

User information – Laboratory

GB INSTRUCTIONS FOR USE

NTI-Kahla GmbH instruments have been developed for use in the dental laboratory. Each instrument has been designed for a specific area of application. Use on unsuitable materials or incorrect use can damage the instrument or the object being prepared. This can also reduce the service life of the instrument. Incorrect use can cause injury or damage the health of the user or a third party.



Instructions for use of rotary instrument handpieces:

1. The instruments should only be used in handpieces tested and approved for dental technology purposes.
2. Dental technology handpieces should be regularly cleaned and checked to ensure that they operate perfectly.
3. Handpieces should only be repaired in workshops approved by the drive manufacturer.
4. The rotary instrument should be inserted into the chuck as far as it will go or to the coloured mark.

Safety precautions when preparing with rotary instruments:

1. Protective glasses should be worn.
2. Protective clothing, e.g. laboratory coats, prevent injury as well as damage to clothing.
3. Adequate suction of dust when preparing reduces the risk of silicosis.

Instructions for use of rotary instruments in the dental laboratory:

1. **Choice of instrument:**
All rotary instruments can be used without restriction on dental laboratory materials in the dental laboratory.
2. **Use of instruments on patients:**
The regulations of the Medical Devices Act and the Medical Devices Directive 93/42/EEC and associated laws and regulations apply to the use of the instruments on patients. Instruments that are used on patients have to be approved for that purpose and carry the CE mark:
Designation for :
a) NTI Class 1 products is 
b) NTI Class IIa products is 
Laboratory instruments (without CE mark) are not approved for use on patients.
3. **Checking:**
The instrument should be checked for damage before use.
4. **Practical use:**
Set the handpieces to the correct operating speed for the material to be prepared before allowing the instrument to come into contact with the material.
5. **Note:**
When preparing with a rotary instrument, it is essential to avoid leverage, tilting or excessive pressure.
6. **Motor operating speeds:**
Adhere strictly to the recommended motor operating speeds for the respective task and instrument.
7. **Overheating of the material:**
Overheating the material being prepared can have a detrimental effect on the properties of the material. At worst the material can lose the quality required for use in the oral cavity.
8. **Overheating of the instruments:**
Excessive motor speeds and excessive pressure cause overheating and tempering of the instrument, which can then lose its grinding and cutting capacity and damage the material.

9. Storage:

All rotary instruments should be stored so that they do not hit or rub against one another or come into contact with a base. Diamond instruments can damage tungsten carbide instruments and tungsten carbide instruments can damage shanks. Polishers that rub against other instruments can contaminate them or cause damage. All types of discs are easily damaged if stored flat. Diamond and separating discs are damaged to such an extent when stored flat that it can lead to fractures, cracks etc. during use. This may result in injury to the operator.

10. Operating pressure:

Excessive operating pressure increases the risk of instrument fracture. It can also result in damage to the working section, fracturing at the blades and splitting off of the diamond coating as well as increased heat build-up. All this reduces the service life of the instrument. Operating pressure should be 0.2 – 0.5N (20 - 50p). Fine cutting blades or diamonds should be used for fine adjustments. Intermittent contact when reducing the material with super coarse and coarse instruments causes recoil vibrations resulting in shank fracture.

11. Cleaning diamond instruments and metal-bonded sintered diamonds:

Electroplated diamond instruments and sintered diamond instruments with Order Nos. G5009 – G5027; G5102 – G5123 and G5161L; G5206, G5211, G5218; G5331 and G5332 as well as G5113 and G5122 require regular cleaning. Cleaning stone G9920 should be used for cleaning. The cleaning stone should only be used wet. Sintered diamonds will be reactivated and contamination can be cleaned from electroplated diamonds with the cleaning stone.

12. Cleaning tungsten carbide instruments:

The cutting blades of tungsten carbide instruments can be cleaned of surface dirt with a small toothbrush and in the case of ingrained dirt with the wire brush P6820. The instrument should never be heated.

13. Cleaning polishers:

All polishers in the NTI range can be cleaned and reshaped with the diamond dressing stone P4060. Dress and adjust un-mounted polishers before the first use.

14. Special precautions when using chemical fluids:

Instruments should not come into contact with acids, caustic solutions, methylmethacrylates (monomers), alcohol or H₂O₂ (hydrogen peroxide), as this could cause irreversible damage. Extra care should be taken when pickling alloys at the workbench.

15. Steel instruments:

Steel instruments made from unconditioned tool steel are very sensitive and should be protected particularly against any kind of liquid, including water, and stored dry. Any liquid spilled on an instrument should be removed immediately.

Storage and Keeping Conditions:

In dry conditions and protected against contaminants. Protect instruments in general against chemicals, acids, heat and extreme temperature variations.