



Peter T. Pontsa, RDT has over 40 years of experience in the dental profession. In 1991 he established Dent-Line of Canada Inc. and is currently president of this dental supply company. He is a leader in superior professional techniques in fixed and removable restorations and he shares this knowledge through articles and seminars which he regularly provides. Peter is a past president of the College of Dental Technologists of Ontario. He is also pleased to be involved as co-publisher of Spectrum Denturism.

Special Interest Articles:

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- Attachment Bonding Technique Using DTK Adhesive.
- Dent-Line and Micrylium Cater to Infection Control

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A Bulletin Dealing With Issues For Dental Health Professionals

Attachment Bonding Technique Using DTK Adhesive

There are many types of dental cements (adhesives) on the market that have very extensive applications. Typical examples of such cements are zinc phosphate cements obtained by the reaction of zinc with phosphoric acid, carboxylate cements obtained by the reaction of zinc oxide with polycarboxylic acids and glass ionomer cements obtained by the reaction of aluminosilicate glass with polybolic acids. Other filling and sealing cements are also available such as Bredent's DTK adhesive which is classified as a resin based dual cure adhesive cement. It consists of methacrylate resin cements including the latest generation of self adhesive resin cements which contain glass powder fillers in a catalyst paste. In recent years the so called light curing resin-modified ionomer (dual cure) systems have been developed by adding some polymerizable functional methacrylate groups with photo-initiator to the formulation. Such materials undergo both an acid base ionomer reaction as well as curing by photo-initiation of methacrylate carbon double bonds. The requirements for the dental cements are that they should be non irritant to pulp and

gingival, while being resistant to dissolution in saliva or in any other oral fluid. It should also have good aesthetics and good thermal and chemical resistance. DTK adhesive is indicated for use to fix dental attachments to crowns and bridges, implant bars and removable partial dentures. Ultimately it allows the dental health practitioner more flexibility compared to soldering or laser welding the dental attachments to the prosthesis. DTK adhesive has a flexural strength of 80 MPA and an adhesive strength of 350N and has a shelf life of two years. DTK adhesive is approved for sale by Health Canada and its medical device license is # 83262. There are many attachments on the market and just as many techniques and corresponding parts that are incorporated into the prosthesis in order for them to function effectively. Some of them are rather difficult and technique sensitive with many complicated parts that are tricky at best, to assemble and complete. The DTK adhesive resin bonding technique is one that is rather easy to use, with such predictable results it is a wonder that it is

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Dent-Line and Micrylium Cater to Infection Control

Just recently Dent-Line acquired a dealership from the company, **Micrylium Professional Disinfection** and we are now offering Infection Control to all of our customers. Dental health professionals have a reputation for maintaining a serious attitude about infection control; in fact, it is mandatory for the dental professionals to observe this due to legislation. The contact between patients and dental professionals are frequent and the potential for transmission of diseases are great. Education and compliance are essential to the success in breaking the circle of infection. A day to day environment that involves the interaction with dozens of patients and impressions increases the risk of contracting infectious diseases. Serious

attention to procedures, standards of practice of the appropriate barrier, sterilization, and disinfection techniques has reduced this risk for conscientious clinics and laboratories in recent years. Newly developed totally biodegradable surfactants provide maximum surface wetting and cleaning while enhancing the activity of the antimicrobial agent selected. Interestingly, of the several thousand chemistries available from the major multinational chemical companies, over 90% of the surfactants were not readily biodegradable. Safer vapour suppressing agents, extremely necessary to reduce the evaporation of ethanol, have made these solutions more effective and

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Adhesive Bonding for Attachments

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not used more often in the dental laboratory. Adhesive resin-bonding is the union of two components using a bonding agent. Through adhesion and cohesion, the adhesive which is a non metallic substance connects the surfaces together. This procedure has been an essential factor in fabrication and construction in many areas of dentistry and, an example is the Maryland bridge. The fixation of orthodontic brackets and the use of bonding agents in the oral cavity have become common place and are considered state of the art. Recently an adhesive bonding technique

for connecting attachments to enamel had been documented. An especially remarkable procedure in dental technology is the bonding of attachments to Removable Partial Denture cast frameworks, such as with Bredent's "Stud Fixator" attachment (part no. 44002651) which uses a soft integration into the anchoring crown. The DTK adhesive bonding technique has some advantages in bonding to crown and bridge, implant bars, root caps and partial dentures. Some of these advantages are that the negative hurdles in "casting onto"

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Dent-Line and Micrylium Cater to Infection Control

entirely noncarcinogenic. Avoidance of all aldehyde products (Glutaraldehyde) has been our priority. Hospital disinfection can be attained in less time with ethanol based formulations. Micrylium has found that NPE's (Nonyl Phenol Ethoxylates) mimic hormonal structure and function by blocking important reception sites in cells. These types of infection control chemicals are highly toxic and are banned

by all European countries. As an integral part of Micrylium's constitution, any chemical suspected of being a hormone disrupting compound is forbidden from being used in product formulation. The Micrylium products are all toxic free and environmentally friendly. For more details on this new product line contact our friendly order desk at 1-800-250-5111.

