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The Dent-Liner™

A Bulletin Dealing With Issues For Dental Health Professionals

Peter T. Pontsa, RDT has over 39 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 and a current member of the Academy of Dental Technology. He is also pleased to be involved as co-publisher of Spectrum Denturism.

Creating Aesthetics with Thermoplastic Clasps.

Achieving optimal aesthetics while maintaining retentive integrity and stability and protecting the health of the tooth has been a hard task to achieve. Our patients are aware of aesthetics in dental restorations now more than in any other period of time in the past, since the media has created a high level of awareness concerning this subject. Today's patient demands whiter, brighter and natural looking teeth. One main cause of their anxiety is the traditional use of the metal clasp when constructing a conventional Removable Partial Denture since its obvious display conflicts with the patient's prosthetic confidentiality. Historically the only option available was to prepare teeth to receive crowns and precision attachments. This is of course has been a more costly a proposition than a traditional cast partial. Now with the next generation of plastics and resins we can offer patients thermoplastic tooth coloured clasps to satisfy their aesthetic requirements. Thermoplastic materials for dental prosthetics (Flexiplast Bredent- Germany) were first introduced to dentistry in the 1950's. The material is a grade of Polyamides (nylon plastics). Also introduced at that time was acetal which is short form for plastic polyoxymethylene which is polyacetal. It was first proposed as an unbreakable thermoplastic resin removable partial denture material in 1971. It was during this period that Rapid Injection Systems developed the first tooth coloured clasps with thermoplastic flouropolymer. Thermoplastic resins tend to have predictable long term performance since they are stable and resist polymer uncoupling. They also exhibit high creep resistance and high fatigue endurance as well as excellent wear characteristics and are hydrophobic, which means that the material won't absorb water or saliva. Thermoplastic resins characteristically are monomer free and offer an innovative and safe treatment alternative for patients who are allergic to conventional resins. In addition thermoplastic materials have little or no porosity which reduces the accumulation of biological material like plaque and it also resists odors and stains. Acetal resin is very strong, resists wear and fracturing and is extremely flexible. A study by Arda & Arikan (2005) "An invitro comparison of retentive force and deformation of acetal resin and cobalt chromium clasps" concludes that there was deformation on the cobalt-chromium clasp but no noted deformation for the acetal resin clasps. Futhermore the acetal resin clasps evaluated required less force for insertion and removal than CoCr clasps over a simulated 36 month period. ***continued on page 3***

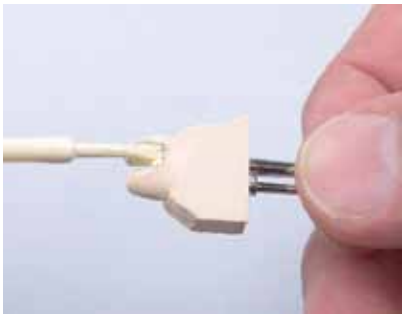
Compensating for Expansion in Pressible Ceramics.

Generally when waxing crowns for pressible ceramics, there is typically some expansion encountered which is usually caused by the investment material. Some of the common methods to counteract the phenomenon have been less than effective. Now with a new product from Renfert called Aqua-Fit this incidence of expansion can now be compensated for. It can be achieved more conveniently and more gently by not adjusting the die or ceramic restoration. While this expansion is less of a crisis for a full crown, this does pose a problem in the case for inlays, onlays and partial crowns. This is where it becomes complex and time consuming trying to fit ceramic restorations in to the box shaped preparations. The additional task of having to grind the ceramic restoration to fit, will result in a significant reduction of quality. Not to mention the danger of creating micro cracks that may very well destabilize the ceramic restoration. A solution offered by some manufacturers of ceramics recommends removing the die spacer before fitting the inlay/onlay. However, with today's commonly used die spacers it is difficult to remove them with solutions, in which case it may be only possible to grind the spacer ***continued on page 2***

Special Interest Articles:

Individual Highlights:

Compensating for Expansion in Pressibles cont'd...



Aqua-Fit Die Spacer is ideal for inlays, onlays and partial crowns.

