Introduction

Masonry saws are used for cutting through masonry, such as stone, bricks, pavers, cement, large tiles, and rocks. Masonry wet saws operate much like a tile saw, with a diamond circular saw blade that is wetted by the attached water pump. They are usually driven by an electric motor.

They are commonly bench mounted on a folding stand with an integrated water recycling system. Carborundum blades are also available. Petrol engined versions are also popular.

Identified Risks and Hazards
Specific hazards that may arise when using the Masonry saw include:

**Electric shock** - when chipping into walls, floors or wherever "live" electrical wires may be encountered, do not touch any metal part of the tool. Hold the tool by the insulated grasping surfaces to prevent electric shock if you chip into a "live" wire.

**Skin burns** - high temperature of the moving parts after operation - these will be very hot if touched.

**Damage to fingers** - keep hands away from moving parts.

**Exposure to noise** - this can cause hearing loss.

**Dust inhalation** - Some material contains chemicals which may be toxic. Take caution to prevent dust inhalation and skin contact.

**Manual handling** - care is to be taken when lifting onto and off vehicles.

**Exposure to fuel** - keep petrol well clear of ignition sources.

**Vibration** - exposure to high levels of vibration can lead to Hand Arm Vibration Syndrome (HAVS).

Vibration control - reduce the risk - read more >>>

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**Pre-operational Safety**

Before using the Masonry saw, make sure of the following:

Before you commence any work at your chosen work area, you should undertake some preliminary hazard identification and risk control precautions. This is undertaken by:

- Physically inspecting the work site
- Reviewing the best way/job steps required to complete the task
- Reviewing the Safe Work Information supplied with the equipment

Wear appropriate and proper fitting PPE such as hearing, eye, hand, respiratory and foot protection.

Choose the proper blade for the job. Do this by determining the hardness and compression of the slab. Only use correct type and rated blade for the machine and the task. Check the blades for damage.

Water needs to be used while cutting with diamond blades. Ensure availability of water.

Check the blades for cracks - make sure that there are no pieces have been broken off.

Ensure that the operator is on steady ground and well secured footing.

The work surface must be able to support the saw and the operator.

Ensure that the blade and guards are fitted correctly and functional.

Material to be cut must be free from pipes or cabling.
Make sure you are not tired or suffering from any medical condition which might put you or the people around you at risk when you operate the saw.

**Petrol powered saws**

Check fuel and engine oil and top up if necessary.

Ensure fuel tank cap is correctly fitted after refueling.

Ensure fuel spills and leakages are cleaned away immediately. clothing with fuel spill is removed and skin washed with water.

Ensure adequate ventilation in a confined area - Carbon Monoxide fumes can kill. DO NOT operate the petrol saw indoors.

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**Operating Safety Precautions**

Ensure you are ready to handle any reaction from the equipment and have clear access and egress to the work area while on the job.

Before turning on the saw, adjust the blade guard so the bottom edge of the guard is parallel to the surface being cut.

Keep the saw handle and controls clean, dry and free from oil and fuel.

Use correct lifting techniques when using or transporting materials.

Do not operate the saw one-handed.

Never leave the saw in operation while it is unattended.

Do not touch the blade or other moving parts with your hand or any part of your body moving.

Do not wear loose fitting clothing or jewellery while operating the saw.

Do not work above shoulder height.

Never use a damaged blade and do not use the sides of the blades for grinding.

When cutting concrete, apply water to bind dust.

Do not change direction once cutting operation has begun. Any sideways pressure could cause the blade to break.

**Petrol powered saws**

DO NOT smoke while in the vicinity of petrol, petrol containers or petrol powered equipment.

Never use fuel for cleaning purposes.

DO NOT start or use the saw within 3 metres of any fuel containers.
DO NOT refuel the saw while it is running or hot.

DO NOT breathe fuel vapour and always wear appropriate PPE.

Daily Maintenance

Always be sure that the tool is switched off and unplugged before attempting to perform an inspection or any maintenance.

- keep the saw handle and controls clean, dry and free from oil and fuel.
- Clean the air filter regularly.
- Check belt tension and condition.

Troubleshooting

- If the motor starts but the blade does not rotate, the drive belt probably needs replacing.
- If there is segment loss, there is probably insufficient water.
- Arbor hole out of round: the blade is not properly tightened or seated on arbor.
- Blade does not cut: blade is glazed or too hard for the job.

Operating Procedures

Fill water tank with clean water and replace cap securely.

Connect electrical lead and check safety switch is operating by pressing the “test” button. Switch should move to “Off” position. If switch is faulty, do not use the saw.

Mount water tank to operator’s back. Adjust all leads and hosing to ensure free and unrestricted movement of operator.

Ensure that operator has a firm footing and clear egress for safety.

Press safety trigger then power switch to commence cutting. Allow blade to reach maximum revs before commencing the cutting operation.

Do not force the blade. The machine should not labour when cutting.

Never cut deeper than necessary.

Always ensure that water is kept away from electrical equipment.

Safe Operation for the Blade

Blades are constructed for radial pressure only. Lateral (sideways) pressure must be avoided.

Do not use force to push the cutting blade. It should move to and fro in the direction of the cut.

Check the roundness of the blade before it stops rotating at the end of the cutting operation.
Check the blades for cracks - make sure that there are no pieces have been broken off.

Check the blade guard for cracks.

Stop motor if there are particles or pieces of material causing the blade to jam. When completely stopped, remove the obstruction and always check for damage before resuming work. Never use a damaged blade or machine.

Operate the saw at a safe speed relative to the material being cut.

When cutting concrete, stone, etc., apply water to the blade to bind the dust.

Adjust the blade guard so the bottom edge of the guard is parallel to the surface being cut, before starting the saw.

Do not change direction once cutting operation has begun. Any sideways pressure could cause the blade to break.

Always pull the trigger fully when you apply the cutting blade to the material and regulate the speed of the machine by increasing and decreasing the pressure applied.

When cutting stone, concrete and similar material, the blade should be moved forwards and backwards in the cut to obtain good conduction of heat away from tile blade and a low temperature at the cutting point.