
- SERIOUS INJURY may result from improper or careless use of this equipment.
- NEVER operate this equipment without personal protective equipment.
- NEVER operate this equipment when feeling unwell due to illness, fatigue, or medication.
- ALWAYS keep a first aid kit and appropriate fire extinguishers in accessible location.
- ALWAYS follow appropriate lifting and site handling procedures.

MECHANICAL HAZARDS

- DO NOT operate the equipment unless all protective guards are in place.
- ENSURE where applicable to remove spark plugs, disconnect battery from motor and isolate power cable from power outlet prior to undertaking any maintenance and repair.
- AVOID contact with hot surfaces such as engines, batteries and motors, as this can lead to severe burns.
- KEEP hands and feet clear of rotating or moving parts to avoid injury.
- ONLY trained and competent personnel should perform equipment repairs and maintenance.
- ONLY licenced personnel should perform electrical repairs and maintenance.

FIRE AND EXPLOSION HAZARDS

- DO NOT operate this equipment in combustible environments.
- DO NOT operate this equipment in the vicinity of sparks, naked flames or other sources of ignition.
- DO NOT smoke near equipment.
- IMMEDIATELY discontinue operation if damage to wiring or other electrical components is identified.
- ALWAYS ensure power leads are fully uncoiled during operation.

NOISE HAZARDS

- EXCESSIVE NOISE can lead to temporary or permanent loss of hearing.
- WEAR approved hearing protection to limit noise exposure.

VIBRATION HAZARDS

- EXCESSIVE or prolonged exposure to body and hand vibration, can cause temporary and permanent injury.
- ENSURE any abnormal or excessive vibration in equipment is reported and repaired.
- ALWAYS grip controls as lightly as possible, whilst in full control, using vibration absorbing gloves.

PERSONAL PROTECTIVE EQUIPMENT

- WEAR appropriate personal protective equipment as outlined in the safety decal section of this manual.

ENVIRONMENTAL SAFETY

- ENSURE correct and safe disposal of waste, fuel or oil in accordance with local authority guidelines.
- ONLY operate equipment within prescribed times as determined by local noise control laws.

SILICOSIS AND RESPIRATORY HAZARDS

- Workplace processes such as crushing, cutting, drilling, grinding, sawing or polishing of masonry, stone, concrete and other man-made products may produce dust containing crystalline silica. Exposure to crystalline silica can be extremely harmful to your health, causing a wide range of serious or fatal respiratory diseases, including silicosis. Some authorities have even classified respirable crystalline silica as a known carcinogen that has the potential to cause cancer.
- To reduce the risk of exposure to crystalline silica, it is recommended to use a H-Class dust collector or vacuum system in conjunction with this equipment to capture dangerous dust partials. It is also crucial to strictly adhere to all safety advice included within this manual.
- Flextool also recommends that all operators of equipment used in the above listed activities familiarise themselves with the “Working with silica and silica containing products” safety handbook available on the Safe Work Australia website: www.safeworkaustralia.gov.au

ADDITIONAL HAZARDS

- ALWAYS maintain a clean and safe work environment, free from obstacles and tripping hazards as slips, trips and falls are major causes of serious injury or death.
- ALWAYS maintain good footing when operating the equipment.
- NEVER expose electrical equipment and leads to water.
- NEVER add weight to the machine to make the grinder work harder. Instead reduce the number of segments on the grinding plates to increase the performance.
- ENSURE if an extension cord is used, it is suitable for outdoor use and is in good working condition. Never connect multiple extension cords and limit the extension cord length to 20 metres. Do not operate the equipment using coiled or tangled extension leads.
- ENSURE when equipment is used in a wet/damp environment that a residual current device (RCD) safety switch is used to reduce the risk of electric shock.
- ALWAYS wear gloves when removing diamond grinding shoes as they can become very hot during operation.
- **For further information on hazards, please refer to the risk assessment document available on Flextool.com.au.**

SAFETY DECAL AND LABELS

Before operating this equipment, it is essential to read this entire manual and follow all safety precautions outlined in the manual and the product risk assessment, which can be found on the Flextool website (www.flextool.com.au).

Failure to understand and follow these safety warnings may result in injury. The safety decals on the machine play a crucial role in ensuring the operator's safety. If any decal is damaged or illegible, it must be replaced immediately.

The decals associated with the operation of this equipment are detailed in the manual.

