



# Pipe Cutting

SAFETY GUIDE



**LET'S DO THE WORK.™**

[catdiamondtools.com](http://catdiamondtools.com)

This document has been designed, published and is free to everyone to try and eradicate bad practice and user error when cutting pipes. All Cat® Diamond Tools products comply or exceed EN13236 International Standard for the manufacture of Super Abrasives.

This pamphlet is a guide only and each individual should adopt their own safe working methods of working practices in each specific environment to ensure their own safety and the safety of others.

Cat® Diamond Tools offers full Abrasive Wheel Training to Pwver 98, The "Abrasive Wheels Regulations" 1970 and certificate to this standard.

Abrasive Wheels are used in many areas, but can be highly dangerous if used by untrained personnel. The Provision and Use of Work Equipment Regulations 1998 (PUWER 98) requires that anyone involved in selecting, mounting, specifying or using abrasive wheels is trained, certified and deemed to be competent by their employer, in their safe use. This course will provide an understanding of the Abrasive Wheels Regulations and PUWER 98 and instruct delegates in all aspects of the correct mounting, setting and use of Abrasive Wheels by both theoretical and practical means.

If you need training or refresher courses then please contact us at [info@c6diamond.com](mailto:info@c6diamond.com).

## HEALTH & SAFETY INFORMATION

To ensure your safety; Cat® Diamond Tools strongly advise the use of appropriate personal protective equipment (PPE). This should include the use of goggles or similar eye protection, ear protection, dust mask, gloves and safety footwear when using powered masonry saws.

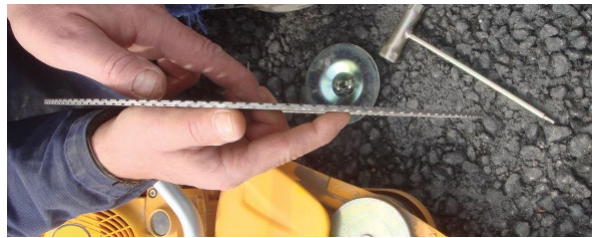


## CUTTING PIPE WITH A POWERED MASONRY SAW

This method can be used to cut any size of pipe. Diamond blades of the correct bond and type that have been specially designed for cutting ceramic products are the most efficient and give the best quality cut.

**When using a powered masonry saw a safe system of work should be followed:**

- Before any pipe cutting operation is started, read and adhere to the safety and operating instructions of both the masonry saw and the blade manufacturer. Cat® Diamond Tools offer these free of charge and come with each blade.
- Check that the masonry saw is fitted with the correct specification of blade.



- Check that the blade is flat and there are no signs of segment cracks.
- Make a clear mark around the total circumference of the pipe at the desired length.



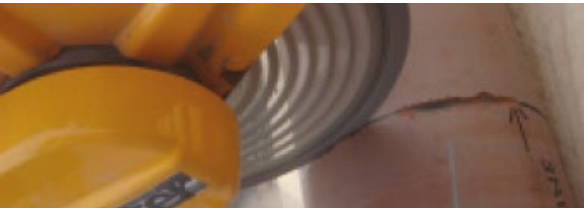
- The pipe being cut should be positioned in a horizontal and stable position.
- Check flanges for damage or for dirt.



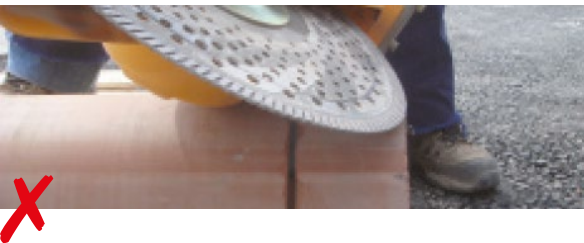
- Care should be taken to support and secure both halves of the pipe being created by the cut, to avoid the blade being pinched and trapped as the pipe separates.



- With the correct personal protective equipment in place, commence the cut; the best quality cut is generally achieved by making one continuous cut around the pipe by rotating the pipe with the help of a colleague. If this is not possible place the saw down on the ground whilst you rotate the pipe and then start cutting again. Never attempt to hold the saw in one hand whilst trying to rotate the pipe.



- Any sharp edges may require trimming with an emery stone, file or diamond grinder.
- Never attempt to grind the edge of the pipe with the edge of a diamond blade. This will cause the Diamond blade to lose tension and lead to segments shattering. Diamond blades are not designed to undergo side stress.