Featured Product: Renfert's Twister

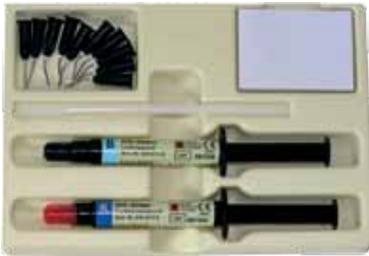
The new Renfert Twister family now has four different versions of twister units. The **Twister Evolution** type is fully programmable and has over 100 individual programs that produce consistent results at the touch of a button. It is a stand alone operation with controlled vacuum pressures and an easy to read digital display. The **Twister Classic** is the manual version and delivers easy operation and offers all standard functions. The same models are also available in a Venturi function; which are not equipped with

a vacuum pump and thus require an additional compressed air connection to operate. The mixing bowls have a special mixing paddle geometry which enables the mixture to be picked up where it lands through the centrifugal force, and mixed thoroughly. Currently we have a special promotional offer; purchase either Twister and receive an 8GB iPod touch. For additional information or to order this exciting new product contact the Dent-line of Canada Order Desk at 1-800-250-5111.

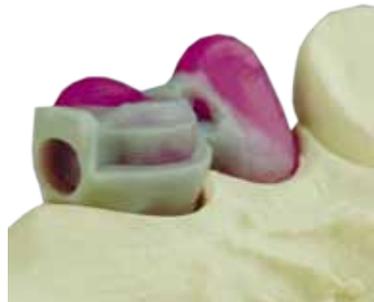
Featured Product: Bredent's Compo Form U.V.

CompoForm UV from Bredent is a light curing composite for modelling fixation of separated bridges and for quick fabrication of post & core coping and full crown restorations. CompoForm UV burns out without leaving any residue and produces homogeneous casting results. The stability of CompoForm UV renders the material perfectly suitable for all types of quick build ups using UV resin. Modelling and forming of telescopic and conical crowns, or implant super structures can be perfectly controlled by a visual check of the layers applied. The high stability of the

cured composite resin allows shaping the restoration with stones burs. Due to its low shrinkage and the fact that it leaves no residue when it is burned out, the composite is ideal for fixing bridges requiring soldering. The making of clasps to be added on to existing RPD can be fabricated in a simple and time saving manner. In addition, undercuts on dies can be quickly and completely blocked out. The assortment includes 2 x 3 ml. syringes and 10 applicator cannulas (54001150). For further information, contact the Dent-line of Canada Order Desk at 1-800-250-5111.



DTK Adhesive Dual Cure Assortment Kit.



Waxed up copings, receive a lingual arm and a cavity for the exchangeable stud.



Renfert's New Twister Series - the Classic & the Evolution



Compo Form UV is sold as an assortment, Part No. 54001150.

Adhesive Bonding for Attachments

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The stud fixator attachment is checked in the cradle for proper alignment.



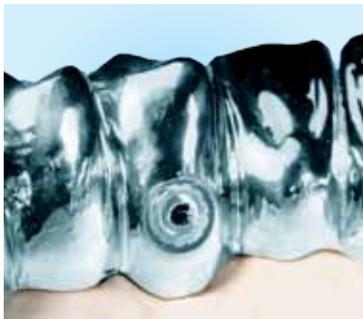
The DTK Adhesive will bond the stud fixator to the RPD with 350 Newtons of strength.



A maxillary implant supported bridge with cavities for the Security Lock.



The area around the cavity is isolated before inserting DTK and the Security Lock.



The Security Lock Housing is now permanently bonded for future retrievability of the bridge.



The metal restoration is ready for the porcelain application.



After the ceramics have been finished, the cavity is sandblasted with Aluminum Oxide.



The dual cured DTK Adhesive is applied into the cavity using a disposable brush.

are eliminated and minor inaccuracies are compensated for thereby assuring superior precision in the path of insertion. There is an option of using alloys with greater physical properties. Also retained is the advantage of the improved properties obtained from hardened CAD-CAM attachment materials such as titanium. Another problem is a larger choice of gold or base alloys, some of which may have a greater melting temperature than the attachment. There is also the issue of compatibility with different metals such as titanium. Finally there is no change to the physical properties of the attachment by thermal heating, whether by soldering or by casting. The adhesives available today are organic compounds that have been synthetically altered. Generally two compound adhesives are used, such as paste to paste, powder to liquid or paste to liquid. They are usually set by chemical reaction when mixed together, cold cured or by ultra violet light. To ensure success when using the adhesive bonding technique, always arrange for an adequate amount of adhesive to complete the procedure. Bredent VKS-OC/SG exchangeable attachment can be bonded. This attachment was designed

