## Multilink<sup>®</sup> Automix

The adhesive cementation system

# A strong bond, proven performance.





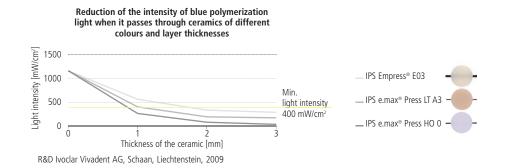


## STRONG HOLD

Multilink

A wide variety of restorative materials are available today. Due to their different properties, they demand modern, universal high-performance cementation systems with well-balanced properties.

Moreover, the current high-performance dental ceramics come in different levels of translucency, ranging from highly translucent to opaque. The opaque ceramics, and in some cases also the translucent yellowish versions, impair the passage of light and considerably reduce the effectiveness of curing lights.

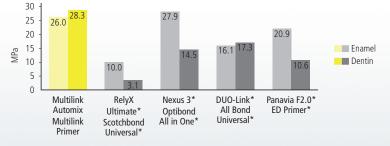


As a result, luting cements should have self-cure as well as light-cure properties to establish a sound bond to dental restorations.

The Multilink Automix System fulfils your expectations and those of your patients with regard to high bond strength and long-lasting adhesion of the restoration to the tooth structure due to the patented, hydrolytically stable phosphonic acid monomers contained in the product and the "balanced performance" initiator system. Multilink Automix is characterized by its outstanding and well-balanced adhesion, irrespective of whether it is light-cured or self-cured.



#### Shear bond strength on enamel and dentin after self-curing [MPa]



R&D Ivoclar Vivadent AG, Schaan, Liechtenstein, 2012, application according to the directions for use. \*These brands are not registered trademarks of Ivoclar Vivadent AG.

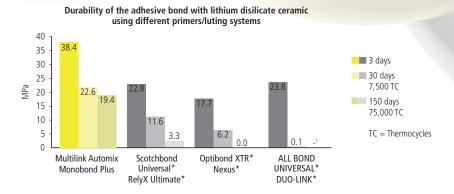
## UNIVERSAL APPLICATION



Together with the innovative universal primer Monobond Plus, Multilink Automix is used to cement indirect restorations made of all types of materials.

As a result of the excellent bond achieved to glass-ceramics, this system has shown to be far superior to other luting systems featuring so-called universal adhesives, which have appeared on the market in recent times.

Multilink Automix attains very high initial bonding values on IPS e.max lithium disilicate glass-ceramics. These values are maintained even after aging through thermocycling.

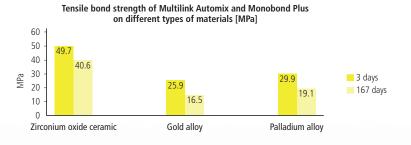


Lehmann F, Kern M; Department of Prosthodontics, Propaedeutics and Dental Materials, School of Dentistry, Christian-Albrechts University, Kiel, Germany

<sup>1</sup> The 150-day series was not performed as all samples separated spontaneously after 30 days.

\* Not registered trademarks of Ivoclar Vivadent AG.

Apart from generating an excellent bond to glass-ceramics, the patented combination of functional methacrylates in Monobond Plus is responsible for establishing a sound and durable bond to oxide ceramics, base metal and precious metal alloys.



Azimian F, Klosa K, Kern M; Department of Prosthodontics, Propaedeutics and Dental Materials, School of Dentistry, Christian Albrechts University, Kiel, Germany;

Evaluation of a new universal primer for ceramics and alloys; J Adhes Dent. 2012 Jun;14(3): 275-82.











IPS Empress®

IPS e.max<sup>®</sup> CAD

IPS e.max<sup>®</sup> ZirCAD/Ceram

Brite Gold® XH

IPS InLine® / IPS InLine® PoM

## CLINICALLY PROVEN

Multilink Automix has achieved very good results in numerous clinical studies, some of which have been conducted over a long period of time. For example, the survival rate of restorations in terms of adhesion was 99 % (9 studies, 291 restorations).

