

Almonte Automatic Core Saw Safety Instructions



Contents

Purpose 1

Scope 1

Responsibilities..... 1

Specific Safety Considerations When Using The Almonte Core Saw..... 1

Personal Protective Equipment (PPE) Requirements 2

Introduction to the Core Saw 3

Safety Systems and Purpose 4

Pre-Start Inspection..... 5

Core Cutting..... 6

Changing the Core Blade 7

Shut Down and Clean Up..... 8

Almonte Core Saw Maintenance..... 8

Almonte Core Saw Pre-Start Checklist 9

Almonte Blade Hardness Scale..... 10

Consumables 11

Important Information 13

Contact 14

Purpose

To establish the precautionary measures to ensure core cutting is carried out in a manner that reduces the risk of injury and/or damage whilst meeting required regulatory standards and to describe the correct core cutting method whilst operating the Almonte Core Saw.

Scope

These instructions apply to all persons involved in the cutting of diamond drill core using the Almonte Core Saw.

Responsibilities

Before commencing this task, ensure that you have the knowledge and skills necessary to safely and competently operate the Almonte Core Saw.

Specific Safety Considerations When Using The Almonte Core Saw

Potential Hazards and Dangers	Prevention and Safety Measures
Severe injury resulting from incorrect use of the core saw or use of a defective blade.	<ul style="list-style-type: none"> • Personal protective equipment (PPE) • Training/induction • Pre-start inspection • Instruction manual • Spring safety arm • Usage of warning stickers
Cuts from handling core or falling core trays.	Wear personal protective equipment (PPE), e.g. gloves, safety boots, long pants/sleeves.
Injury to eyes from particles of core.	Personal protective equipment (PPE), e.g. eye protection, machinery guards.
Water coming in contact with electricity.	<ul style="list-style-type: none"> • Machines are hard-wired into power or use waterproof power points. • Power outlets are above water egress points and are not in contact with water hoses. • In the event of an electrical problem, cease operation immediately and report the fault. • Under <u>no circumstances</u> are unqualified persons to attempt repairs.
Entanglement with machinery.	<ul style="list-style-type: none"> • Training/induction • Trip switches • Procedures • Usage of warning stickers • Personal apparatus consideration for possible entanglement with machinery.
Damage to hearing.	Personal protective equipment (PPE) - hearing protection (Class 4) or protective ear muffs that comply to AS/NZS 1270.
High speed rotating diamond saw blade (danger of laceration).	Do not lift the primary/secondary/top blade cover while the machine is in operation. Isolate at the main power source before conducting repairs and ensure that you have sufficient training to complete this task.
Moving parts (crushing and cutting).	Do not place hands or fingers between cutting block or block pushers and blade housing. Entry flap and guard is in place to prevent an incident.
Falling objects (injuries to feet and limbs).	Wear steel cap safety boots and ensure trays and tools are placed on a solid base where they cannot be easily dislodged.
Radiation - if cutting core that requires radiation monitoring.	All employees are issued with a radiation monitoring tag (TLD badge), which is collected by the radiation department on a regular basis, and a new tag is issued.
Back injury/strains due to incorrect movement of core trays, blade guard lifting.	Ensure correct lifting techniques are used when manual handling, warm up, stretch before conducting activities. Recommend two hand lift when lifting blade guard.
Heat/Ventilation/Dehydration/Fatigue/Fitness for work.	Ensure sufficient ventilation in core shed, maintain fluid levels at all times, fatigue management awareness, practice induction, etc. No personal music listening devices or the like to be used whilst operating machine. Employees to comply with fitness for work requirements
Incompetent operator(s).	Employers must provide employees with information, instruction, training and supervision to allow them to work in a safe manner - Occupational Safety and Health Act 1984.