to be bonded into the prosthesis with a bonding adhesive. The original exchangeable stud and gold sleeve was devised to be soldered or cast on. The HSL sleeve is made of AU,Pt, Pd and has a melting range between 1320 °C and 1460 °C. The manufacturer recommended that the temperature for soldering or casting not exceed 1270 °C, before damage was done to the threads. The other sleeve, Pt-Ir is for high fusing ceramic alloy with a range between 1820 °C to 1850 °C, however, with the advent of the adhesive bonding technique, many of the variables resulting from currently employed production methods can be eliminated. A benefit to the new VKS-OC/SG exchangeable stud and the security lock bond on (43007395) attachment is that the threaded sleeve is made of grade four titanium and can be incorporated with many different alloys with diverse physical properties. The studs threaded rod is also titanium and can be replaced if it wears out. The production method uses an auxiliary element which is mounted to a parallel mandrel and then the crown, bridge bar or root cap is waxed up. The auxiliary element is removed, revealing a space adequate for the threaded sleeve.

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The Parallel mandrel holds the exchangeable stud in place and parallel as it cures.



The final restoration is ready for insertion with a flexible strength of 80 mpa the exchangeable stud housing is permanent.

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Adhesive Bonding for Attachments

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The restoration is invested and then cast up. There will be a space created between the titanium thread sleeve and the receiving walls of 0.05 mm which is an appropriate gap for the adhesive to create a proper bond. Follow the instructions for the use of the bonding agent and verify that the expiry date is valid before proceeding. By utilising the ultrasonic cleaner or the steam cleaner, the surface areas to be bonded will be entirely clean. The interface should be sandblasted with Al_2O_3 , 110 microns, making sure not to touch the adhesive receiving areas with your fingers. The external surface not contacting the adhesive has to be isolated with an insulating agent, such as Bredent's FGP Insulating Agent (part no. 54001027). After mixing the adhesive paste from tube K and B of Bredent's DTK Adhesive (part no. 54000106), apply the mixture in a thin layer to both interface surfaces, ensuring air is not

incorporated into the mix. Keep the attachment in position until the adhesive has set. Remove any excess and allow a further curing time of 12 to 24 hours. This will ensure final setup of the adhesive before the prosthesis. During the final curing, an overdenture or cast partial can still be fabricated utilising the female attachment housing. The procedure of adhesive bonding is relatively easy compared to investing, casting or soldering the male or threaded sleeve into the restoration. As we know, many variables in methods and temperature control may have adverse effects to the pre-manufactured housing and threads, so it is important to realise that alternative methods have been developed due to very good research and development.

Source; Peter T. Pontsa, RDT.

For additional information or to order this product contact the **Dent-line of Canada Order Desk at 1-800-250-5111.**

Trade News:

The Denturist Association of Ontario is holding its annual "**Perfect Your Practice Conference**" on September 23-25, 2010 at the Hilton Niagara Falls Fallsview. Dent-Line will be attending and will be available on Friday 24th from 12:30 PM to 4:30PM to showcase some of our new products, such as Qu Resin and the Sleep Plus anti snoring device. Please join us at the Dent-Line booth and meet with Peter and Angela.

Boucherville Quebec will be the focus for **Denttechnica du Quebec** to be held on October 1st and 2nd at the Hotel Montagne. Rooms for participants have been set aside at a special rate, so call early to make reservations. Dent-

Line will be present to showcase many new products and to answer any technical questions. We look forward to seeing our customers.

The 11th annual **International Dental Congress** will be held at the Sheraton Toronto Airport Hotel and Conference Centre on 801 Dixon Road, Toronto, Ontario. Dent-Line will be present and have many new and novel products to show at their booth. Peter T. Pontsa will present a seminar called "Sleep Apnea; Recognition; Diagnosis and Treatment." The seminar will discuss "Sleep Plus" a new treatment modality from Bredent to help restore sleep issues relating to sleep apnea.

Announcements:

Dent-Line of Canada is pleased to announce that they were one of several proud sponsors of Jagged Edge Motor Sports. Last May 22nd and 23rd the team competed in the Chump Car World Series 7 hour endurance race on the Saturday and Sunday, at Shannonville Motor Sports Park. The team which includes Peter T. Pontsa, RDT participated with a Jaguar XJ6 12 Cylinder car. The car was stripped of its extras and had a roll cage placed by CSC racing products. The 17 teams who entered all contributed to the local food bank in the Bellville area. Transponders were mandatory for counting the laps and each one required a \$50.00 deposit which was also donated at the end of the race. Usually Peter T. Pontsa likes to be behind the wheel but this time he was a member of the pit crew. It was a gruelling

two days and the car had many problems and was in the pit or paddock quite a lot. In spirit of that the Jagged Edge Motor Sports Team were awarded the Perseverance Award for not giving up and keeping the car running in the race. It was two days of great fun and charitable as well.