#### Study on Multilink Automix and IPS e.max CAD

Head of study: F. Beuer, LMU Munich, Germany

#### Summary:

Fifteen full contour or partially cut back IPS e.max CAD lithium disilicate restorations were cemented with Multilink Automix. After four years in situ, the survival rate was 100 %. Not a single case of hypersensitivity or debonding was recorded. After an average observation period of four years, none of the monitored restorations had come loose.

In combination with IPS e.max CAD, Multilink Automix showed superior clinical performance over a four-year period.

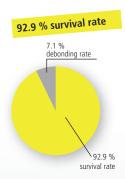
#### Study on Multilink Automix and IPS e.max CAD

Head of study: J. Fasbinder, University of Michigan, USA

#### Summary:

Twenty-three IPS e.max lithium disilicate crowns (premolar and molar) were milled at the chairside with the CEREC 3D equipment and cemented with the adhesive technique using Multilink Automix. After four years, the clinical results were acceptable. One case of debonding was reported after three years. This crown was re-cemented with Multilink Automix.

IPS e.max CAD crowns that were cemented with Multilink Automix showed outstanding clinical performance over a period of four years. None of the restorations failed.



## Study on Multilink Automix and the adhesive cementation of single retainer bridges made of zirconium oxide ceramics

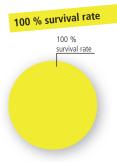
Head of study: M. Kern, University of Kiel, Germany

#### Summary:

Fourteen anterior single retainer zirconia-ceramic adhesive bridges were inserted using Multilink Automix in combination with Metal/Zirconia primer.

One debonding occurred with Multilink after 20.8 months caused by a traumatic impact. The restoration was rebonded successfully with the original bonding system. If these debondings were considered to be a (partial) technical failure, the overall five-year survival rate calculated with SPSS software according to Kaplan–Meier was 92.9 %. If only the permanent loss of a bridge was assessed as a failure and the rebonded bridge therefore considered to be a success, the five-year survival rate increased to 100 %.

Additional study results are provided in the Multilink Automix Scientific Report.



95.7 % survival rate

debonding rate

95.7 % survival rate

## SUCCESSFUL IN THE DENTAL PRACTICE

Since they were introduced in 2004, Multilink and Multilink Automix have been used to place more than 10 million indirect restorations.



Inspection of the selected shade with Try-In Paste





Light activation of excess cement (Quarter Technique)







Etching of the IPS e.max

acid

crown with 5 % hydrofluoric

Completed restoration

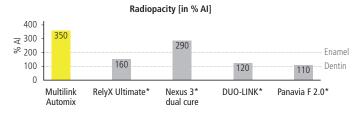
Clean-up of excess

Coating of the cement line with Liquid Strip

Polymerization of the cement Finishing and polishing

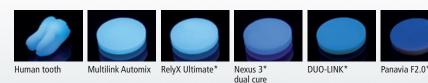
Clinical case: Ronny Watzke, Dentist; Franz Perkon, Dental Technician, Ivoclar Vivadent AG, Schaan, 2012

The straightforward and standardized cementation protocol for all the different types of restorative materials and the excellent radiopacity and lifelike fluorescence of the cement all contribute to the successful placement of indirect restorations.



R&D Ivoclar Vivadent AG, Schaan, Liechtenstein, 2012 (measured according to ISO 4049) \*These brands are not registered trademarks of Ivoclar Vivadent AG.

Fluorescence of resin cements compared with that of natural tooth structure



R&D Ivoclar Vivadent AG, Schaan, Liechtenstein, 2012 \*These brands are not registered trademarks of Ivoclar Vivadent AG.

## THE NEXT GENERATION

#### **Excellent clean-up of excess**

Due to the advanced Easy Clean-Up formula and the Quarter Technique, excess Multilink Automix is now even easier to remove.