out, or use a scalpel to scrape it out. This is time consuming and not good for the die, because it may be damaged. At the same time, the die spacer is still required to maintain a gap for the adhesive cement which will subsequently affix the restoration. An innovative way to accomplish this is with Renfert's new Aqua-Fit die spacer. It adheres strongly to the sealed die and cannot be damaged during the waxing process nor by removing the wax up from it. It can be removed without difficulty by simply washing it off under running water. The die stone which is sealed with a hardener is not strained or damaged in anyway and the ceramic piece can be fitted gently and easily. Aqua-Fit offers the standard layer thickness of 15 microns. It can be regulated by applying several layers or by the optional thinner. Three layers are ideal; one for the cement gap and the others to compensate for the expansion. Aqua-Fit lies evenly on the die and forms a smooth surface. This consequently provides a smooth internal crown surface. The brush in the cap has a special fine pointed shape for applying the die spacer correctly to the sharp angled areas in box preparations that are otherwise so difficult to reach. Most die spacers are available in contrasting shades such as gold, silver, blue or red, which in the case of porcelain build up can cause some visual difficulty. The build up is frequently lifted off the die in order to view the shade of the ceramic restoration. Since Aqua-Fit is tooth coloured, viewing the shade becomes more clear if the ceramic work remains on the die. This advantage not only improves the quality but also saves valuable time. Tooth coloured replacement dies are also no longer required. The advantage of Aqua-Fit are many and not only appropriate for pressed ceramics, but also can be used in conjunction with CAD CAM milled zirconium restorations.

Sources; Peter T. Pontsa; Renfert

Featured Product; Bredent's Titanium Bond on Security Lock

Bredent's Titanium Bond-on Security Lock system is bested suited for small jaws or large span bridges.

Bredent's Titanium Bond on Security Lock is an adhesive type of security lock system, perfectly suitable for situations that are difficult to access, such as small jaws or large span bridges. The titanium threaded sleeve can be cemented into the restoration after processing the alloy, without the variables of the casting process. The unique design allows micro-movements between primary and secondary components. It is also an excellent alternative to cementing or occlusal screw retention of crowns and bridges to implants. This type of screw lock system provides retrievability and serviceability of the restoration and implant. This includes the removal of the restoration to tighten abutment screws, replace failed or fractured components or to perform regular maintenance, to ensure the ongoing functionality of the implant. When processing these types of restorations, utilise Bredent's DTK composite resin adhesive to obtain optimal bond strength. The adhesive Security Lock System is available in an assortment kit and its components can also be purchased separately. **For further information contact the Dent-line order desk or our technical advisor at 1-800-250-5111.**

Featured Product; Bredent's Biotec Organic Wax System

Bredent's Biotec Organic Wax System is ideal for pressible ceramics.

Bredent's Biotec Organic Wax System for Pressible Ceramics provides a five stage system to acheive predictable results for pressible ceramics. The **Biotec Organic Waxes** have good burnout characteristics and leave no residual ash behind and have remarkably minimal shrinkage to ensure accuracy and homogenous castings. Easily carved, the shavings can be blown off effortlessly. Bredent's **Biotec Metal Ceramic Pontics MKBL-OG** have no collars and exhibit the same characteristics as the modeling wax. To compliment the system **Isobre-Wax Separator** is made from an organic base which provides accurate separation of waxed patterns. Even in a dry state it leaves an effective micro fine insulated layer that ensures the safe removal of the waxed restorations. Another component of the system is **Biotec Wax Profile Sprues** which are also organic with high flexibility and excellent burnout characteristics. The sprues exhibit minimal deformity while remaining completely compatible with Biotec Modeling Wax, thus ensuring clean sprue channels for the best casting results for pressible ceramics. The final compliment to the system is **Wax-lite** an alcohol free wax wetting agent that exhibits excellent flow behaviour, allowing the investment to reach the finest recesses of the waxed pattern, thus achieving smooth homogeneous surfaces and clean occlusal anatomy. **Contact us at Dent-Line for further information at 1-800-250-5111.**

Creating Aesthetics with Thermoplastic Clasps cont'd...

The receiving abutment tooth is surveyed and the shape and position of the clasp are marked.

A thermoplastic clasp blank with the selected shade is tried on.

The clasp is shaped to fit the abutment with a carbide bur.

The thermoplastic clasp is placed on the transblock and the thermo-pen heats it up.

When the clasp is transparent, apply the clasp pushing it in place when soft.

Process the partial with cold cure acrylic to finish the restoration.

Lower Anteriors prior to incorporating the thermoplastic clasps.

The thermoplastic clasps provide increased self esteem since they blend in with the prosthesis.