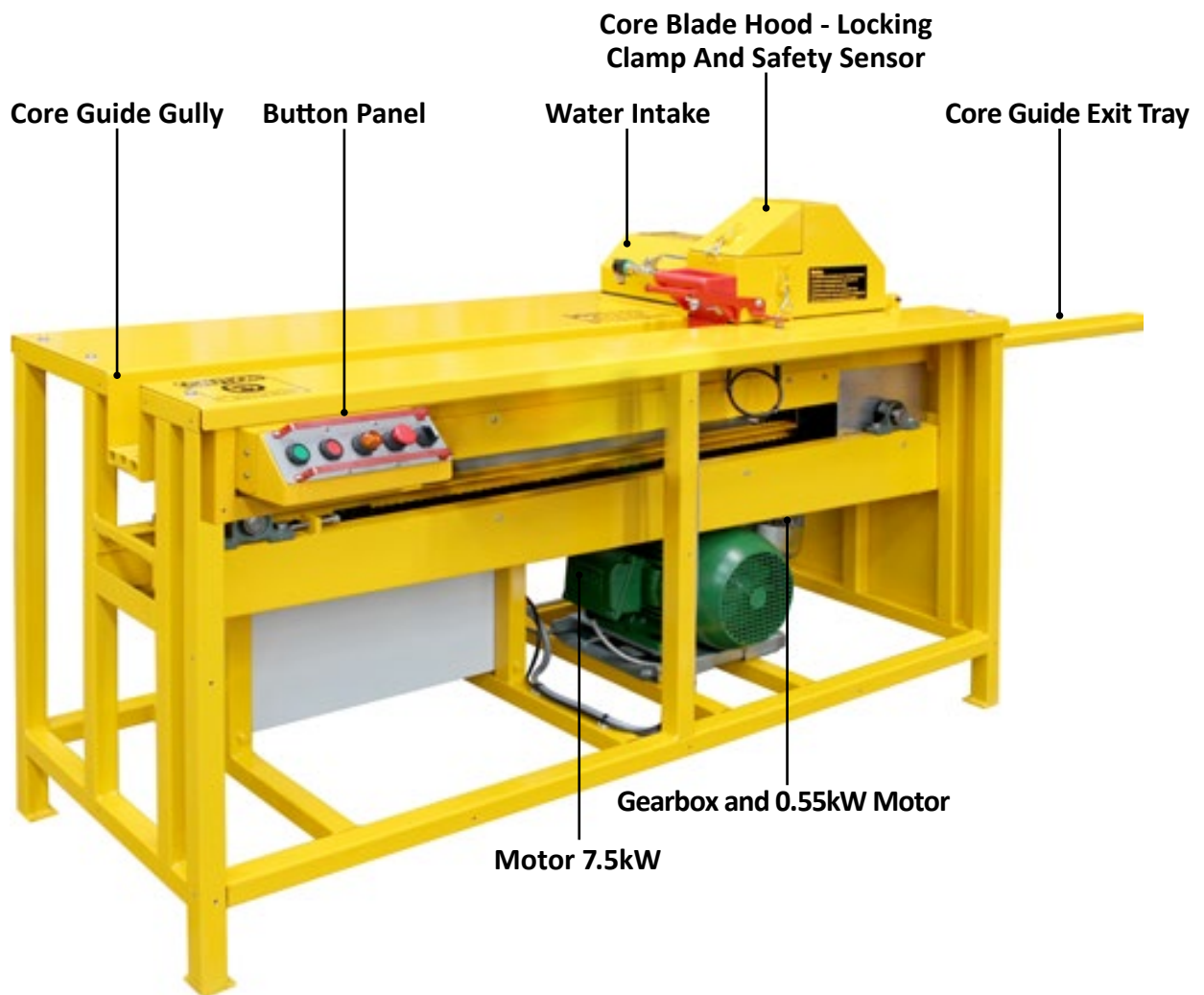
Personal Protective Equipment (PPE) Requirements

- **Gloves** - Leather gloves for the handling and moving of core trays and rubber safety gloves for the handling of core to and from the core cutting guides and the core tray.
- **Safety Glasses** - they shall comply with the relevant requirements of AS/NZS 1337.
- **Safety Boots** - preferably with steel capped toes and non-slip soles for working in wet area and the lifting and carrying of core trays.
- **Hearing Protection** - The Almonte yellow blade has been tested to 99 decibels, Almonte recommends class 4 hearing protection tested to AS/NZS 1270.
- **Plastic Apron** - in the event of water spray from core cutting blades.
- **Overalls** - for the protection of clothes and body. Preferably overalls that do not have loose belts and cuffs that have the potential to get caught in machinery.



