Impregum™ Intra-oral Syringe
Single-Use Syringe for Polyether

Express™ 2 Intra-oral Syringe
Single-Use Syringe for VPS

Technical Data Sheet
Taking precision impressions is a critical step in providing high quality restorations to patients. 3M™ ESPE™ innovations have continuously advanced impression technology for the past 40 years. These innovations did not only apply to the impression material side, but also focused on improving the handling and robustness of the dosing and mixing of these materials.

Now 3M ESPE is introducing the Single-use Intra-oral Syringe for an easier and better intra-oral application of wash materials. The syringe is available in two versions:

- Green 1:1 mixing ratio version for all VPS wash materials from 1:1 50 ml cartridges
- Violet 1:2 mixing ratio version for 3M ESPE Polyether materials from 2:1 50 ml cartridges

Key benefits:

- Easy to use
- Low impression material waste
- Convenient intra-oral handling with precise application
- Hygienic and clean due to single usage
- Individual dosage of needed quantity

The delivery innovation from 3M ESPE

The syringe will be filled directly from 50 ml cartridge (Garant™). Whereas other manufacturers’ preloaded syringes contain a fixed amount of material, with the new intra-oral syringe one can define the amount of material in the syringe. It can be filled with the needed material amount for the specific case. Both versions of the single-use intra-oral syringe have a well fitting outlet connection to 50 ml cartridges for hand dispensers (e.g. Garant™).

The syringe is much smaller than the hand dispenser system (e.g. Garant™). Nevertheless, the material one can maximally preload in the syringe is sufficient for up to 4 units.
Design features for optimized, more convenient, and comfortable handling:

- Second Handle Plate
- Angled Intra-oral Tip
- First Handle Plate
- Colour Coded Mixing Helix
- Colour Coded Plunger
- Venting Valve for Air and Excess Material integrated in the joint
- Round Grips

Due to the ergonomic design and the small size, the syringe improves the intra-oral handling without compromising the mixing quality. The performance of impression materials, e.g. detail reproduction, tear strength and hardness depends on the mixing quality. To ensure an excellent mixing quality the mixing helixes are optimized for the VPS as well as for the 3M ESPE Polyether impression materials.

In sum you can be sure that all the materials perform as usual when using the single-use intra-oral syringe. That was confirmed by the participants in an in-office evaluation1 and by an in-vitro study of looking at the physical properties of the impression materials (results published at the IADR 20102).

The individual loading with the needed impression material quantity and the small mixing tips offers an efficient procedure resulting in little material waste. The user has exact control of the material amount and is not forced to use a pre-dosed quantity like in unit-dose systems that are pre-loaded. Moreover the weight of the syringe itself is 6.3 g. That means only 3 g more than a Garant mixing tip (white). On the other hand the impression material waste is minimized by at least 2/3 when using the intra-oral syringe. The single-use intra-oral syringe allows a very hygienic procedure: it does not require any disinfection as each syringe comes in direct contact with only one patient.

1 Field test conducted in EU, 467 applications reported by 44 dentists
2 Influence of a New Syringe on Impression Materials Properties, #1490, IADR 2010

Less waste

67% less waste with Express™ 2 Regular Body

84% less waste with Impregum™ Garant™ L DuoSoft™
Usage step by step

The syringe is ready to use in only few and fast to do steps.

1. [Image]
2. [Image]
3. [Image]
4. [Image]
5. [Image]
6. [Image]

Easy handling

Clinical Performance – Simplicity in handling

The size is well balanced – small enough for easy intra-oral handling but sufficient capacity for syringing up to 4 units. In a clinical survey, conducted in Europe and the US, the majority of dentists rated the size as perfect and advantageous compared to common hand dispenser systems. The ergonomic design leads to an easy and precise application of wash materials. The small size allows a good view at the preparation margin and a better access to the sulcus than with the 50 ml cartridge dispenser (Garant™). The small-sized mixing tip helps to apply wash material in tight interproximal areas.

Fig. 3: Size compared to 50 ml cartridge in Garant™ dispenser system.
Source: Field test conducted in EU and US, more than 1100 applications reported by 78 dentists.
Clinical case
Dr. Jutta Brodesser, Munich and MDT Elke Sallinger, Krailling

Initial situation: The patient appeared in the office with a functionally insufficient crown on the first upper molar. The patient agreed to replace the restoration with an all ceramic crown made of Lava™ Zirconia.

The functionally insufficient crown was removed, secondary caries were removed and small defects on the prepared tooth were filled with Filtek™ Supreme. The preparation was then restored provisionally with a temporary made of Protemp™ 4.

When inserting the plunger, stop pushing the paste at the joint.

The intra-oral syringe was pre-filled before the patient arrived for the impression procedure, by loading the intra-oral syringe, by attaching onto the common gun dispenser cartridge (Garant™).

The loaded intra-oral syringe can be stored up to 12 h.

Loading the required amount of Impregum Garant™ L DuoSof™ into the intra-oral syringe. Stop at the line just short of the mixtip joint.

The preparation is cleaned and dried for the addition of the syringeable impression material.

Activate the syringe just prior to usage by turning the mixing tip into the 180° straight position. Discard the first peppercorn sized amount of material to be sure to have a homogeneous mixture.

The small size of the syringe allows a good view and access to the prepared abutment tooth.

While the dentist is syringing the abutment tooth, the assistant fills the tray with Impregum Penta™ H DuoSoft™ using the Pentamix™ 3.

As a result of the ergonomic handling achieving a precise impression without any voids or other defects is made easier.

Close-up of impression, the preparation line is perfectly recorded.

Lava™ Zirconia all ceramic crown with precise marginal fit seated in patient’s mouth.