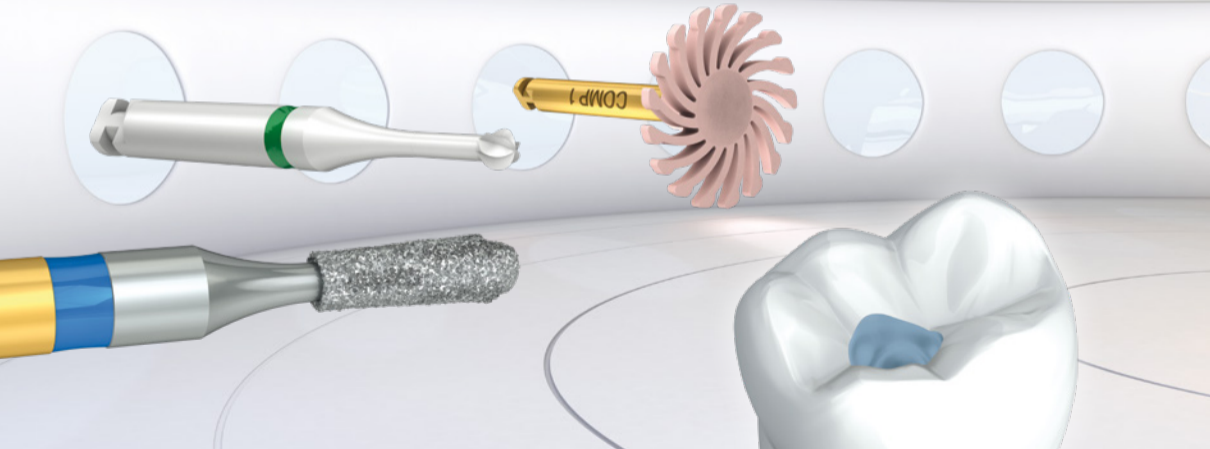




Compass | Filling therapy

Recommendations - Products and their use in the dental practice.



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- 8 - 15 **Preparation of cavities**
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Ceramic polishers
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Modern dentistry makes use of various methods and materials to restore damaged teeth. Apart from old favorites, new or enhanced materials – such as hybrid ceramics or nano composite – are frequently used. These changes are now supported by a growing range of special preparation instruments made by Komet.

In cooperation with renowned dental experts, such as Dr. Neumeyer (Eschlkam), Dr. M. Oliver Ahlers

(Hamburg), Prof. Dr. Kunzelmann (Munich) or Dr. Agabiti (Italy), we managed to set worldwide standards without neglecting the traditional approach in dental filling therapies. On the following pages, we would like to give you an overview of the various options available to ensure a successful treatment sequence. Like this, you will always be optimally prepared and ready to face any situation at your practice!

Removal of old fillings.

Amalgam remover H32 and composite remover 4COMP.

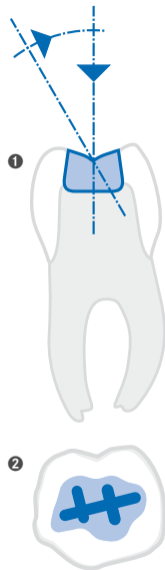
The removal of old amalgam fillings has always been a topical issue in the dental practice. In cases of previously treated, recurring caries, special emphasis has been placed on the safe and gentle removal of the filling and above all on keeping the treatment time as short as possible.

The amalgam remover H32 and the composite remover 4COMP have been developed as specialised instruments for this very purpose. These two professionals remove old fillings with ease – even in cases where traditional instruments did not always produce satisfactory results.

Recommended use

The amalgam remover H32 and the composite remover 4COMP are used by drilling into the filling in an axial direction or from an inclined position (fig. 1).

Drill out composite fillings in the usual manner. Amalgam restorations are removed by cutting several longitudinal and transversal separation grooves, depending on the size of the filling (fig. 2). By cutting the filling into several smaller segments, some fragments of the filling might already break off the cavity. Finally, any residual filling material is then removed with suitable manual instruments (or with the H32).



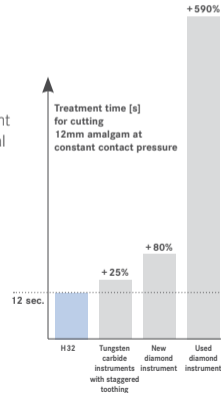
Amalgam remover **H32** – for a remarkably quick removal of amalgam fillings without adverse health effects.

