



"We respect Dentistry, Dental Technology and Science which makes us stand out from our competition"
Kash Qureshi, Managing Director

IMPORTANT NOTICE

Dental Laboratory Newsletter / November 2019

Bremadent will be closing for Christmas on Friday **20th December 2019**. Our full service will resume on Thursday **2nd January 2020**.

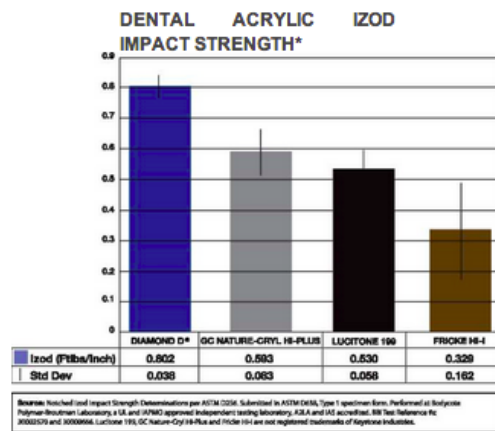
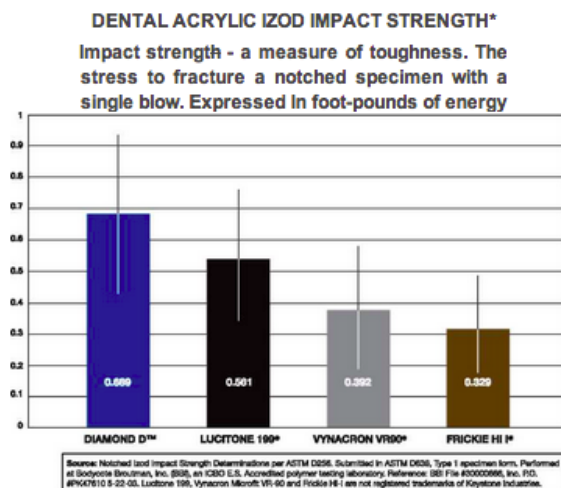
Why do we use hi-impact acrylic?

For our private cases we use Diamond D® hi-impact acrylic from Keystone Industries. "Advanced natural-looking dentures require artistry as well as technical expertise". Diamond D® was specially formulated for exceptional working and handling characteristics for anatomic sculpting.

Diamond D is scientifically proven to be the strongest denture acrylic in the market. A scientifically sound double blind study proved Diamond D had the best impact strength against the competition. With unmatched impact strength, Diamond D ensures some of the best dentures any laboratory can make. The impact strength – the measure of toughness – is significantly better compared to competitor acrylics.

At Bremadent, we measure the correct acrylic powder / monomer ratios for mixing the acrylic, follow the exact temperature to heat cure the acrylic over night in a controlled hot water tank and allow enough time the next day for a natural cooling down period upon removal of acrylic from the hot water tank to maximise the strength properties.

<https://keystoneind.wordpress.com/2013/04/23/why-diamond-d-is-the-best-denture-acrylic-on-the-market/>
Accessed 1st October 2019.



DENTAL ACRYLIC IZOD IMPACT STRENGTH*

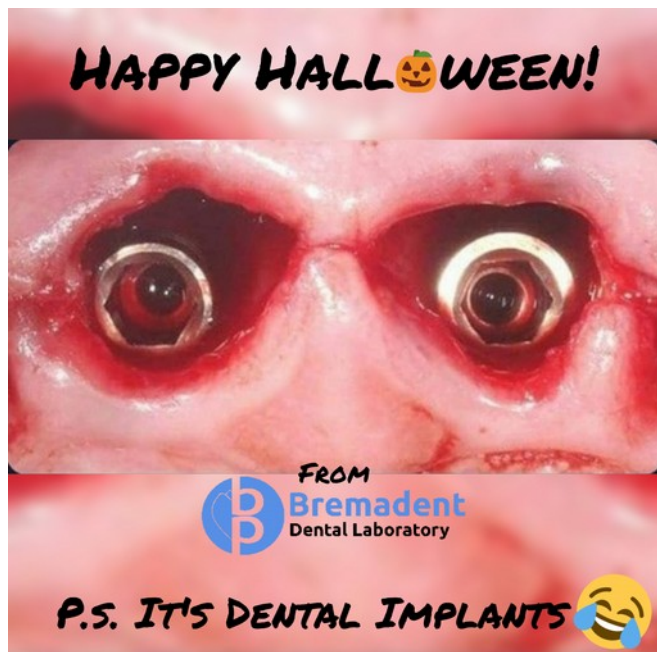
Impact strength - a measure of toughness. The stress to fracture a notched specimen with a single blow. Expressed in foot-pounds of energy absorbed. Designed as "Charpy" or "Izod" impact strength depending on the testing machine used.