Introduction to the Core Saw

1	A pre-start inspection must be completed before commencing cutting. Class 4 hearing protection and approved eye protection are to be worn at all times when a saw is in operation.	See Almonte Core Saw Pre-start Inspection (page 5).
2	You must isolate the saw before you pre start the saw, whilst changing the core blade and removing any obstruction.	Isolate at main isolation switch and ensure no unauthorised person(s) can start machine.
3	Ensure your direct route of travel has been inspected and all hazards have been rectified.	



Close up view of the button panel

Safety Systems and Purpose

1	Blade hood	Designed to contain fragments or broken blade at no risk to the operator. Ensure guard is down and secure prior to operation.
2	Spray/splash guard	Ensures no airborne vapour.
3	Emergency stop	As well as stopping the machine the emergency stop has a braking effect rather than freewheeling to a stop.
4	Cut out switch on blade hood	Stops the machine if the primary/main hood is raised while the machine is running. This switch must be checked in the daily pre-start inspection.



Pre-Start Inspection

1	Pull emergency stop button on control panel out.	Refer Diagram 1
2	Press reset button on control panel.	Refer Diagram 1
3	Turn water on.	Check water is running.
4	MANDATORY SAFETY CHECKS Press start button on control panel.	<ul style="list-style-type: none"> • After the machine has started, press emergency stop button and ensure machine stops. • Test red arm by lifting the arm, whilst machine is operating and ensure machine stops. • Test spring safety arm (if fitted) by breaking the switch with a wooden block. <p>If machine fails this check, <u>DO NOT USE THE MACHINE</u> and contact your supervisor for instructions.</p>
5	Restart procedure if emergency stop has been used.	<p>Refer Diagram 2</p> <ul style="list-style-type: none"> • Press in emergency stop button, red arm must be in down position then wait 5 seconds. • Pull out emergency stop button and wait 5 seconds, then press reset button. • Core saw will then be ready to restart. <p><i>If machine fails this check, DO NOT USE THE MACHINE and contact your supervisor for instructions.</i></p>
6	Turn feed switch on button panel to forward.	Refer Diagram 1
7	To stop in the event of an emergency, push emergency stop button in.	Refer Diagram 1