The most distinctive feature of this bur is its pronounced tip trans-versing blade at the tip of the instrument. This lends the H32 its impressive properties such as outstanding axial drilling ability, low resistance to penetration and large chip spaces – all of which are preconditions for the effortless and speedy use of this bur. In addition, the clearly defined chip spaces ensure problem-free evacuation of any debris.

Compared to frequently used diamond abrasives, the H32 will not clog up, thus preventing the otherwise unavoidable generation of excessive heat. All in all, the powerful H32 is an outstanding specialist in proven Komet quality. Old amalgam fillings are removed in record time with comparatively low heat generation. As a result, only a minimum of potentially toxic mercury vapors is released, thus protecting the health of both patients and all members of the practice team.

Speed:

- Recommended use at an optimum speed of $\varnothing_{opt.}$ 160,000 rpm in a red contra-angle. The instrument can also be used in a dental turbine.



Composite remover **4COMP**.

Tough on the outside – structured on the inside.

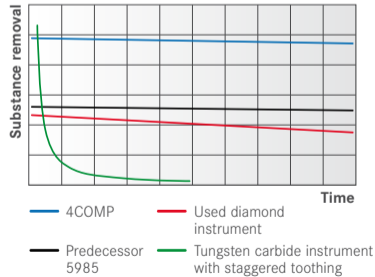
For perfect results, modern materials require optimally adapted instruments. This is why Komet has developed the innovative diamond coated abrasive 4COMP exclusively for the quick and effective removal of composite fillings. The shape, size and grit size of this instrument guarantee optimal removal of all commonly used types of composite. The most distinguishing features include the active tip, the pear shape and the special structure of the blank. The special tip of the working part permits axial drilling, thereby

enabling the removal of large amounts of composite right from the first rotation of the bur. The real secret of this composite remover's success, however, is its structured core. The multi-surface structure of the special steel blank provides additional chip and hollow spaces, thus increasing the efficiency of the diamond instrument and ensuring exceptionally quick removal of fillings.

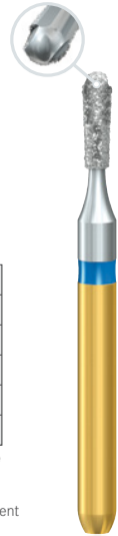
Speed:

- Recommended use at an optimum speed of \varnothing_{opt} 160,000 rpm in a red

contra-angle. The instrument can also be used in a dental turbine.



Source: Test lab Komet Dental, 2019

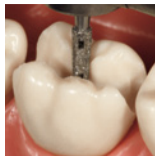


Preparation of cavities.

Efficient, minimally invasive and precise.

With its vast range of instruments for cavity preparation, Komet actively contributes to the development of modern dentistry without neglecting the traditional approach. Our range includes instruments that follow the basic concept of minimally invasive dentistry as well as conventional diamond instruments in well-established shapes and sizes.

The successful S-Diamonds for cavity preparations are the perfect choice for effective restorations. Thanks to the ample range of established shapes and sizes, optimum preparatory work for the subsequent direct or indirect restoration can already be done during the preparation of the cavity.



Smaller defects can be treated with special instruments that are ideally suited for minimally invasive, precise shaping of cavities and cavity margins while preserving as much healthy dental substance as possible.

S-Diamonds.

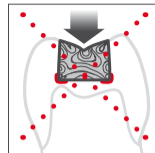
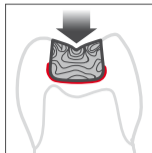
Fast and effective results during cavity preparation.

The opening and initial preparation of the cavity are carried out with structured diamond instruments. In combination with coarse grit, these instruments achieve faster and more effective substance removal with improved cooling.

The multi-faceted structure of the blank (fig. 1) reduces clogging and the resulting heat generation, making the work flow considerably more effective. In comparison to the performance of commonly used diamond instruments, the substance removal achieved by

the structured S-Diamonds is measurably superior.

Our instruments with rounded working part edges deserve a special mention. These instruments create rounded inner angles during preparation, thereby preventing the possible formation of micro cracks. These instruments are particularly recommended for preparing the cavity prior to the receipt of a ceramic restoration.



