

General Instructions for Use and Safety Recommendations for the Application of Dental Rotary Instruments

All **EDGE Diamond Burs** have been developed and designed for their specific use. Improper use can lead to damage to tissues, premature wear, destruction of the instruments and may cause danger to users, patients or third parties.

Rotary instruments for use in medical applications are to be used only by doctors or other experts who are adequately skilled, trained and experienced in the safe handling of these instruments.

1. Proper use

- Only handpieces, turbines and contra-angles that are in perfect technical and hygienic condition may be used.
- The instrument must be rotating at the appropriate speed before contact is made with the workpiece, tissue, etc.
- Chuck the instruments as deeply as possible.
- Avoid jamming and using the instrument as a lever as this increases the risk of breakage.
- Wear safety goggles wherever required.
- Avoid unprotected contact with the instruments, the use of protective gloves is strongly recommended.
- When using rotary instruments ensure sufficient cooling (except when the manufacturer recommends use without cooling).
- Coarse grit diamonds may lead to increased thermal stress. When using these instruments ensure sufficient cooling and work with minimal contact pressure. After using these instruments, subsequent finishing is required

Improper use increases the risk of injury and/or damage and leads to inferior results. Therefore, stick to the application and speed recommendations as indicated on the labels.

2. Recommended speeds

- You will achieve the best results when observing the instrument-specific recommended speed.
- Long and pointed instruments may break when the recommended speed is exceeded due the possible vibration in the tip area.
- In case of instruments where the diameter of the working part exceeds the diameter of the shank strong centrifugal forces may occur if the selected speed is too high. This may result in bending of the shank and/or breakage of the instrument. The recommended maximum speed must not be exceeded.
- The general rule is: the larger the working part, the lower the selected speed should be. Not observing the speed recommendations leads to an increased safety risk and/or inferior results.

3. Contact pressure

- Excessive contact pressure must be strictly avoided.
- Excessive contact pressure can cause thermal damage to the tooth or the pulp. Moreover, excessive contact pressure may lead to undesirably rough surfaces due to broken blades.

4. Cooling

- To avoid undesirable heat generation sufficient cooling with air/water mix of min. 50ml/min needs to be provided during preparation.

- When using EDGE Diamonds, sufficient water cooling needs to be provided continuously.
- Insufficient cooling may cause permanent damage to the tooth, surrounding tissue and/or pulp.

5. Frequency benchmark for the application of rotary instruments

The following values serve as a reference only; the actual service life may differ depending on the application, usage and material.

- Diamond instruments approx. 30x

If the instrument shows no visible or obvious wear, it may sometimes be used longer than specified.

6. Elimination of worn instruments

Blunt and damaged instruments may lead the user to apply excessive contact pressure which in turn generates increased operating temperatures. As this can result in permanent thermal pulp damage, instruments showing wear, damage or which are blunt have to be discarded immediately. Moreover, instruments which are bent or "out of true" or which show blank spots on the surface of the diamond coating must be eliminated immediately.



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