Depending on the curing light used, excess can be light-activated in 1 to 3 seconds per quarter surface (mesio-oral, disto-oral, mesio-buccal, disto-buccal). Within this time, the material acquires a gel-like consistency, which makes it easy to remove with a scaler.

#### **Excellent esthetics**

In situations where translucent glass-ceramic crowns are used to replace not only enamel but also large parts of the dentin, the restoration may assume a greyish appearance in these areas, if a translucent luting material is used. A new shade has been specifically developed for such cases. Its reduced translucency ensures the esthetic appearance of the restoration.



Water-soluble glycerine-based try-in pastes corresponding to the Multilink Automix shades are now available, with which the final appearance of the restoration can be simulated and checked.



#### **Excellent margin quality**

In order to obtain a tight restoration margin, cement lines should be protected from oxygen exposure during the curing process. This prevents the formation of an inhibition layer.



For this purpose the product Air-Block Liquid Strip has been added to the Multilink Automix System. Completely cured cement joints ensure highly esthetic restorations with impeccable margins.

## **DELIVERY FORMS**

#### Multilink Automix System Pack

Automix syringe, 9 g (in the chosen shade)
Multilink Primer A+B, 2 x 3 g
Monobond Plus, 5 g
Liquid Strip, 2.5 g
Various accessories (mixing pad, mixing plate, applicators, mixing tips, flow charts)

627471WW 627473WW 627472WW 645954WW Transparent Yellow Opaque White

#### **Multilink Automix Starter Pack**

1 Automix syringe, 2.5 g, Transparent

1 Multilink Primer A+B, 2 x 1 g

1 Monobond Plus, 1 g

Various accessories (mixing pad, mixing plate, applicators, mixing tips, flow charts)

627571WW

Transparent

#### **Multilink Automix Refill**

1 Automix syringe, 9 g (in the chosen shade) 15 Mixing tips

615216WW 615217WW 615218WW 645952WW Transparent Yellow Opaque White

#### **Multilink Automix Try-In Paste**

1 Syringe, 1.7 g (in the chosen shade)

645956WW	
645957WW	
645958WW	
645959WW	

Transparent Yellow Opaque White

#### Multilink Primer A+B

576825WW 613626WW 613627WW Primer A+B, 2 x 3 g Primer A, 1 x 3 g Primer B, 1 x 3 g

#### Accessories

592435	Multilink Applicator Reg&Endo	50 applicators
645951	Mixing Tips short tapered Refill	15 tips
645955	Root Canal Tips	5 tips



#### The way out of the cements maze

The **C**ementation **N**avigation **S**ystem, a new multimedia application from lvoclar Vivadent, offers dentists practical orientation and guidance in the selection of the best luting material for each case.

www.cementation-navigation.com

Multilink<sup>®</sup> Automix forms a part of the "Fixed Prosthetics" product category. The products of this category cover the procedure involved in the fabrication of fixed prosthetic restorations – from temporization to restoration care. The products are optimally coordinated with each other and enable successful processing and application.



#### THESE ARE FURTHER PRODUCTS OF THIS CATEGORY:

## IPS e.max<sup>®</sup> System

all ceramic – all you need

## **Cervitec**<sup>®</sup>

The protective varnish containing chlorhexidine and thymol



#### The comprehensive solution covering all indications

- Highly esthetic, high-strength materials for the press and CAD/CAM technique
- Unique lithium disilicate (LS<sub>2</sub>) and zirconium oxide (ZrO<sub>2</sub>) ceramics for restorations ranging from thin veneers to long-span bridges
- Flexibility of cementation: adhesive, self-adhesive and conventional



#### Maintaining the quality of restorations

- Targeted Professional application in risk areas
- Effective Intensive care for high-quality restorations
- Efficient Optimum pink-white esthetics

Would you like to know more about the products of the "Fixed Prosthetics" category? Simply get in touch with your contact person at lvoclar Vivadent or visit www.ivoclarvivadent.com for more information.

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