Speed:

- Recommended use at an optimum speed of $\text{opt. } 160,000 \text{ rpm}$ in a red contra-angle. The instrument can also be used in a dental turbine (except S6845KR.314.025).



Product information



Sets 4337 and 4337F for micropreparation.

Diamond instruments for minimally
invasive cavity preparation.

The minimally invasive preparation of cavities requires instruments with small working parts and slender necks, like those contained in the instrument sets developed in collaboration with Dr. Stefan Neumeyer (Eschlkam).

The user can choose between instruments with normal (set 4337) or fine grain (set 4337F), according to the amount of substance to be removed and the surface roughness.

Small instrument sizes (889M/838M/830RM) are used for the tissue-preserving opening of large, profound carious lesions (fig. 1) or for eliminating minimally undermining carious in the fissure region (fig. 2).

The special shape and the diamond coated neck of the instruments 830M/953M/953AM facilitate the option of preparing rounded surfaces with undercuts, especially when working at inner areas in the interproximal region (fig. 3).

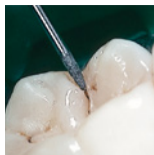


Fig. 1



Fig. 2

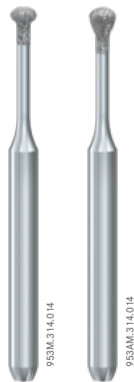


Fig. 3

For hard-to-reach areas and pediatric dentistry, we recommend our set 4337.313 containing FG instruments with a short shank.

Speed:

- Recommended use at an optimum speed of $\odot_{opt.}$ 160,000 rpm, preferably in a red contra-angle. Optimum speed for finishing: $\odot_{opt.}$ 20,000 rpm.





Set 4337



Set 4337F



Handy hint:

For treating dentin caries we recommend the set 4383 according to Dr. Stefan Neumeyer. The set contains selected micro-preparation instruments: tungsten carbide burs and diamond finishers for retouching fillings.

Opening of fissures:



Handy hint:

The sonic tip SF849 is a special alternative for the careful opening of fissures.



Handy hint:

The K59.314.010 (ceramic) or the H59.314.010 (tungsten carbide) and/or the H59.313.010 with a 3 mm shorter shank are also recommended for those who prefer working with rotary instruments.

Micro/Bevel.

Apart from our rotary instruments for micro preparation, we now offer sonic tips for the minimally invasive treatment of carious lesions in their early stages. The preparations created by traditional, rotary methods are often larger than necessary. In the critical interproximal spaces, this can sometimes endanger healthy adjacent teeth. This is where the Micro tips come into their own.

Thanks to their tiny working parts, these tips are particularly suitable for small, hard-to-reach lesions. The tips come in a smaller size (size 016) and a larger size (size 024). They are equally suitable for creating an occlusal or a lateral access to the cavity. The Bevel tips serve to bevel the cavity walls to a 45° angle with precision.



All tips are coated with diamond grit on one side only to prevent damage to the adjacent teeth. Both mesial and distal versions are available.

Power setting 1: gentle treatments



Handy hint:
Sonic tips are also available with a Quick connection.



PrepMarker.

When creating ceramic restorations, it is particularly important to observe the minimum surface thickness required by the ceramic material as early as the preparation stage.

Designed for marking the required depth prior to the actual preparation, the new PrepMarkers are particularly suitable for all-ceramic restorations (e.g. (partial) crowns, onlays or overlays). They are not only suited for occlusal, buccal, oral and vestibular use, but also for new preparation methods, for example the so-called “table tops”.

The instruments are available in 4 versions: 0.5 mm, 1 mm, 1.5 mm and 2 mm. The correct depth can be identified at a glance, thanks to the clearly visible laser mark on the shank which makes the PrepMarker particularly user friendly.