IPS e.max®

Digitally designed, milled in house at Bremadent.

Dental Fact:

A typical child's bag of Halloween candy has 11,000 calories. If you laid out all the candy corn that's sold each year, it would wrap around the earth 4.25 times.



Removable Partial Dentures! *Article by Kash Qureshi, Managing Director of Bremadent Dental Laboratory*

When we are constructing removable partial dentures in chrome, acrylic or Valplast, we aim for one path of insertion (P.O.I) and removal. A Path of insertion is the direction in which a dental prosthesis is placed on or removed from the supporting tissues or abutment teeth.

There are many types of paths of insertion for RPDS, we have three main categories, single, multiple and rotational. The most common POI in my experience is multiple which is determined by the tooth undercuts, infrabulge & suprabulge, guide planes, tissues and anatomy.

Single path of insertion is surveyed with the occlusal plane horizontal. It equalizes retention and provides bracing and cross arch stabilisation and allows removal without any interference and may be created if there is sufficient guide surfaces are contacted.

Multiple paths of insertion are the most common and will exist where guide surfaces are not utilised, for example where the abutment teeth are divergent. This will usually be indicated by a posterior path first and then pushed down in the anterior region or reverse, anterior path first and then pushed down in the posterior region.

In general, anterior cases utilise a posterior path of insertion which allows the saddle areas to contact the abutment tooth over the the whole mesiolabial surface and provides better aesthetics. If a horizontal path of insertion is used, there will often be undercuts in the mesial aspects of the abutment teeth and creates gaps or open areas on the saddles or contact areas.

Our main aim at Bremadent is to create a simple path of insertion and removal, we fit all of our RPDS on duplicate models (not many labs do this) to provide the Dentist with a diagnostic tool too assess the aesthetics, tooth positioning, occlusion, extension, retention, stability, support & path of insertion. RPDS from Bremadent saves clinical time, with the average time spent between 5 – 8 minutes instead of 25 – 30 minutes.

Kash Qureshi is a Clinical Dental Technician (Denturist) in the U.K who oversees and quality controls over 3000+ fixed and removable prosthesis including implant cases from a clinical and technical aspect monthly at Bremadent Dental Laboratory & Swissdent Denture Clinic in London.

Tips for removing the RPD'S from the cast:

- Assess the path of insertion, is the case anterior or posterior or both
- Never remove the RPD from a single flange area, you will snap the denture!
- Check flange areas for undercuts and slowly prise the RPD out
- Place a tool one side at a time to remove the RPD (LHS Then RHS)
- Place the cast in water to soften the plaster to remove if difficult
- Check the occlusion, if the adjacent teeth are over erupted, this will cause the denture to be thin
- Turn the cast with the back of the model facing you, place the denture over the top of the cast and you can assess the undercuts and path of insertion when placing in the mouth and make adjustments before insertion if needed



Single, horizontal path of insertion on a anterior case, gaps present in the mesiallabio areas due to undercuts .



Posterior path of insertion on a anterior case, mesiolabial area covered by saddle area, creating better aesthetics.





'Full Contoured Zirconia Crowns' are CAD/CAM milled zirconia restorations which is stained glazed for 'Natural Anatomy Effects' with no layered ceramic. The flexural strength of 1200 mpa provides high strength and durability whilst being effective with minimal inter occlusal space. it's a cost effective solution as there is no alloy charge and is up to 44% translucent at 1mm thickness.

'Full Contoured Zirconia Crowns' are scanned and designed in 3D, which gives accurate and clearly defined parameters with the prepared tooth, margins, contact areas and occlusion captured precisely and locked for the design process. Our technicians will then be able to customise any areas of concern within the parameters and design the full contoured crown with 'Natural Anatomy' from the locked parameters.

The full contoured crown is then 'CAD/CAM Milled' in-house from a pre-shaded zirconia blank . Once milled, It is then fitted to a working model and a solid model to minimize variables. Once fitted, it is stained and glazed for 'Natural Anatomy Effects'. The restoration is then quality controlled for fit, aesthetics, occlusion, contact areas and margins.