The results of this study indicate that acetal is an ideal material for pre-formed clasps that can be utilised on a CoCr cast partial denture. The Bredent thermoplastic clasps are pre-formed at the factory in four shades for right and left quadrant applications. All that is needed is a soft pliable material (Transblock) and a Thermo pen to heat the clasp. It is not necessary to invest in an injection system unless you are interested in making partial dentures or other prosthesis from acetal resin. Bredent's Bio Dentoplast has 100% elastic memory, is biocompatible, is high in impact resistance and has optimal rigidity and flexibility. The thermoplastic clasps can be used for repairs of broken wire clasps or new restorations. When preparing for a new restoration, a CoCr partial is fabricated without clasps in the aesthetic zone. A support or some form of reciprocation for the thermoplastic clasp in the lingual area is always required. The retention mesh is sand blasted and the model is soaked in water. The shape and the position of the clasp are marked on the abutment teeth and the thermoplastic clasp blank is contoured roughly using a carbide bur. The thickness of the thermoplastic clasp blank is not to be reduced at this time. When the thermoplastic clasp is prepared for adaptation, position it on a piece of transblock material and heat with a flameless thermo pen. The use of an open flame will burn and discolour the acetal material. Heat the clasp until it becomes slightly transparent, then adapt it to the tooth pressing it on with the transblock. This process is repeated until the clasp is correctly formed to function in the retentive area. Then grind to obtain the precise shape and thickness and polish. Use the thermo pen to heat the clasp extension and with the transblock push it into the retention mesh. To engage it to acrylic simply sandblast the extension prior to cold curing. These thermoplastic clasps have a strong flexible fit allowing their placement deeper into under cuts for better stability and retention with less mass. Bredent's Bio Dentaplast thermoplastic clasps are easy to adjust, handle and polish. With their excellent tensile and shock strength, it is the preferred material for longer lasting partial denture clasps. Thermoplastic resins have been available for at least 50 years, during which time the dental profession has utilized these materials in many different types of prosthetic applications.

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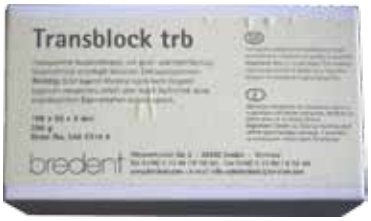
Use Bredent's Thermo-Pen as a flameless heat source to shape the thermoplastic clasps (shown above).



Transblock trb serves as a heat absorber that can be used to press the clasp into position on the model.

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About Our Organization...

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Creating Aesthetics with Thermoplastic Clasps cont'd...

This material now holds the interest of the profession even more due to is excellent handling properties and the public appreciates the aesthetic value because of the possibility for protecting their prosthetic confidentiality. Tooth coloured thermoplastic clasps provide exceptional aesthetic and biocompatible treatment choices to help patients with damaged or missing teeth. ***Source; Peter T. Pontsa, RDT***

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Special Interest Story: Ken Chizick, former world yo-yo champ

During a seminar at the latest Technorama this past April, presenter, Ken Chizick, took a break to preside over an impromptu yo-yo contest. Ken asked for participation from the seminar audience; some members were a little shy but others were eager to get into the spirit. Even Stephen Moore, the Vident Regional manager for Canada got into the spirit and participated in the contest. The contestants had to throw their yo-yos, while placing their hand on their head. Then they had to stand on one leg and finally jump up and down all the while still continuing to keep their yo-yo's in motion! Throughout this process of elimination one grand winner was selected. But really every one was a winner since each participant left with a prize; gifts included Tim Horton and Swiss Chalet dinner coupons. The yo-yo's and prizes were donated by Dent-Line of Canada Inc. Ken Chizick is a former world yo-yo champion and he impressed the audience with demonstrations of his many tricks. In his younger days, Ken travelled extensively throughout the world thrilling children and their parents with his amazing ability. At home, Ken visits hospitals wherever there are sick children and amuses them with his expertise in yo-yo's. Needless to say, the children soon forget they are ill and enjoy Ken's presentation, most of them getting into the spirit and trying a hand at the yo-yo's too. We are glad to salute a fine individual like Ken who gives of his time both professionally but always manages to add in a little light hearted fun. In fact, Ken's fees for the recent Swiss NF presentation at Technorama were donated to the Children's Wish Foundation.

Pictured above, Ken demonstrates his mastery of the yo-yo, as participants in the impromptu contest look on.

Did you know? Only 3% of the population have the manual dexterity to become successful skilled dental technologists? Some dental technology schools, such as George Brown College now require candidates pass a special manual dexterity test before students can be admitted to their programme.

Special Announcement: Upcoming Trade Shows!

Dent-Line is looking forward to participating in the upcoming **25th Dental Technicians Association of B.C.** The convention starts on September 28, 29, 30th and will be held at the Best Western Richmond Hotel and Convention Center, 7551 Westminister Highway Richmond B.C. (www.richmondinn.com). Please visit us at booth #10 for a preview of new products from Bredent. You are also invited to our lecture titled **"Attachments for Removable and Retrievable Prosthetics"** which will be on Saturday September 29th from 1:00pm to 4:00pm in Westminister room two and will be presented by Peter T. Pontsa RDT.

Dent-Line will be welcoming the dental technologists of Quebec to the annual **Dentechnica du Quebec** at Hotel Mortagne, at 1228 rue Noble, Boucheiville Quebec (www.hotelmortagne.com) on October 26th to 27th 2007. We are pleased to preview many new Bredent and Renfert products at this premier event. Also please join us for a lecture called **"Establishing Aesthetics in a Low Vertical Zone"** which will be presented by Peter T. Pontsa RDT.