Photos courtesy of
Dr. Olivier Etienne



Photo courtesy of
Dr. Jürgen Wahlmann



DM05.314.009

T = 0,5 mm



DM10.314.009

T = 1,0 mm



DM15.314.009

T = 1,5 mm



DM20.314.009

T = 2,0 mm

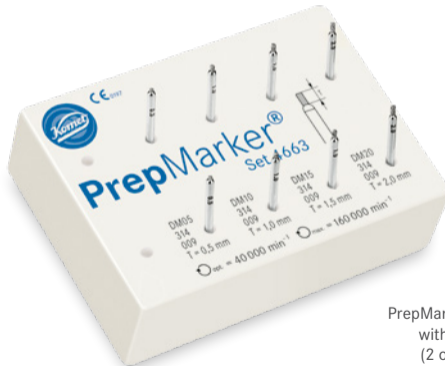
Speed:

- Optimum speed:

☉_{opt.} 40.000 rpm

Maximum speed:

☉_{max.} 160.000 rpm

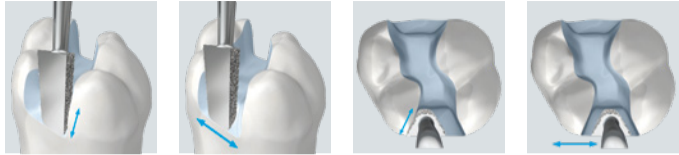


Set 4663
PrepMarker Starter Set
with 8 instruments
(2 of each version)

Sonic tips SFM7 | SFD7.

Ideally suited for
CAD/CAM technology

Interproximal cavity
preparation.



Preparation of interproximal cavities.

In close cooperation with Dr. M. Oliver Ahlers (Hamburg), Komet has developed sonic tips for the preparation of interproximal cavities.

These sonic tips are used after a basic preparation with rotary instruments, for example using the Expert Set 4562ST. Thanks to their rounded angles in the transition area between the axial and the shoulder region, these sonic tips are capable of preparing the cavities to a perfectly chamfered shape, thus creating ideal condi-

tions for taking a precise impression of the preparation, with either conventional impression material or by means of advanced radiographic techniques.

The new sonic tips are therefore ideal for both conventional and CAD/CAM restorations. What's more, they create perfect conditions for the subsequent work in the dental laboratory. The clear and concise shape of the preparation greatly facilitates the construction of precise restorations whilst preserving healthy adjacent teeth.

Tip:
For further information on the preparation of inlays and crowns specially adapted to the requirements of ceramics, see our compass for all-ceramic restorations 10005627.



Recommendations for use in the sonic handpiece SF1LM/S provided by Komet:

- Power level 1: Finishing
- Power level 2: -
- Power level 3: Shaping



Handy hint:

The sonic tips are also available with Quick connection.

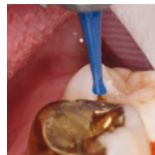
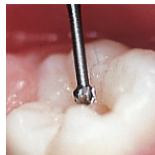


Caries excavation

Low vibration, tactile, self-limiting.

Komet is a world-wide trend setter in all dental sectors, including caries excavation. Our comprehensive line ranges from round tungsten carbide burs with hybrid toothing via round ceramic burs to our PolyBur®, a round instrument made of polymer. Komet round burs are generally available in shank 204, i.e. with a total length of 22 mm, but also in shank 205, i.e. with a 4 mm longer shank. The longer version is particularly suitable for work in deeper cavities.

The concept of a minimally invasive caries therapy continues into the sector of caries excavation. To this end, we developed a few round burs with an extra slim neck. The slender neck construction allows unobstructed vision during excavation. In combination with visual aids such as magnifying glasses or a treatment microscope, these instruments create ideal conditions for minimally invasive treatments.



Our PolyBur, a self-limiting round bur made of polymer, is an indispensable tool in this sector. It is used for excavation in vicinity of the pulp to prevent inadvertent opening of the pulp. The special material of the PolyBur does not allow accidental excessive preparations because after the removal of soft, carious dentin, the instrument automatically blunts on hard, healthy dentin – thus limiting itself.

The Komet range has the perfect bur for every user!

H1SE | H1SEM – Innovative instruments for perfectly smooth treatments.

Thanks to state-of-the-art production technologies, Komet succeeded in developing an instrument with a unique hybrid toothing. Two different types of toothing on one bur head combine dental functionality with high treatment comfort.

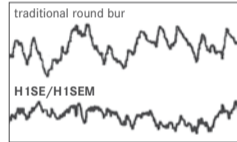
The round shape and the sharp tip transversing blade allow quick and conservative excavating. What's more, thanks to the staggered toothing on the lateral surface of the instrument, vibrations are largely reduced for greater com-

fort to the patient and the dentist.