SAFETY COLOUR CODING

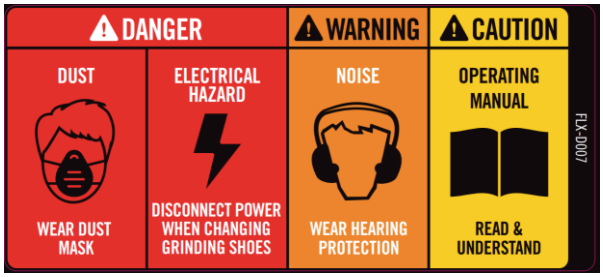
Flextool uses a colour coding system with four colours to alert you to potential hazards that could cause harm to you or others.
The safety messages are tailored to the operator's level of exposure and are introduced by one of three signal words: DANGER, WARNING, or CAUTION or general feature identification.

DANGER (RED)
Indicates a hazardous situation which, if not avoided, WILL result in DEATH or SERIOUS INJURY.

WARNING (ORANGE)
Indicates a hazardous situation which, if not avoided, COULD result in DEATH or SERIOUS INJURY.

CAUTION (YELLOW)
Indicates a hazardous situation which, if not avoided, COULD result in MINOR or MODERATE INJURY.

FEATURE IDENTIFICATION (GREEN)
Addresses product features and practices not related to personal injury.

	**Dust** – Always wear dust mask while using equipment, use of this equipment without the use of dust mask can lead to sever respiratory illness. **Electrical Hazard –** Always disconnect power when changing grinding shoes to avoid electrical shock. **Noise** – Always wear hearing protection while using equipment, use of this equipment without the use of hearing protection can lead to hearing loss. **Operating Manual** – Read and understand the operating manual in full prior to operating equipment
	**Noise** – Always wear hearing protection while using equipment, use of this equipment without the use of hearing protection can lead to hearing loss. **Grinding Mechanism** – Keeps hands and feet clear of grinding head. **Rotating Parts** – Keeps hands and feet clear of rotating and moving parts to avoid entanglement. **Operating Manual** – Read and understand the operating manual in full prior to operating equipment.

	**Danger** – DO NOT allow any person to walk under equipment while lifting.

OPERATION

It is essential to operate the equipment and its components strictly in accordance with the provided operating instructions. Take the time to learn how each machine works, even if you have previously used similar equipment. Carefully inspect each machine before use, and familiarize yourself with its capabilities, limitations, potential hazards, and how it operates and stops.

BEFORE GRINDING

- Ensure there is a clear and safe working environment that is free from hazards prior to connecting the grinder to the power socket.
- Ensure the grinder is switched off or unplugged before changing or fitting shoes.
- Ensure the grinder is fitted with the appropriate grinding shoes for the application and that they are fitted securely to avoid dislodgement during operation. To do this position the handle at 12 o'clock and tilt the machine all the way back until the handlebar is resting on the ground exposing the grinding head.
- Fit the grinding shoes into position using the tapered easy lock mechanism, to lock them into position you may need to give them a gentle tap with a small hammer. (Do not hit them to hard or you may damage the grinding segment).
- Now that the necessary grinding shoes have been fitted, the handlebar can now be lifted, and the grinding head can carefully be lowered onto the ground. Always ensure a firm grip and a balanced wide stance when lowering the grinder and never drop the grinding head, this can cause damage and lead to costly repairs.
- Concrete grinders must always be used in conjunction with a suitable dust collector equipped with H-Class filtration for the safe extraction and capture of concrete dust. This is done by connecting the hose of the dust collector to the 50 mm dust outlet situated at the rear of the grinder head between the wheels.
- It is also important to ensure the rubber shroud is in contact with the ground to ensure all grinding dust is captured, this is done by pushing downward on the floating rubber shroud.
- Always use a heavy-duty industrial power lead that doesn't exceed 20m in length. Low quality and excessive length power leads can cause damage to your grinder. They can also cause the power or distribution board to trip.

GRINDING SHOE SELECTION

Flextool offers a comprehensive range of BladeTec Easy Lock Grinding Shoes for use with the Flextool single head concrete grinder model FCG-250.

The full range of grinding shoes are listed in the following table:

Application	Colour	Bond Type	Number of Segments	Diamond Grit Size	Pack Qty	Product Code
Soft Concrete	Black	Hard Bond	2	16 grit	3	FT100473-UNIT
				40 grit	3	FT100474-UNIT
				80 grit	3	FT100475-UNIT
				100 grit	3	FT100476-UNIT
Medium Hardness Concrete	Silver	Medium Bond	2	16 grit	3	FT100477-UNIT
				40 grit	3	FT100478-UNIT
				80 grit	3	FT100479-UNIT
				100 grit	3	FT100480-UNIT
Hard Concrete	White	Soft Bond	2	16 grit	3	FT100481-UNIT
				40 grit	3	FT100482-UNIT
				80 grit	3	FT100483-UNIT
				100 grit	3	FT100484-UNIT
Very Hard Concrete	Gold	Very Soft Bond	1	16 grit	3	FT100485-UNIT
				40 grit	3	FT100486-UNIT
				80 grit	3	FT100487-UNIT
				100 grit	3	FT100488-UNIT
Thick Coatings (Epoxy, Glue)	Red	PCD	3	N/A	3	FT100489-UNIT
Thin Coatings (Paint, Sealant)		Soft Bond	2	16 grit	3	FT100490-UNIT