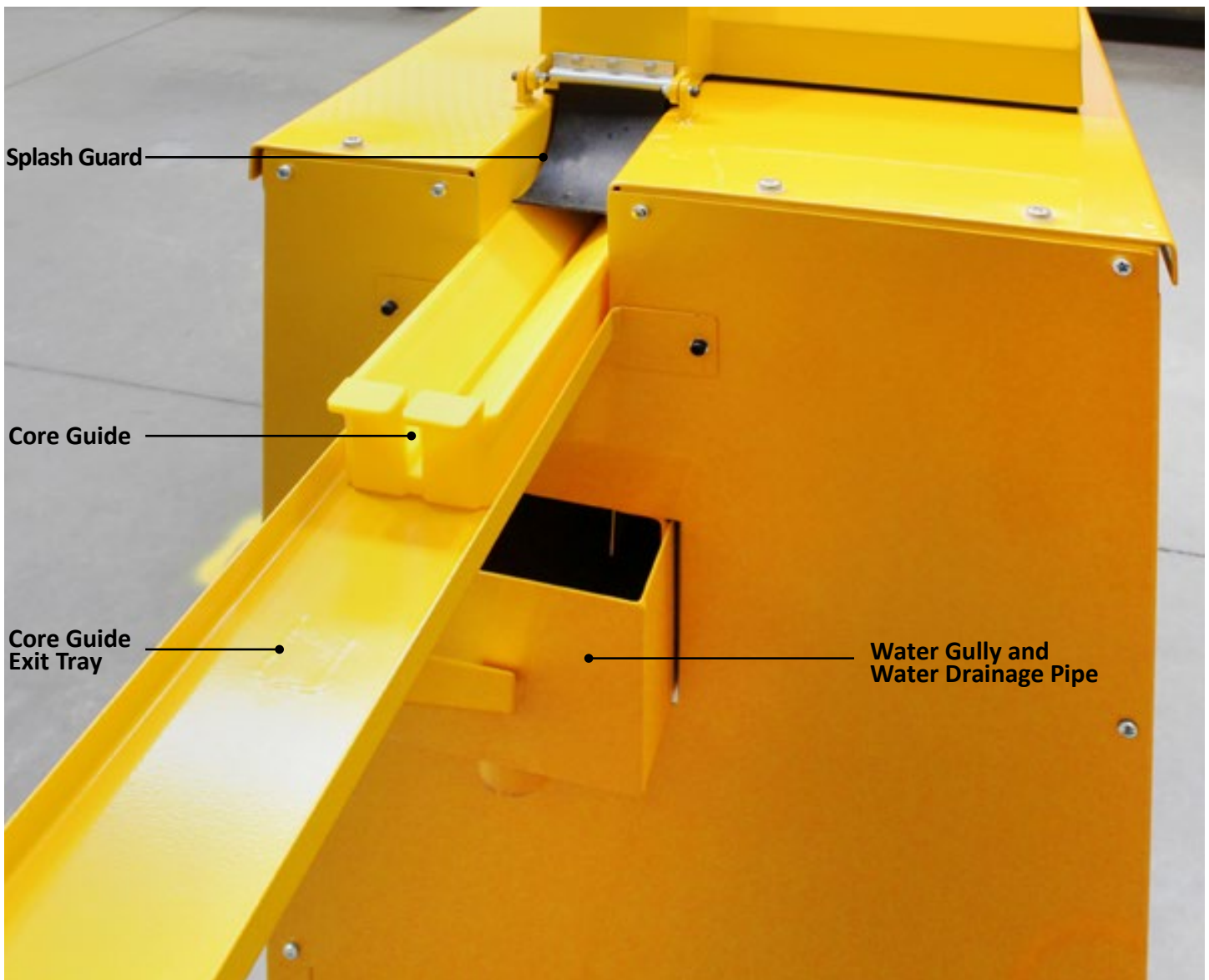
Diagram 1



Diagram 2

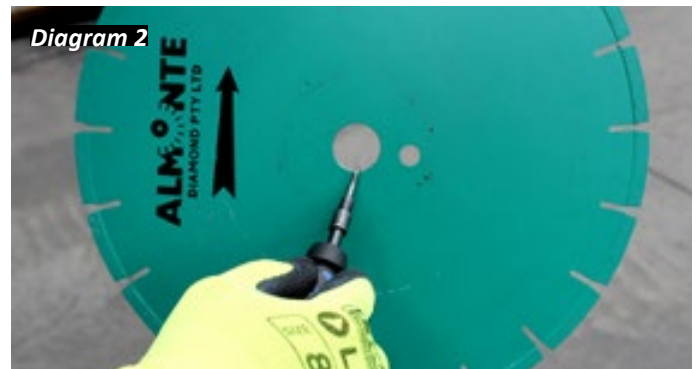
Core Cutting

1	Load core holders 1 and 2 in order from core tray	Maintain the same selection process.
2	Place core holders in sequential order on moving feed chain (cutting process is automatic)	IMPORTANT: Sequence of core holders must be maintained.
3	Remove core holder containing cut core from machine and replace core in original position in tray	IMPORTANT: Core MUST be returned to original position in tray.
4	Continue loading core holders in order, cutting core and replacing in original position in trays until all core is cut.	IMPORTANT: Core sequence must be maintained.



Changing the Core Blade

1	Ensure personal protective equipment (PPE) is worn.
2	Isolate saw.
3	Lift the blade hood so the blade is accessible.
4	Using a 30mm spanner, undo blade fastening nut that holds the blade in place.
5	Remove the nut and front flange and gently remove the blade.
6	Clean paint out of the new blade's shaft hole (see Diagram 2) to ensure perfect fit and fit into the core saw in such a way that the directional arrow (see Diagram 4) is pointing towards the rear of the machine.
7	The blade must sit flush on 'both sides of the housing shaft' when being refitted, and that the locking pin extends to the locking plate.
8	Ensure that it is flush; if it is not sitting on correctly, adjust and rotate until it does so.
9	Re-fit front locking plate and nut; ensure nut is tightened.
10	Place blade hood back in position.
11	De-isolate saw.