Results of laboratory tests confirm the subjective perception of a particularly smooth-running instrument. Thanks to its slim neck construction, the version H1SEM further contributes to the minimally invasive concept during excavation.

Speed:

- Recommended use at an optimum speed of \varnothing_{opt} 1,000 - 1,500 rpm.



Vibration behaviour



Product information



K1SM – High-performance ceramics for tactile excavating.

The CeraBur allows tactile work under perfect control. The user can sense it when the instrument leaves the soft, carious dentin. Apart from the outstanding tactility, the instrument is distinguished by its exceptional durability. The perceptions made by the dentists have now been backed up by scientific studies:

The University of Münster confirmed the outstanding performance of the K1SM, and a study conducted by the Queen Mary University of London showed that the service life of the K1SM is

three times as long as that of a round tungsten carbide bur.

Speed K1SM:

- Recommended use at an optimum speed of O_{opt} 1,000 - 1,500 rpm. Use with spray cooling.



Product information K1SM

Starter-Set 4547.204

The handy starter set is the ideal choice for those who wish to get to know the range of round ceramic burs. The set contains 2 instruments each of the sizes 010, 014, 018 and 023. It is also available in shank 205.

Handy hint:

For excavations in vicinity of the pulp, we recommend our self-limiting PolyBur whose blades automatically blunt on healthy, hard dentin.



P1.204.014/018/023

Utility patent patents
DE 10 2008 010 049 · EP 2 260 787*
*pending



Product information PolyBur



Deutsches Patent 10 2006 018 933 · Europäisches Patent EP 1 849 429

Finishing with Komet Instruments.

Rotary, manual, oscillating.

Tungsten carbide finishers or diamond instruments are suitable for work on fillings, however, the former are often given preference because they leave a smoother surface. When choosing a suitable finisher, bear the subsequent polishing process in mind. If the finishing stage is to be followed by a multi-step polishing process, a very fine surface quality does not yet have to be achieved at the finishing stage.

An excellent final result after finishing and polishing should be aspired to. There are special instruments available to this end, especially for finishing interproximal surfaces.

The different finishing levels are identified by colored rings on the instruments.

Tungsten carbide finishers:



○ ultra fine

30 blades



● fine

16/20 blades



● normal

8/12 blades

Diamond finishers:



○ ultra fine

8 μm



● extra fine

25 μm



● fine

46 μm

Diamond finishers.

A perfect surface in 3 steps.

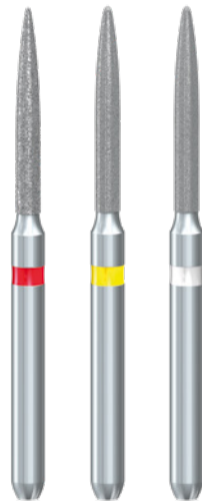
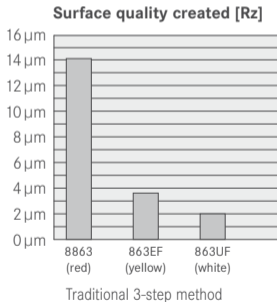
The Komet range generally comprises three different diamond grits for finishing. These can be identified by the corresponding color rings on the instruments. The finishers come with fine diamond grit (red ring), extra-fine diamond grit (yellow ring) or ultra-fine diamond grit (white ring).

To achieve a perfectly smooth surface finish, be sure to use the finishers in the correct order: first red, then yellow and finally white.

For our complete range of diamond finishers see our Komet Dental catalog.

Speed:

- Recommended use at an optimum speed of \varnothing_{opt} 20,000 rpm.



Tungsten carbide finishers.

Increased efficiency with Q-finishers.

Tungsten carbide finishers are the preferred choice for work on fillings because they create a smoother surface than diamond instruments. The use of a 3-step method (normal-fine-ultrafine) was the standard procedure for finishing fillings for a long time.

The **Q-finishers** made by Komet are by far more efficient. Thanks to the development of a new tothing, the finishing procedure could be reduced to just two steps: a Q-finisher is used in the first step, followed by an ultra-fine finisher.

Handy hint:

Provided with a 10 mm long working part, the new H48XLQ.314.012 is particularly recommended for finishing long canines. 10 different Q-finishers are available in total.