Selecting the correct griding shoe for the application is one of the most critical elements for success on the job. Concrete can come in all different forms ranging from super soft through to extremely hard and often requires trial and error with different grinding shoe types to find the best match. Incorrect matching of the grinding shoes to the concrete type can cause the shoe to wear extremely quickly or for the grinding shoe to not grind at all.

The other critical element is ensuring that the correct diamond grit size is used. The lower the grit size the more efficient the grinding process. Lower grit sizes aid in the rapid removal of the top layer of the concrete and are capable of griding concrete quickly. Lower grit sizes do however leave scratch or swirl marks in the concrete that can be unsightly. To remove these scratches, you will need to move through the grit sizes, 40 grit and 80 grit to ensure all scratches are removed.

STARTING THE GRINDER

- Connect the grinder to a wall mounted power outlet.
- Move the handlebar into the operating position and adjust the hand grips to the desired height for optimal control and comfort specific to the operator's height.
- Check the stop button is not depressed by turning it clockwise.
- To start the grinder, press the green switch on the control panel situated at the top of the handlebar.

STOPPING DOWN THE GRINDER

- Press the red stop button on the control panel.

GRINDING

- When operating the grinder, it is important to keep the grinding head moving at all times. Failure to keep it moving will result in gouges or lines being left in the concrete that can be unsightly and difficult to remove. It's important to remember that lines and scratches left in the concrete after grinding can still be visible after a floor coating is applied
- Move the grinding head slowly from side to side whilst maintaining a consistent pace either forward or backwards. Failure to move the head from side to side and operating it in a straight line can leave visible lines in the concrete and result in a patchy and inconsistent finish.

SERVICE AND PREVENTIVE MAINTENANCE

Qualified personnel should be assigned the task of performing service and maintenance on this equipment. To ensure safe operation and optimal performance, thorough inspection and on time maintenance is imperative.
Consistently monitor the machine's condition and proactively maintain it in its optimal state.

- ONLY licenced personnel should perform electrical repairs and maintenance.
- ENSURE mechanical repairs and maintenance of the equipment is performed only by trained and competent personnel.
- ONLY use genuine parts and accessories to ensure compatibility and safe operation of equipment.
- ENSURE where applicable to remove spark plugs, disconnect battery from motor and isolate power cable from power outlet prior to undertaking any maintenance and repair.
- ENSURE guards, safety switch and any other safety mechanisms are free from damage and installed prior to testing and returning product to service.
- WEAR PPE when servicing and repairing equipment (gloves, glasses, dust mask and steel cap boots) to reduce risk of cuts, burns, crushing, eye injuries, skin exposure to fuel or oils, dust inhalation, etc.
- NEVER work underneath equipment suspended by lifting device or on ramps.
- For all engine, motor and battery service and maintenance information, please refer to the relevant
- operating instructions.

SERVICE MAINTENANCE SCHEDULE

All parts and components should be replaced if signs of deterioration, cracks, damage or wear has been identified to maintain equipment safety and performance.

Grinder Maintenance Schedule						
		Daily	Weekly or every 20 hrs	Monthly or every 50 hrs	Quarterly or every 100 hrs	Yearly or every 200 hrs
Electrical Leads	Inspect for damage.	Y				
On / Off Switches	Inspect for correct operation.	Y				
Dust Shroud	Inspect for wear, deformity, or cracks	Y				
Wheels	Inspect for signs of cuts, wear and damage to bearings	Y				
Appearance	Clean the grinder and motor. Do not use water to clean electrical equipment	Y				
Nuts, Bolts, Latches, Pins, Clips etc	Inspect if any loose or missing parts	Y				
Flexible coupling	Inspect for signs of wears or misalignment		Y			
Grinding plates or shoes	Inspect for deterioration, or damage	Y				
Safety Decals	Ensure they are fitted and legible	Y				

Motor Maintenance Schedule						
		Daily	Weekly or every 20 hrs	Monthly or every 50 hrs	Quarterly or every 100 hrs	Yearly or every 200 hrs
Capacitor box	Inspect for cracks or leaks in the casing	Y				
Motor fan	Ensure proper operation of the fan and inspect for damage to the fan cover	Y				

STORAGE, LIFTING AND TRANSPORT

It is essential to priorities' safety and proper handling when it comes to the storage, lifting, and transportation of equipment. Following safe storage practices ensures the longevity and operational reliability of the equipment. During transportation and lifting it is important to exercise caution to avoid any potential harm an to adhere to the following guidelines.