Shut Down and Clean Up

- Check all core and core holders are removed from machine.
- Turn the feed switch to the off position and push the stop button in.
- Turn water off at the saw and also the secondary tap on at the main.
- Apply degreaser to the exterior of the saw with a broom / brush.
- Wash out core holders.
- Wash down saw and work area including marks on walls with hose.
- Wash all cutting debris from the floor into the drains.
- Restart saw, turn feed switch to forward, allow feed chain to turn at least one complete revolution while being sprayed over its length with pressure pack chain lubricant.
- Turn feed switch to off and shut down saw.

PLEASE NOTE: *Almonte Diamond Pty Ltd have qualified personnel to train operators on the use of the core saw.*

Almonte Core Saw Maintenance

Before Use

- Check to make sure that safety switches and emergency stop buttons are working correctly.
- Check to make sure that diamond blade is fitted correctly and that water is turned on.
- Check all other function switches.

After Use

Wash saw down at the end of each shift with clean water to remove any sediment from surface and remove any core fragments from the gulley.

Once A Week

After washing the saw down, use a suitable lubricant and grease the chain; this can be done using a suitable applicator through the top channel where the chain is visible.

Monthly

- Isolate the machine.
- Check the tension of the main chain assembly by removing the panel on the end furthest from the blade.
- Should it require tightening please contact a fitter or call Almonte Diamond at **+61 (0)8 9209 2721** for assistance.