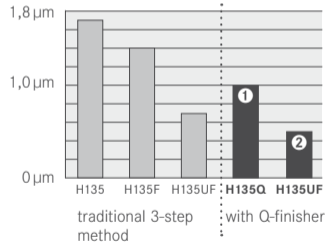
Advantages of the Q-finishers compared to standard tungsten carbide instruments:

- Time savings because one work step can be omitted
- Cost savings because one instrument can be omitted
- Thanks to their specially adapted toothing with cross-cut, the Q-finishers create a better surface quality after just one finishing step than previously after the second step
- The smooth, non-cutting tip of the tapered instruments H134Q and H135Q ensures gingiva-friendly finishing

Speed:

- Recommended use at an optimum speed of \varnothing_{opt} 20,000 rpm.

Surface quality created [Rz]



Product information

Interproximal finishing.

Manual finishing with diamond strips with or without honeycomb structure.

When preparing and finishing interproximal surfaces, damage to the surfaces of the healthy adjacent teeth has to be avoided. Komet's comprehensive range contains several instruments to ensure that the neighbouring teeth come to no harm during finishing. The user can choose between manual finishing by means of diamond strips with or without a honeycomb structure, rotary finishing with a finishing disc or oscillating finishing with sonic tips. The strips are available in 3 grit sizes

(medium, fine and extra fine) and 2 widths. They can be used for shaping and trimming of fillings, creating a smooth, natural looking surface.

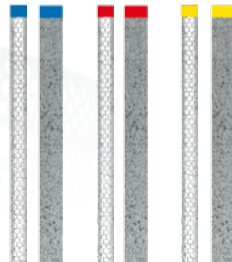
The four main advantages of the honeycomb structures at a glance:

- Efficient removal of excessive filling material
- Less heat generation in comparison to completely coated strips
- Better visual control during work
- Higher flexibility



Handy hint:

For separation, we recommend the separating strip 9816 with serrated toothing.

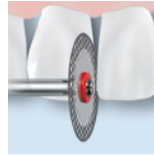


Finishing with a **disc** or **reciprocating files**.

Finishing the rotary way is another comfortable option. The highly flexible finishing disc 952 is capable of removing large amounts of excess material. Thanks to its homogenous honeycomb structure and fine diamond grit, the disc allows perfectly controlled substance removal. The disc is provided with a quick-change system and an integrated slip clutch to ensure safe and efficient use.

Our range also includes diamond coated reciprocating files for work on fillings for those who prefer reciprocating instruments. These files are coated on one side only to protect the adjacent teeth.

Coated on one side only, the DF files are available in four different grit sizes, from coarse to extra fine. For beginners, we recommend our set 4282. The DF files are suitable, for example, for the EVA system made by KaVo.



Set 4282

Finishing with **sonic tips**.

Those who prefer working with oscillating tips can choose their favorite instruments from our range of sonic tips for stripping and shaping. In close collaboration with Dr. Ivo Agabiti, Italy, we developed very thin sonic tips covered in fine grain which are specially designed for interproximal surfaces. These sonic tips are ideally suitable for trimming the interproximal surfaces of composite fillings. The tips are covered on one side only ("M" for mesial and "D" for distal surfaces) to ensure that the neighbouring teeth remain untouched.



Handy hint:
The sonic tips are also available with Quick connection.

Recommended use in the Komet sonic hand-piece SF1LM/S:
Power setting 1 : Finishing

Handy hint:
These sonic tips distinguish from reciprocating files and diamond strips because they allow coronal access, making work considerably more comfortable, especially in the hard-to-reach lateral region.



Stripping:
Coating on the straight side



Shaping:
Coating on the convex side



Brochure

Polishing.

Special polishers for perfect high-shine on all restorations.

A variety of restoration materials is available for filling cavities. These can be roughly divided into composite, ceramic and metal. Komet offers various lines of polishers to suit the different materials in order to produce a perfect result every time. These high-quality polishers come in different shapes and in some cases, with different abrasive agents.

In our catalogue, diamond impregnated polishers are identified by a diamond symbol. The different grit sizes can be recognized by the letter at the end of the reference number:

- C = coarse
- M = medium
- F = fine



Art2 Brochure

When using multi-step polishing systems, be sure to use the polishers in the right order, i.e. from coarse to fine. If contouring takes place as part of a preceding multi-step finishing procedure, the first, rough polishing step can be omitted. Or, even better, you opt for our two-step polishing system Art2 right from the start.

