

Identium impression material

Tony Beale describes a new hydrophilic impression material

Current impression materials

Of the various types of impression materials that are currently available, it is the polyether and vinyl polysiloxane types that succeed in delivering the best results.

Polyether materials have been around for many years and upon their introduction they offered a significant advance in accuracy over other impression materials. They are still widely used in restorative dentistry today, but whilst being accurate and reliable, they do however present some shortcomings. They have a lengthy set time, and are not particularly pleasant for the patient as they can also present a taste, and an odour when mixed.

Advances in chemical science resulted in the introduction of silicone based impression materials, and more recently vinyl polysiloxane impression materials have now become popular.

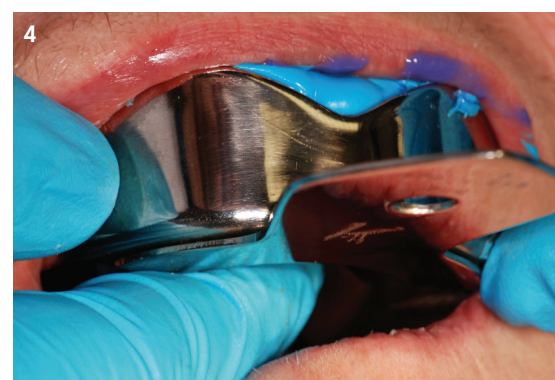
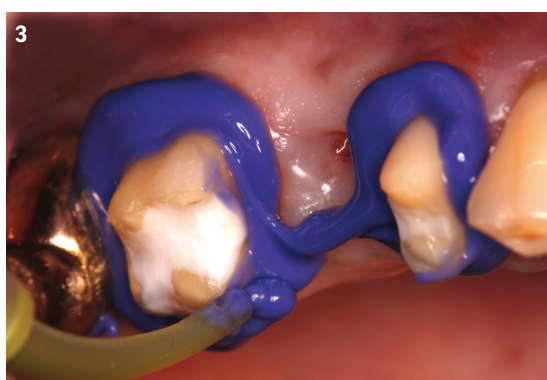
Both these groups of impression materials offer practitioners the opportunity to produce accurate and acceptable impressions, but it is not uncommon to find that many practitioners will use both types according to their individual requirements.

Hybrid technology

Recently, German manufacturer Kettenbach has succeeded in producing what can be described as a hybrid impression material that manages to combine the advantages of both polyether and silicones in one material. These hybrid materials are known as Vinylsiloxanethers (VSXE).

Their new material is called Identium, and it is currently enjoying tremendous success in several European markets, and is now available in the UK from Optident Ltd.

It offers the clinician a very versatile impression material, with light, medium and heavy viscosities that can be used selectively according to the type of restorative impression required. Essentially, it works best when a two



stage impression technique is applied.

Identium succeeds in addressing the shortcomings of conventional polyethers, and offers the clinician a highly accurate material that possesses the ideal properties required of a first rate impression material.

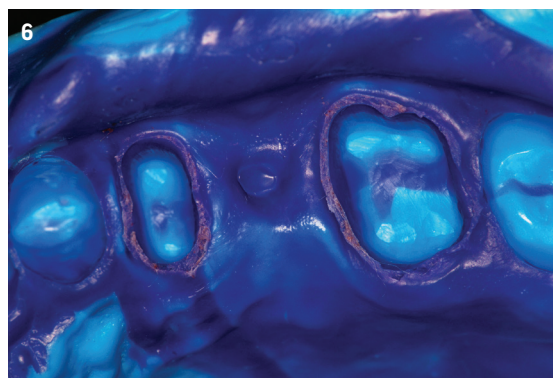
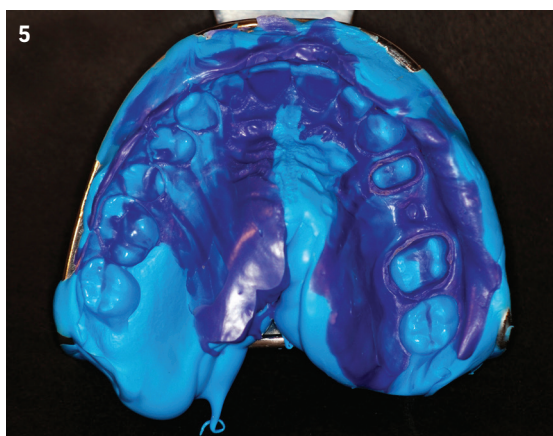
Identium is hydrophilic, and produces an exceptionally low contact angle of less than 10 degrees when compared with polyethers, which can typically exhibit angles of 48 degrees.