## CUTTING TECHNIQUE

The main objectives are to avoid overheating the wheel, and to prevent it from being pinched, trapped or stressed in any way.

- Adjust position of the wheel guard to direct the discharge away from you.
- Be prepared to make straight cuts only. Use a snapline to mark long cuts, and follow the marked line carefully.



- Take a balanced, comfortable stance on the left side of the saw. Never cut with head positioned directly over the saw. Hold firmly with both hands.



- Always throttle up to cutting speed before letting the wheel make contact. The saw may be jerked forward, causing loss of control, if wheel is in contact during throttle up. Carefully let the cutting edge of wheel make light contact with the work. Hold saw steady. Do not let it tilt left to right or wobble. This guide will help you to improve your pipe cutting technique and blade selection which will then make cutting quicker, easier and safer for the operative and others on site.

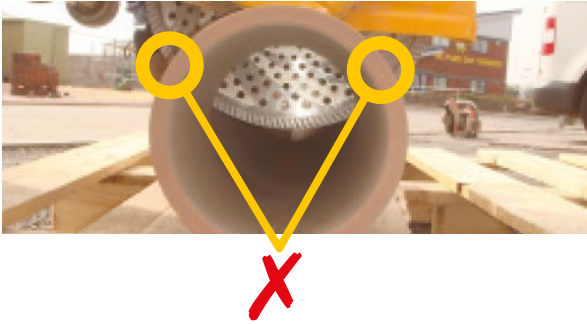


- Do not let the wheel stop in one place, always keep it moving - in one direction, or back and forth, along the line of the cut. Cutting in one spot causes heat build-up which can damage or glaze the wheel. Too much cutting pressure also causes overheating.



USE ONLY THE GREEN AREA FOR CUTTING!

- Never plunge the blade fully into the cut, as there are two cutting points. In this position if the operator changes his footing slightly the blade will twist in the cut and therefore lead to de-tensioning of the blade and will lead to segment fracture. Cutting with the front part of the blade will cause ride out, cutting with the back of the blade will cause kickback.



- Cut a groove as shallow and straight as you can. If you cut a curve, the wheel will start to bind as the cut deepens.
- Go over and over the groove around the periphery of the pipe you have started, until the cut is completed.

- On cuts of long duration, remove saw from cut regularly to let the wheel cool. Every 15-20 seconds on hard brittle materials.



- Never put any side pressure on a cut-off saw wheel, grind on the side of it, or use it to flick away debris.

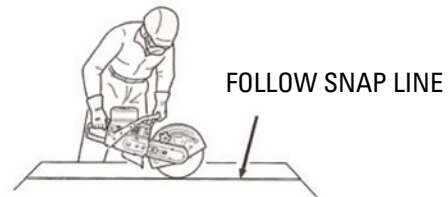
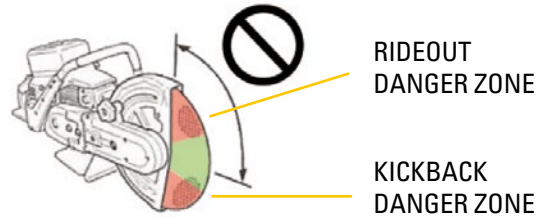
- When cutting large diameter pipe, cut 360 degrees around and try not to cut through. If a large segment of the wheel breaks through, the wheel may catch and kick out at lightning-fast speed.
- Before cutting materials which are not supported along their entire length, provide support to prevent binding. Also be aware that the top section will settle on the wheel if a column is cut in two.

#### NOTE

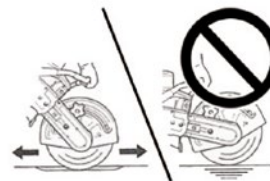
Always cut at full throttle. Cutting at less than full throttle may harm the clutch as it will overheat during slippage.

#### WARNING: DANGER

Do not cut with the front portion of the wheel or the back quadrant, as this will cause kickback and rideout which is extremely dangerous.



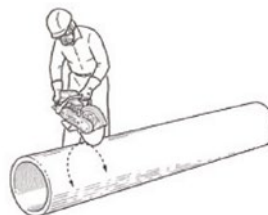
KEEP WHEEL MOVING



CUT IN A STRAIGHT LINE



ROLL PIPE TO CUT 360° AROUND



TRY NOT TO LET WHEEL BREAK THROUGH IN ONE PLACE



# VXX50

## VACUUM BRAZED SEGMENTED RIM

### RESCUE & DEMOLITION

1000 Expert



Cat® 1000 Expert vacuum brazed segmented diamond blades are designed to exceed all products' performance in terms of life speed & span of application. They are for use on intensive applications by expert users & speciality contractors. Ultimate diamond quality & bond formulation.