Almonte Core Saw Pre-Start Checklist

Date

Name

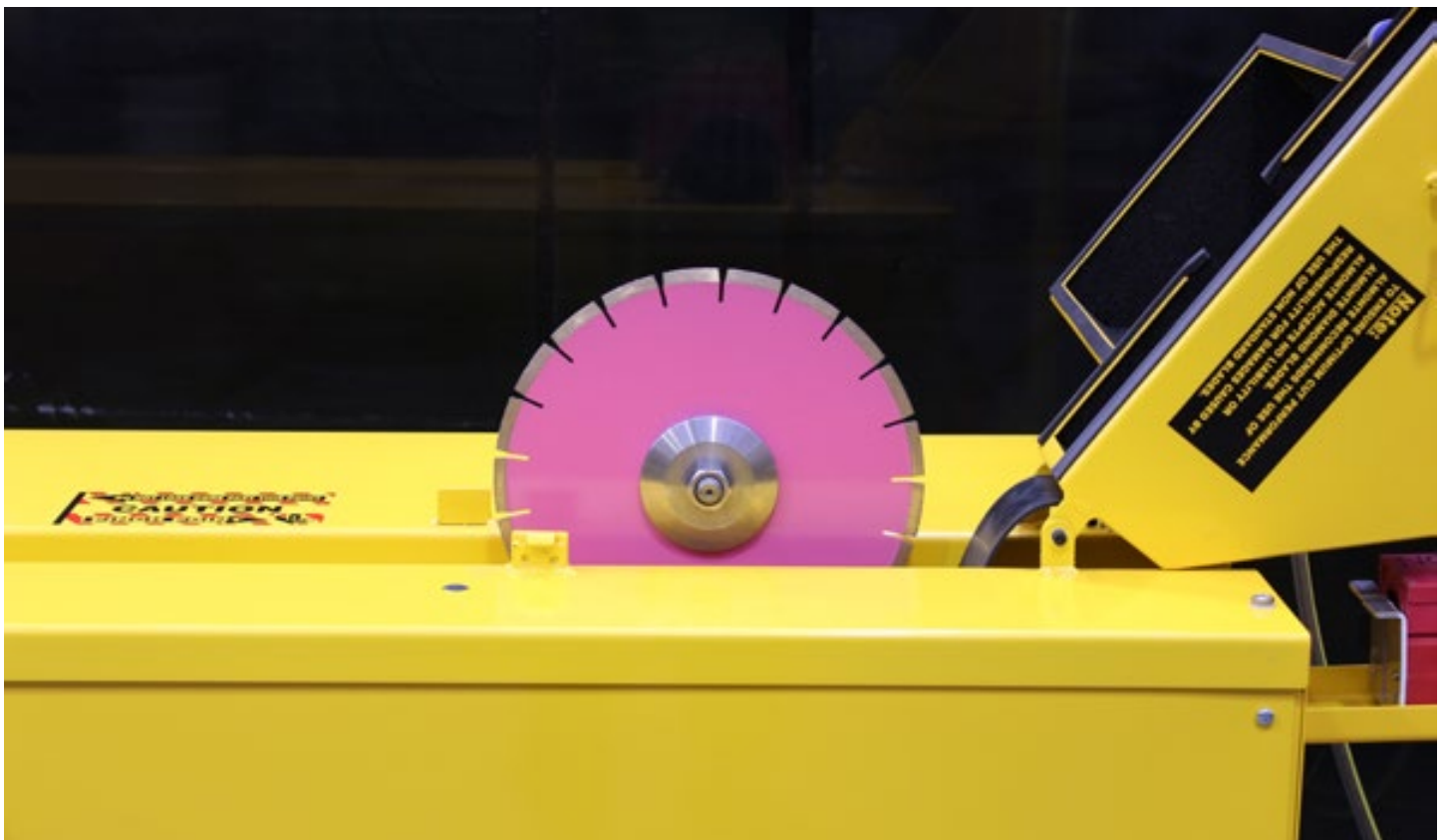
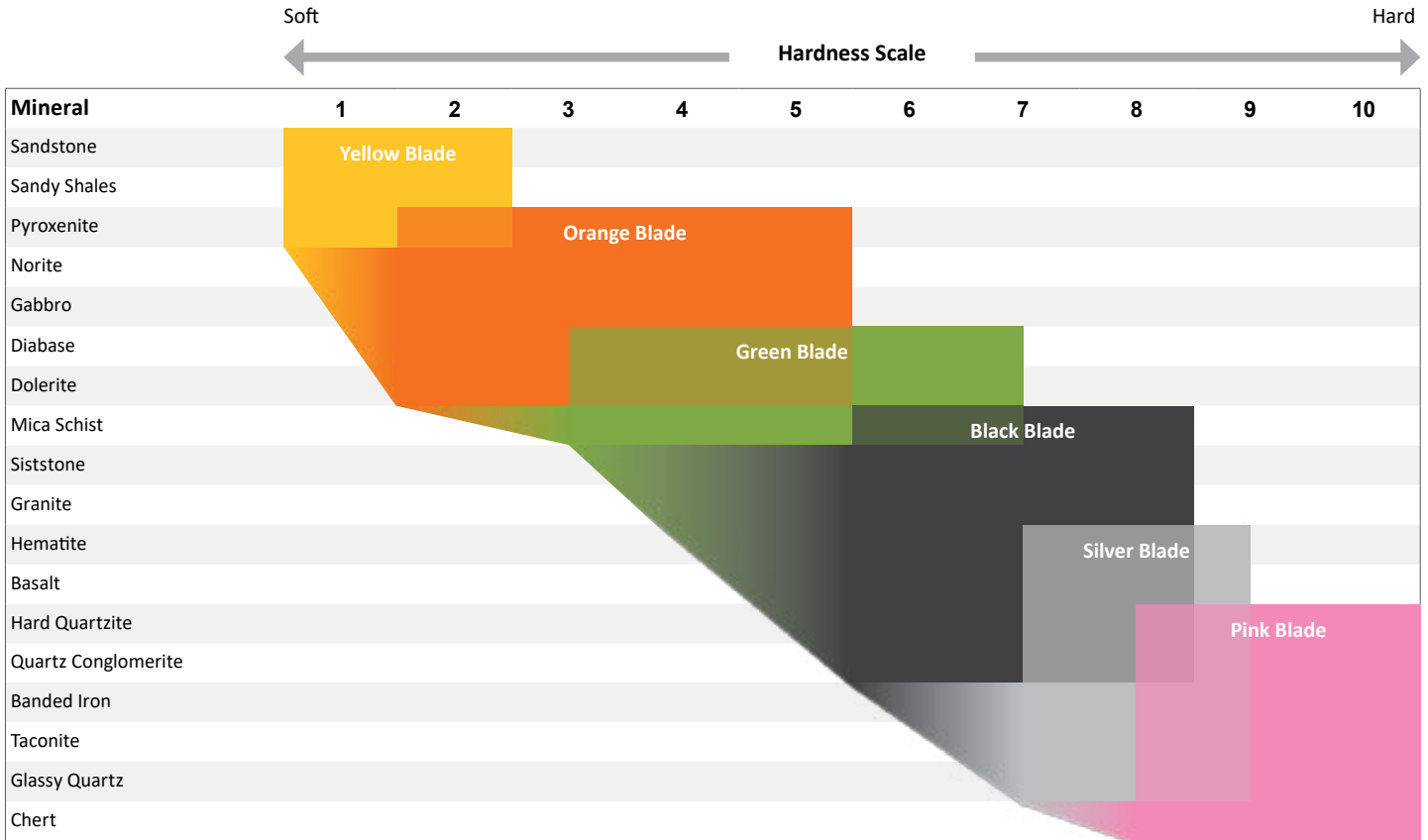
Tick	Procedure
	Check for any out of service/isolation tags for information.
	Check power leads connected correctly and power cable in good condition with power switched on at the mains.
	Check core saw area free of any potential trip hazards.
	Check that there is a blade on the blade shaft and that it has sufficient segments.
	Check water supply hose and fittings connected correctly and in good condition and that the water is running.
	Check drainage pipe is draining water well away from the work area, alternatively ensure Recycle Water unit is in place and connected.
	Check the blade hood is locked and into place.
	Check gully is clear of all cuttings.
	Check the sensor on the hood is working by lifting up the red arm on the hood/press the start button if the saw starts shut the saw down at mains and tag out then report.
	Check emergency stop button/start saw press emergency stop button if saw still works turn off at mains and tag out then report.
	Only if you are satisfied with all the checks you can start cutting core.

