

Instructions for use and safety recommendations

Intensiv Diamond Instruments



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Diamond rotating instruments for dentistry

Product description

- Stainless steel with diamond coated working parts
- Diamond grit-sizes: 8µm – 150µm
- Shapes: ball, inverted cone, pear, cylinder, flame, tapered, pointed, torpedo, football, wheel, lenticular, special shapes
- Available as Friction Grip (FG) or Right Angle (RA)
- Compatible with turbines, contra-angles
- Sterilizable and reusable

Indications

- Preparations for restorations and prosthetics in dentistry
- Periodontic treatments
- Orthodontics

Instructions for use

- Insert the instrument as deeply as possible into the chuck (FG) or until safety "click" is heard (RA) (figure 1a).
- Set the handpiece at the required working speed (table 1) before applying the instrument to the treated area.
- Activate water spray during the entire treatment (minimum 50 mL/min).
- Regulate water flow in case of water excess or shortage.
- Provide additional waterspray cooling for instruments exceeding ISO 027.
- Work applying the suggested operating force (table 1).
- It is recommended to use a dental dam.
- Use the instruments over the entire length of their working head and not just at the tip, so as to avoid an unconscious increase of the contact pressure causing local overheating (figure 1b).
- Once the preparation has been completed, remove the instrument from the site and allow it to come to a standstill.
- It is advisable to wear safety glasses, depending on the application.

Maintenance and sterilization

- Clean the instruments and remove debris after each use, so as to maintain their abrasive properties.
- Instruments are delivered non-sterile. They must be disinfected and sterilized prior to first use on the patient and disinfected, cleaned with bristle brush or sonic bath and sterilized immediately after each use.
- Disinfect the diamond instruments separately from non-stainless steel instruments, such as polishers and abrasives.
- Use only cleaning/disinfection solutions that provide corrosion protection, and strictly observe the concentrations and reaction times recommended by the manufacturer.
- In case of heavily contaminated instruments it is advisable to use an ultrasonic bath.
- After disinfection, inspect the instruments for residual contamination. If necessary, repeat the disinfection/cleaning procedure.

- Clean clogged diamond surfaces using the special Intensiv Cleaning Rubber Diakleen or a suitable brush. Thoroughly rinse the instruments with water and dry them immediately.
- Check for possible damages; dispose of oxidized, blunt and eccentric instruments.
- Sterilization must be carried out according to validated procedures.
- Use a single-pulsed or fractionated vacuum autoclave and subvacuum drying. Chemiclave sterilizers may also be used. Hot air sterilizers are not suitable for diamond instruments.
- Cleaning, disinfection and sterilization can be also carried out using professional washer disinfectors and sterilizers.
- Concerning the sterilization process we refer to the ISO standard 17664. We suggest to follow the indications below:
Cycles at 134°C:
Tmin = 134°C – Tmax = 138°C
Pressure = 3.15 bar abs
Time = 4 min (raisable)
Cycles at 121°C:
Tmin = 121°C – Tmax = 125°C
Pressure = 2.10 bar abs
Time = 16 min (raisable)

Risk warnings

- Avoid jamming or levering actions when rotating, as this increases the risk of instrument breakage.
- Never exceed the specified maximum speed, so as to avoid instrument breakage caused by the generation of powerful centrifugal forces. This occurs in particular when the diameter of the working head exceeds that of the shaft (figure 1c).
- Avoid temperatures above 180°C which may affect the durability of the instrument.
- Avoid applying forces greater than the recommended values, as this could cause damage to the instrument and the treated area.
- To ensure traceability of the instruments during their entire application, it is recommended to keep the packaging.

Figure 1

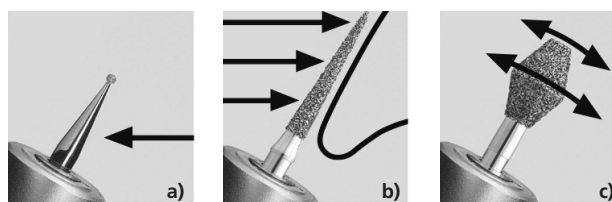


Table 1 Recommended speeds and contact pressures for Intensiv Diamond Instruments

ISO ø 1/10 mm	Speed min. -1		Contact pressure									
	Speed range	Max.	Grit Extra fine N (=g)		Grit Fine N (=g)		Grit Medium N (=g)		Grit Coarse N (=g)			
008 - 011	150'000 - 75'000	230'000	0.1	(10)	0.1	10	0.2	(20)	0.3	(30)	0.4	(40)
012 - 016	110'000 - 55'000											
018	85'000 - 42'000											
021 - 023	75'000 - 37'000											
025 - 027	60'000 - 30'000											
031	55'000 - 27'000											
033 - 040	45'000 - 22'000											
042 - 055	37'000 - 18'000											
060 - 075	32'000 - 16'000											
080 - 090	27'000 - 13'000											
100 - 105	22'000 - 11'000											
120 - 130	15'000 - 7'000											
135 - 140	13'000 - 6'000											
160	10'000 - 5'000											
175 - 180	7'000 - 3'000											
220 - 220	5'000 - 2'500		1,0	(100)	1,0	(100)	1,5	(150)	2,0	(200)	3,0	(300)
Water spray minimum 50 ml / min.			Finishing 20'000 - 40'000 min. -1									