#### ATTRIBUTES

- MULTI APPLICATION MATERIAL CUTTING
- 75X LONGER LIFE THAN TRADITIONAL ABRASIVE BLADES
- CONSTANT DIAMETER FOR MAXIMUM CUTTING CAPACITY
- CLEANER & SAFER - LESS DUST, LESS SPARKS & LESS ODOUR
- HEAVILY CONCENTRATED DIAMONDS GIVE A COARSER CUTTING EDGE COMPARED TO STANDARD DIAMOND BLADES
- COOLING HOLES CLOSE TO THE EDGE DISSIPATE HEAT TO MAINTAIN OPTIMUM COOL CUTTING PERFORMANCE
- SUPERIOR QUALITY DIAMONDS: FOR LONGER BLADE LIFE
- OBLIQUE SEGMENTED RIM DESIGN: WITH SUB-SEGMENTED CUTTING EDGE IMPROVES EFFICIENCY & REMOVES DEBRIS FROM THE CUT
- THICK BODY PLATE: STRENGTHENS THE BLADE FOR STABILITY & ACCURACY.

#### APPLICATION

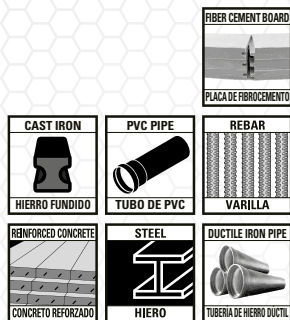
★★★★ REINFORCED CONCRETE, CAST IRON, STEEL, DUCTILE IRON PIPE, FIBERGLASS, REBAR, PVC PIPE, FIBER CEMENT BOARD.



DRY CUTTING



WET CUTTING



PRODUCT		DIAMETER		SEGMENT HEIGHT		SEGMENT WIDTH		MAIN ARBOR - BORE		REDUCING RINGS INCLUDED		MACHINES USED
PART NO	CODE NO	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	
DA91104U	VXX500422	105	4	5	0.197	2.8	0.110	22.23	7/8	15.88	5/8	
DA91145U	VXX504522	115	4 1/2	5	0.197	2.8	0.110	22.23	7/8	15.88	5/8	
DA91105U	VXX500522	125	5	5	0.197	2.8	0.110	22.23	7/8	15.88	5/8	
DA91106U	VXX500622	150	6	5	0.197	3.2	0.125	22.23	7/8	15.88	5/8	
DA91107U	VXX500722	180	7	5	0.197	3.2	0.125	22.23	7/8	15.88	5/8	
DA91109U	VXX500922	230	9	5	0.197	3.2	0.125	22.23	7/8	15.88	5/8	
DA91110U	VXX501022	250	10	5	0.197	3.2	0.125	22.23	7/8	15.88	5/8	
DA91112U	VXX501225	300	12	5	0.197	3.6	0.142	25.4	1	20	20mm	
DA91114U	VXX501420	350	14	5	0.197	3.6	0.142	20	20mm	N/A	N/A	
DA91114U	VXX501425	350	14	5	0.197	3.6	0.142	25.4	1	20	20mm	
DA91116U	VXX501625	400	16	5	0.197	3.6	0.142	25.4	1	20	20mm	



**WARNING:** This product can expose you to "Nickel" which is known to the State of California to cause cancer & birth defects.  
**ADVERTENCIA:** Este producto puede exponerlo a un "Níquel" que el Estado de California sabe que causa cáncer y defectos de nacimiento.  
**AVERTISSEMENT:** ce produit peut vous exposer à un "Nickel" connu de l'État de Californie pour provoquer le cancer et des malformations congénitales. [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



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**SILICA DUST:** Workers who are exposed to respirable crystalline silica dust are at increased risk of developing serious silica-related diseases. It is necessary to use saws & other machinery that is equipped with an integrated water delivery system that continuously feeds water to the blade. Operate & maintain all tools in accordance with manufacturer's instructions to minimize dust emissions & always wear the correct ventilator. For more info visit: [www.osha.gov/sites/default/files/publications/OSHA3681.pdf](http://www.osha.gov/sites/default/files/publications/OSHA3681.pdf)



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