For best results, we recommend that you use a coolant during polishing.



Polishing of composite.

When it comes to polishing composites, there are many ways to achieve a perfect surface quality. But there is one thing all users have in common: The desire to create a glossy finish in little time using high-grade polishers with excellent durability. This is where Komet's two-step system for polishing composite comes in. The polishers ideally combine a long service life with outstanding flexibility. After shaping with a tungsten carbide finisher (preferably a Q-Finisher), the light-yellow, diamond interspersed polishers

are used to achieve a perfect high-shine finish. The surface created with a red ring diamond on its own is still so rough that both polishing steps should be performed.

Speed:

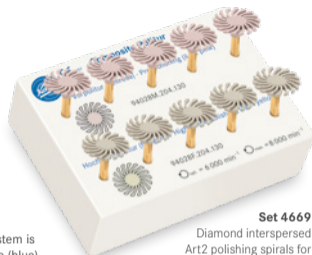
- Recommended use at an optimum speed of \varnothing_{opt} 6,000 rpm. Use with spray cooling.

Note

Alternatively, a 3-step polishing system is also available. Provided with coarse (blue), medium (pink) and fine (grey) grain, the polishers contained in the set 4312A produce a glossy composite surface in three steps.

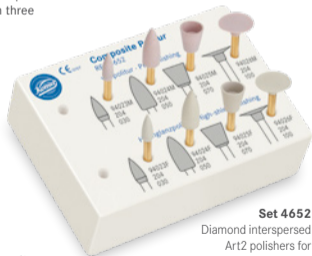


Product information Art2 for composite



Set 4669

Diamond interspersed Art2 polishing spirals for composite (2 steps)



Set 4652

Diamond interspersed Art2 polishers for composite (2 steps)

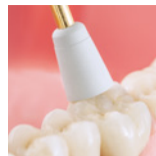
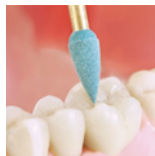
Polishing of ceramics.

The set 4313B was specially developed for the 2-step polishing of ceramic restorations. The surfaces achieved by the diamond interspersed polishers for initial polishing, polishing and high-shine polishing do not require renewed glaze firing after correction. All-ceramic restorations are gaining more and more popularity. These special materials require particularly effective polishers. The polishing set 4622 (also ideally suited for polishing SUPRINITY® made by the co. VITA) is optimally adapted to all-ceramic (i.e. ZrO₂)

restorations. With this set, an amazing shine can be achieved in just two steps. Thanks to their established color code, the pre-polishers (blue) and the high-shine polishers (light grey) are easy to identify. Their most impressive advantages include a particularly long service life and excellent economy.

Speed:

- Recommended use at an optimum speed of \varnothing_{opt} 6,000 rpm. Use with spray cooling.



Handy hint:

Apart from polishers, ZR-Diamonds are also perfectly suitable for corrections and retouches. They are distinguished by their outstanding durability and substance removal.

For further information, you can order our Product Information sheet 410637 with detailed information on our ZR-Diamonds. Our range comprises more than 30 different instruments.



Product information ZR-Diamonds



Set 4622
2-step system for
polishing all-ceramic restorations

Polishing of metal.

Our metal polishers in the traditional colors – brown and green – are intended for polishing amalgam as well as precious and non-precious metal alloys. The brown polisher is ideally suited for pre-polishing and fine corrections, whereas the green polisher is used for subsequent high-shine polishing. The small flames (9608 and 9618) and the cup-shaped instruments (9606 and 9616) enjoy the greatest popularity.

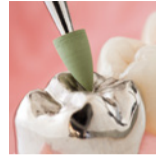
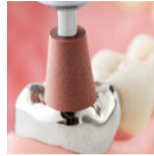
The black polishers made by Komet are specialized in polishing

amalgam. They are capable of making fine corrections and polishing amalgam to a high-gloss finish in just one step.

This classical instrument is available in three varieties: The user can choose between the small flame 9643 in size 030, the large flame 9633 in size 045 and the cup 9632 in size 060.

Speed:

- Recommended use at an optimum speed of \varnothing_{opt} 6,000 rpm. Use with spray cooling.



Komet Dental

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