Bremadent Digital' service has the latest 'Digital Equipment' to accommodate 'Digital Dentistry' services which are scanned directly from analogue (plaster) models or digitally sent to us from the leading intra-oral scanners from any Dentist around the world instantly (3m, Sirona, Planscan, Trios, Itero, Carestream)

Indications:

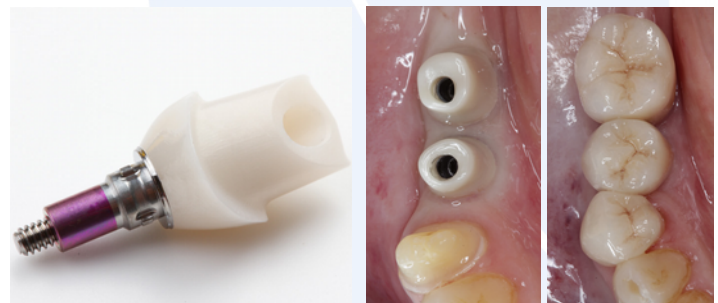
Zirconia is ideal for inlay/onlays, full contoured crowns, full contour bridges, copings, frameworks, retainers, custom implant abutments, hybrid bridges and layered ceramic crowns.

Technical features:

Zirconia is a biocompatible material and has a flexural strength of 1200 mpa. It's available in traditional 'Vita Shades' and is up to 44% translucent at 1mm thickness.



Traditional 'Vita Shades'



Zirconia CAD/CAM milled Implant abutments



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Why use a custom tray (special tray)?

IMPRESSION MATERIALS:

There are three main types, mucostatic, mucocompressive and selective pressure.

Mucostatic – Impression are taken with oral tissues in a normal, relaxed state.

Mucocompressive – Impression are taken with the oral tissues in a functional and displaced form.

Selective pressure – Use of a special tray with extensions over the the denture bearing areas without interference of the limiting structures at function and rest.

STOCK TRAYS:

Stock trays are ready made and comes in specific sizes for primary impressions. There are two types - dentulous and edentulous, both of which generally come in sizes - small, medium and large. Stock trays are made in metal (reusable and autoclavable) or plastic (disposable, usually made of nylon or polystyrene).

SPECIAL TRAYS:

Special trays are made from light cure acrylic. They are constructed on the primary cast which helps with adaptation of the impression material and reduces the amount required. The resulting master cast is well detailed and allows accurate construction of the denture. Due to special trays having a better fit than a stock tray, the accuracy is improved and less impression material is needed and improves the overall prostheses result.

A "closed" special tray (i.e. no space between the cast and special tray) is required for:

- Zinc oxide eugenol

- Impression wax

A "spaced" special tray is needed for:

- Alginate (space of 2mm)

- Elastomeric impression materials (space of 3mm)

- impression plasters (space of 1.5mm)

ADHESIVES AND PERFORATIONS:

It is essential that impression materials adhere firmly to the impression trays. This can be achieved by either perforations or by the use of adhesives. Adhesive solutions and perforations are needed for alginates. Non perforated trays are required to create a mucocompressive impression.

TISSUE STOPS IN SPECIAL TRAYS:

The function of tissue stops allows the clinician to orient the tray with the handle centred, simple path of insertion and controls creates a uniform thickness of impression material without impinging on soft tissues, this can also help with border moulding. Traditionally there are 2 – 3 tissue stops placed on the fitting surface of a S/T/

PERIPHERY EXTENSION OF A SPECIAL TRAY:

Usually designed 2 – 3 mm away from the peripheral roll, this allows impression material to flow into and capture the 3D detailed spaced of the point of reflection between the soft tissues and cheek muscles for border moulding without the interference of a special tray material. The S/T is designed 2 – 3 mm away from the periphery to support the captured area, if the extension is more than 2 – 3 mm it will not have adequate support and may cause the area to be false.

STOCK TRAY VS SPECIAL TRAY:

Stock trays are prefabricated in sizes and the impression material has to be supported by the tray, as every mouth is different in size. Inadequate support from the tray can falsify the shape of the arch, teeth and soft tissues and create variables as it is dimensionally unstable due to a lack of support. Special trays are custom made exact to the patients mouth thus increasing the accuracy, stability and support of the impression material and creates less variables as the support is rigid and maintains the impression material dimensional stability. With the use of a well designed S/T with tissue stops and adequate peripheral extensions it can reproduce an accurate representation of the mouth whilst maintaining the impressions materials dimensions.