- ALWAYS use certified and tested loading ramps.
- ENSURE loading ramps are regularly inspected by competent person for damage or material fatigue.
- NEVER drag or pull the equipment by the hose or power cord.
- ALWAYS ensure that the lifting device (forklift, crane, etc.) has adequate lifting capacity to lift the equipment.
- ALWAYS follow correct manual handling techniques.
- NEVER allow any person to stand underneath equipment while lifting.
- NEVER lift equipment while connected to power outlet or when engine is running.
- ALWAYS secure equipment during transport by using suitable tie down points on both equipment and vehicle.
- ENSURE all equipment is restrained according to the NVHR load restraint guidelines.
- ALWAYS inspect straps, hooks, chains, ropes, and crane/lifting points for damage prior to use.
- ENSURE where applicable to lock castor wheels or lay equipment flat during transport and storage to prevent unwanted movement.

PRODUCT DECOMMISSIONING

Decommissioning is a controlled process used to safely retire a piece of equipment that is no longer serviceable. If the equipment poses an unacceptable and unrepairable safety risk due to wear or damage or is no longer cost effective to maintain (beyond life-cycle reliability) and is to be decommissioned or dismantled, please adhere to the following guidelines.

- ALWAYS contact your local council or recycling agency in your area to arrange for proper disposal of:
    - Electrical components and batteries. Exercise caution when handling and transporting batteries.
    - Oil and other waste associated with this equipment. DO NOT pour waste or oil directly onto the ground, down a drain or into any water source.
- CONSIDER recycling all recyclable materials in line with local council or recycling agency capabilities in your area. This can include steel, aluminium, copper, plastics, etc.

TECHNICAL DATA

Model	Grinding Width mm (in)	Operating Weight kg (lb)	Voltage V/Hz	Max Current A	Power Output kW	Power Output hp	Grinding Speed rpm	IP Rating	Dust Outlet mm (in)	Lifting Hook	Grinding Shoes
FCG-250	250 (10)	76 (167.5)	240 50/60	9.8	1.8	2.4	1400	55	50 (2)	Yes	Easy Lock (Redi Lock Compatible. Adaptor Plate included as standard)

TROUBLE SHOOTING

Efficient troubleshooting is vital for the optimal functioning of this equipment. In addressing issues, a systematic approach is key. This section provides guidance on identifying, analysing, and resolving potential challenges to maintain the equipment's performance and longevity.

Symptom	Possible causes and correction
Grinder runs for a short period of time then stops	• Motor is overheating and the thermal overload protection system has activated to protect the electric motor from damage. Allow the motor to cool.
Grinder trips the power circuit or RCD	• Extension lead is too long (exceeds 20m) or is of low quality (is too thin). This can cause insufficient power getting to the motor causing the circuit to overload. Check that both the wall mounted power box and onboard RCD switch is in the ON position.
Grinder runs but does not perform adequately	• Ensure that the correct grinding plate or shoes are fitted and that the grinding shoes haven't glazed or smoothed over.
Grinder vibrates during use	• Grinding shoe may have fallen off - Ensure grinding shoes are symmetrically fitted to the adaptor plate and that all segments are in place. • Grinding or adaptor plate not correctly fitted or balanced – Remove and refit, if grinding plate is damaged it must be replaced. • Worn flexible drive coupling – Over time the flexible drive coupling will wear, inspect for signs of damage and replace if required.

Flextool

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This manual summarises our best knowledge of the product based on the information available at the time of publication. You should read this manual carefully and consider the information in the context of how the product will be used. Our responsibility for products sold is subject to our standard terms and conditions of sale.

DISCLAIMER:

Any advice, recommendation, information, assistance or service provided by us in this manual is given in good faith and is believed by us to be appropriate and reliable. However, any advice, recommendation, information, assistance or service provided by us is provided without liability or responsibility PROVIDED THAT the foregoing shall not exclude, limit, restrict or modify the right entitlements and remedies conferred upon any person or the liabilities imposed upon us by any condition or warranty implied by Commonwealth, State or Territory Act or ordinance void or prohibiting such exclusion limitation or modification. The product can be expected to perform as indicated in this manual so long as operation and operational procedures of the individual products are followed as recommended in this manual.

Design and technical specifications may be subject to changes.