Name

Signed

Almonte Blade Hardness Scale

Note: This guide is intended only as an indication of the type of blade that could be used on different minerals. It is known that within each rock type, there are variations and different levels of abrasiveness.



Consumables

Yellow Diamond Blade

The yellow blade will cut soft to medium hardness material with maximum total meters of core cut to each blade. Also available as a sound-dampened blade.

SKU	DESCRIPTION	SIZE
1148-00023	Yellow	12" 300mm
1148-00024	Yellow Sound Dampened	12" 300mm



Orange Diamond Blade

The orange blade will cut medium to hard material. Also available as a sound-dampened blade.

SKU	DESCRIPTION	SIZE
1148-00022	Orange	12" 300mm
1148-00019	Orange Sound Dampened	12" 300mm



Green Diamond Blade

The black blade is the first choice for harder materials, but the green blade is an alternative and is dependent on the composition of the rock. The green blade will cut slightly harder material than the orange blade. Also available as a sound-dampened blade to special order.

SKU	DESCRIPTION	SIZE
1148-00021	Green	12" 300mm
1148-00060	Green Sound Dampened	12" 300mm



Black Diamond Blade

The black blade is used for hard to very hard cores e.g. magnetite and banded iron.

SKU	DESCRIPTION	SIZE
1148-00020	Black Sound Dampened	12" 300mm



Silver Diamond Blade

Alternative to Black blade to cut very hard material. Mainly for iron ore and other very hard materials. Harder and more abrasive material will generally reduce the life of the blade.

SKU	DESCRIPTION	SIZE
1148-00090	Silver	12" 300mm



Pink Diamond Blade

The Pink blade is used for very hard to extremely hard core, complementing the black blade.

SKU	DESCRIPTION	SIZE
1148-00058	Pink	12" 300mm



Consumables

Almonte Flip Top Core Carriers

All holders are equipped with aluminium handles. These are specifically catered towards broken cores (the flip tops and lids encase the core to keep everything in place).