Its hydrophilicity, which is maintained throughout its entire working time, allows it to overcome the problems often associated with excessive intraoral moisture that can be caused by the presence of saliva and blood. This

feature has been acknowledged by Balkenhol et al (2009) who have stated that 'newly introduced hybrid Dental Impression Materials (DIMs), showed promising results regarding their hydrophilicity'

The material has excellent flowability, together with a high level of precision and dimensional stability, making it the ideal impression material for the taking of accurate, crisply detailed crown, bridge, and implant impressions even in the most extreme situations. Its elastic properties allows easier removal from the mouth, with less discomfort for the patient, and in the laboratory, with minimal risk of damage to the cast models. Both Identium medium and Identium heavy are especially suitable for

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implant impressions, offering ideal levels of hardness, and working and setting times.

Using Identium

The sequence of images shows how Identium can be used most effectively in a restorative case.

An 'all-ceramic' bridge with zirconia frame was prescribed. The abutment preparations were completed, (Figure 1), and after removal of retraction cords, a two stage impression using Identium light and Identium heavy was specified. An opposing impression was also taken, together with a bite registration in Kettenbach Futar D Fast (Figure 7).

Low viscosity Identium light was carefully syringed into the all the bridge abutment margins, (Figures 2-3), its excellent flow properties ensuring that all necessary marginal details are accurately recorded.

The second stage of the impression involved the insertion of Identium heavy, in an impression tray (Figure 4). Identium heavy is light blue in colour, offering good contrast with the violet colour of Identium light. Its high viscosity is also useful as slight displacement of the soft tissues can be achieved.

The resulting impression is shown in figure 5. It clearly shows that all intraoral detail of the bridge preparations and surrounding tissues has been correctly and accurately recorded (Figure 6).

Following the fabrication of the bridgework, the



patient was recalled, and the restoration was fitted, and cemented, and the accuracy of fit can clearly be seen in Figure 8.

Other user and patient benefits

There are also additional benefits for the clinician when using Identium. A correct balance of both working and setting times is possible. Identium medium has an extra long intraoral working time of 80 seconds, coupled with an extra short setting time of two minutes 30 seconds. All Identium materials are odourless and have a neutral taste, making the taking of impressions a more pleasant experience for the patient. Identium is also compatible with all disinfectants currently on the market.



Figure 9: Identium Light in Automix cartridge presentation

Identium offers users a complete choice of material options with light, medium and heavy viscosity types available. Identium medium and heavy are available as Intro packs, 380ml Jumbo machine cartridge refills and normal packs (two x 50ml Automix cartridges), and light only available in 2 x 50ml cartridges. The 380ml cartridges have been re-designed to permit immediate filling of impression trays with out the need to 'bleed' an initial amount of impression material when refills are inserted. They are also compatible with the 3M ESPE Pentamix 2. Regular and fast set options can also be specified when ordering. **D**

References

Pentamix 2 is a registered trade mark of 3M ESPE Dental U.K.

Balkenhol, Eichorn and Worstmann (2009) Contact angles of Contemporary Type 3 Impression Materials Department of Prosthetic Dentistry, *Journal of Prosthodontics*: 396-398



Figure 10: Identium Heavy in machine cartridge presentation

KETTENBACH IDENTIUM IMPRESSION MATERIALS are available from Optident Ltd, International Development Centre, Valley Drive, ILKLEY, LS29 8AL. Tel: (0044) 01943 605050 email: sales@optident.co.uk www.optident.co.uk