

QUALITY TOOLS
EASY TO USE
EASY TO WORK

UKAM Industrial Superhard Tools

Division of LEL Diamond Tools International, Inc.

Getting the most from your Diamond Blade

Diamond Tools

- Industrial
- Commercial
- Consumer

WARNING:

Diamond Blades improperly used are dangerous. Comply with American National Standards Institute Safety Code B71 and Occupational Safety and Health Act Covering PEED – SAFETY GURADS – GLANGES – MOUNTING PROCEDURES – GENERAL INSPECTION – GENERAL MACHINE CONDITIONS.

WARNING:

Sawing and drilling generate dust. Excessive airborne particles may cause irritation to eyes, skin and respiratory tract. To avoid breathing impairment always employ dust controls and protection suitable to the material being sawed or drilled. In accordance with OSHA (29 CFR 1910.1200).

WARNING:

The use of this product can cause the exposure to a chemical or chemicals known to the State of California to cause cancer and/or birth defects or other reproductive harm.

WARNING:

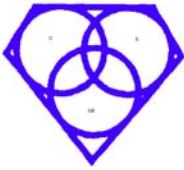
This product contains a chemical known to the State of California to cause cancer or birth defects or other reproductive harm.

In order for you to get the most out of your new blade, we strongly urge you to read and follow these instructions and suggestions. They have come from years of experience in research, development and manufacturing of precision diamond products. As well as years of personal experience and observations of users like you.

Before Installation

The following recommendations are given so that best results may be obtained in using diamond wheels:

25345 Avenue Stanford, Unit 211 Valencia, CA 91355
Phone: (661) 257-2288 Fax: (661) 257-3833



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Step 1:

Inspection

Visually examine blade for cracks or any other damage. Do not use if damage is suspected. Damaged, incorrectly mounted, or misused blades can be very dangerous to use.

Step 2:

Mounting

Care should be taken in mounting a diamond wheel. Flanges, back plates and spindle should be clean, free of burrs, and run true. By using an indicator and tapping lightly on a wood block held against the wheel, make sure the wheel is within .005" of true rotation. Tighten the flanges securely and recheck with an indicator before using. The use of permanent mounting should be practice where convenient.

Please check the shaft of your machine for looseness that may indicate worn bearings. Also, check shaft for wear on the shaft itself. Blade should fit snugly.

Step 3:

Flanges

A pair of same size flanges with proper relief should be approximately $\frac{3}{4}$ " the diameter of the blade. Flanges must be free of rust and dirt. Your blade should turn perfectly true after flange nut is tightened. Carriage alignment must be accurate for deeper cuts to prevent blade bending. Do not use blades that rattle or wobble on the tool.

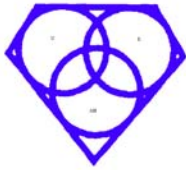
Step 4:

Safety

Always wear proper safety equipment: Safety footwear, snug fitting clothing, safety goggles, hearing and head protection, and proper respiratory equipment. Always use blade guards provided on machines. Do not remove and safety devices. They are for your protection.

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Step 5:

Before Using

Make sure that the arrow on wheel point in the same direction as shaft rotation. Best performance and life will result. Before performing any cutting operations, let the tool run for a few seconds without load. If blade wobbles, vibration or unusual noise occurs, stop the tool immediately. Inspect blade for damage or incorrect mounting.

Recommended Operating Speeds

Diamond Wheels should be operated in the range of 3,150 to 500 surface feet per minute. Optimum performance and life will be obtained and the 5,000 s.f.m. For your convenience we present the following chart of optimum RPM of shaft for each wheel size.

| Diameter | Suggested RPM |
|----------|---------------|
| 4" | 4,000 |
| 6" | 2,675 |
| 8" | 2,000 |
| 10" | 1,600 |
| 12" | 1,325 |
| 14" | 1,140 |
| 16" | 1,000 |
| 18" | 1,000 |
| 20" | 900 |
| 22" | 825 |
| 24" | 700 |
| 30" | 550 |
| 36" | 500 |

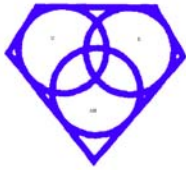
Coolants

It has been found that generous flow of coolant increases diamond wheel efficiency. The proper placement of coolant is also important. The coolant must be applied in the proper place or it will not cool the wheel or the material being worked on properly. Coolant should always be directed so that the full flow is at the point of contact between the same direction as the rotation of the wheel.

Never run a diamond wheel dry. Severe damage will result.

Coolants do 3 things:

- a.) cool blade and material being cut
- b.) clean out abrasive particles formed in cut
- c.) provide lubrication to keep cutting edge clean



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UKAM Industrial Superhard Tools diamond wheels are designed to give you a straight cut in plain water. Although better performance and longer life in some cases may be obtained by using a water soluble coolant.

Wheel Dressing and Truing

Feed material slowly into blade so that the blade does not lead off. **Never force a diamond wheel.**

Excessive pressure can cause your wheel to bend or dish. Feed rate should never be so great that the wheel slows down. And diamond wheel may occasionally require dressing of the wheel or a dressing stick made specifically for this purpose. Use coolant with this procedure. The **SMART CUT** diamond bond is designed to minimize this procedure. By using enough coolant and following the suggested procedures, you can rest assured this will require a minimal amount of time as compared to most blades.

Defects

If for some reason, you feel there is a manufacturing defect, please return the blade where it was purchase with a note explaining the difficulty. Defective blades will be repaired or replaced. USER CAUSED problems will be repaired at the user's expense.

When to replace a diamond wheel

Diamond wheels that are:

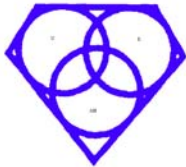
- a.) dished
- b.) bent
- c.) fluttering
- d.) not running true

If you your diamond wheel has a tendency to pull to one side, making uneven cuts, reverse the blade. If you still have the same problem, the problem could be the vise alignment. If after reversing the wheel cuts to the opposite side, it may be bent or dished. Should this be the case, the wheel must be repaired or replaced before further use. **Never continue cutting with a damaged diamond wheel.**

Most Frequent Source of Wheel Damage

Most frequent source for diamond wheel damage is attempting to cut too large a piece of material. Maximum material size should be no more than 3/8" of blade diameter.

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Trouble Shooting

We are here to help you get the most out of your diamond wheel investment. If you have a problem, have a question, need further guidance or assistance please contact us at Phone: (661) 257-2288. Our experienced engineers will provide valuable suggestions on how to improve your diamond machining operation. We encourage you to provide as much information as possible on your application and periodically update us on the diamond tool progress.

Do's

1. Always inspect flanges for burrs, warpage, cleanliness, and flatness.
2. Check blades carefully before each use for proper alignment and possible defects.
3. Maintain a firm grip on the tool during cutting operations.
4. Keep bystanders and/or animals out of the work area.
5. Make sure all users of the diamond wheel comply with safety regulations.

For use, see safety codes:

U.S.A. – ANSI B7.1 and OSHA regulations
Canada – CSA

Don't

1. Do not Alter the hole in the blade creating an unbalanced blade rotation resulting in wobbling, pounding or cracking which could be hazardous.
2. Do not stand in line with blade and stream of hot particles.
3. Do not force a tool. A diamond wheel/blade is intended for straight line cutting only. Cutting curves can cause stress cracks or fragmentation on the blade, resulting in possible injury to persons in the vicinity.

Do not use side pressure or grind with the side of the blade.

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