SKU	DESCRIPTION	SIZE
1148-00106	Almonte Flip Top Core Carrier	B
1148-00104	Almonte Flip Top Core Carrier	N
1148-00105	Almonte Flip Top Core Carrier	N2
1148-00103	Almonte Flip Top Core Carrier	H
1148-00109	Almonte V-Core Holder with Lids	P



V-Core Holders

All holders are equipped with aluminium handles. These have open tops and are catered towards whole cores.

SKU	DESCRIPTION	SIZE
1148-00102	Almonte V-Core Holder	B, N, N2 & H
1148-00101	Almonte V-Core Holder	P



Almonte Recycle Water Unit

This unit was designed to recycle water for use with the Almonte Automatic Core Saw. Using this unit can save up to 8000L of water per day and enables Almonte cutting fluid to be economically used with the saw.

SKU	SIZE
1148-00009	230L water capacity

Please confirm site power requirements when requesting a quote or ordering.



Almonte Shipping Crate

These come in two different sizes, one to fit the saw solely and the other to fit both the saw and recycle tank. The larger size also meets the maximum dimensions allowed via air transport.*

SKU	DESCRIPTION
1148-00072	Saw
1148-00073	Saw & Recycle Tank

**Both crates have been treated and meet the IPPC standard.*



Important Information

Power Requirements For The Almonte Core Saw

The Almonte Core Saw is powered off of two drives in the control box. Both of these drives have earth leakage built into them.

To power up one of our Core Saws, you have three options:

1. To use a 100mA RCD breaker.
2. To use a 30mA RCD type B breaker.
3. To hard wire the core saw into your facility's power supply.
4. If using a gen-set, it must Have A Minimum Of 25kVA and be used solely for the saw.

Any structural or electrical modifications requires approval from Almonte Diamond Pty Ltd.

For further information or assistance contact our electrical installation engineers, Dave or Darryn on 08 9302 3111.



Contact

Almonte Head Office

Unit 4, 66 Truganina Road, Malaga, Perth, Western Australia, 6090
Tel: +61 (0)8 9209 2812
Fax: +61 (0)8 9209 2721
Mobile: + 61 439 487 770
Email: supply@almonte.com.au

Accounts
Email: admin@almonte.com.au

Agents in Australia

Westernex Perth

66 Truganina Road, Malaga, Western Australia, 6090
Tel: +61 (0) 8 9209 8500
Email: perth@westernex.com.au

Westernex Kalgoorlie

18 Kinclaven Way, Broadwood, Kalgoorlie, Western Australia, 6430
Tel: +61 (0) 8 9091 1152
Email: kalgoorlie@westernex.com.au

Westernex Brisbane

14 Hasp Street, Seventeen Mile Rocks, Queensland, 4073
Tel: +61 (0) 7 3376 2422
Email: brisbane@westernex.com.au

Westernex Mt Isa

13 Ryan Road (entry off Davis Road), Mount Isa, Queensland, 4825
Tel: +61 (0) 7 4743 2122
Email: mtisa@westernex.com.au

Global Agents

AFRICA / M.E.N.A. REGION

Westernex Africa

12 Julian Way, Somerset West Business Park, Cape Town, South Africa, 7129
Contact: Rob Lees
Tel: +27 (0) 73 234 2845
Fax: +27 (0)28 313 2845
Email: rob@almonte.com.au

LATIN AMERICA

EIG – Equipos e Insumos para Geología

Camino del Cerro #290, Bodega F3, Quilicura, Santiago - Chile
Contact: Miguel Angel Valdés
Tel: +56 2 2757 1700
Email: mva@eig.cl
mva@huanacu.com

USA

CGS Mule

1490 Linda Way, Sparks, NV 89431
Contact: Sales
Tel: +1 (775) 358-0923
Toll-free 800-247-6853
Email: mulebox@cgsmule.com



ALMONTE[®]

DIAMOND PTY LTD

Almonte Diamond Pty Ltd Head Office

Unit 4, 66 Truganina Rd, Malaga, WA 6090 Australia

E: supply@almonte.com.au | *M:* +61 439 487 770 | *P:* +61 (0)8 9209 2812