

# 3s PowerCure

Products for esthetic posterior restorations



**The art  
of efficiency**

Efficient  
Esthetics

ivoclar  
vivadent®

# The art of efficiency

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3s PowerCure offers a fully coordinated range of products for long-lasting composite restorations of Class I and II cavities in the permanent posterior dentition.

Harness the power of a complete workflow with Adhese® Universal single-component universal adhesive, Tetric® PowerFill<sup>[1-6]</sup> sculptable 4-mm composite and Tetric® PowerFlow flowable 4-mm composite. Light-cure these components in 3 seconds from the occlusal surface using the intelligent Bluephase® PowerCure curing light. You will notice the time savings – whilst achieving the same quality and esthetics.



#### **Natural esthetics**

in posterior teeth\*

#### **Reliable depth of cure**

in increments up to 4 mm\*<sup>[1-6]</sup>

#### **Low susceptibility**

to process-related air entrapments\*<sup>[7, 8]</sup>

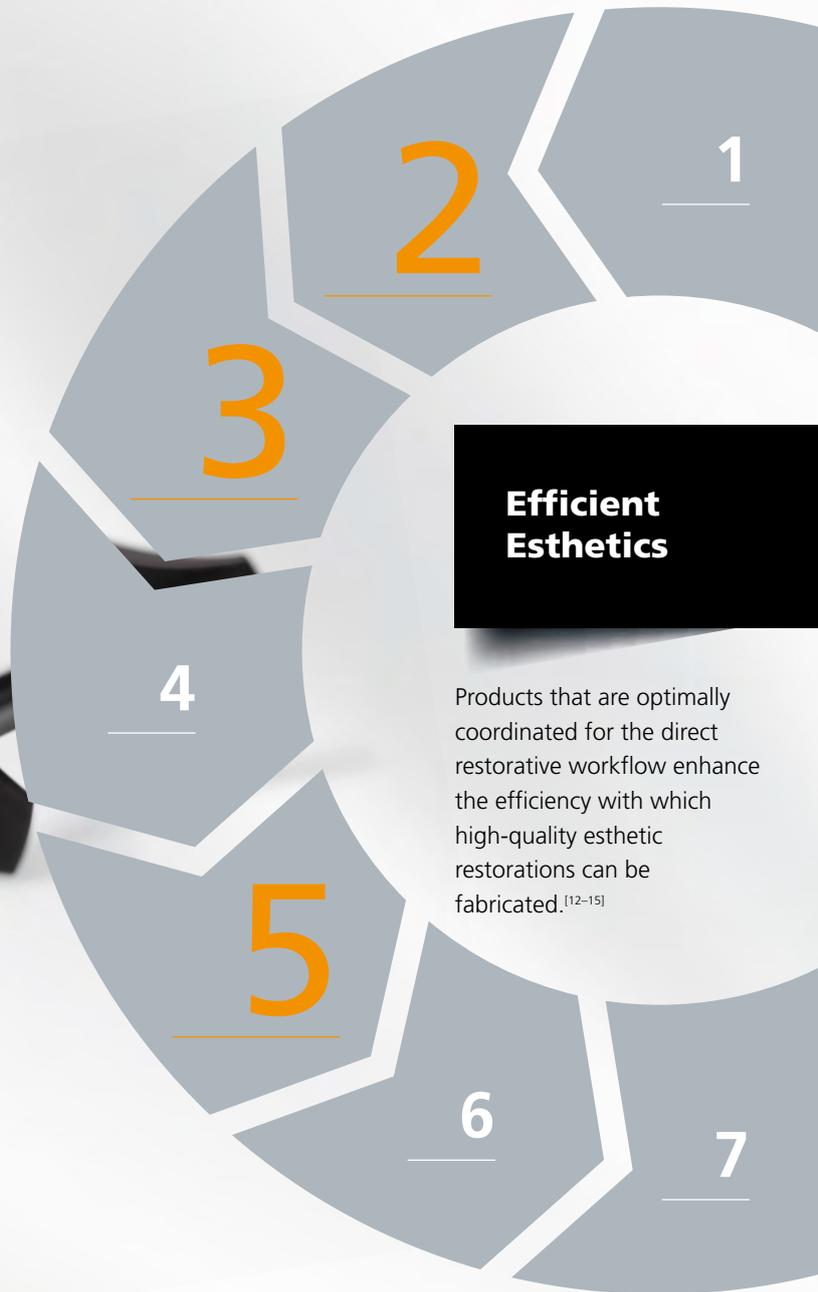
#### **Same performance**

as conventional composites\*<sup>[5, 9-11]</sup>

#### **Time savings of up to 51%**

in posterior restorations<sup>[12]</sup>

\* Only applies to Tetric PowerFill and Tetric PowerFlow



## Efficient Esthetics

Products that are optimally coordinated for the direct restorative workflow enhance the efficiency with which high-quality esthetic restorations can be fabricated.<sup>[12-15]</sup>



### 1 Isolate

Effective isolation with **OptraGate®** and **OptraDam**



### 2 Bond

Direct intraoral application of **Adhese® Universal** with the efficient **VivaPen®**



### 3 Restore

**Tetric®** – One solution for all cavities



### 4 Contour

Time-saving contouring with **OptraSculpt®** due to its anti-stick effect



### 5 Cure

Reliable and fast curing with the **Bluephase®** curing units



### 6 Polish

High-gloss polishing in only one step with **OptraGloss®**



### 7 Protect

Immediate and controlled fluoridation with **Fluor Protector S<sup>[21]</sup>**

# Natural esthetics in the posterior region

Would you rather opt for low translucency and esthetic results or high translucency and high depth of cure? The 4-mm composites Tetric PowerFill and Tetric PowerFlow combine the advantages of both properties so you can have both: esthetics and efficiency without dilemma.



Brown discolouration



Conventional composites



Tetric® PowerFlow  
+  
Tetric® PowerFill



The highly reactive, patented light initiator **Ivocerin®** has paved the way for the development of Tetric PowerFill and Tetric PowerFlow for esthetic posterior restorations<sup>[16, 17]</sup>.

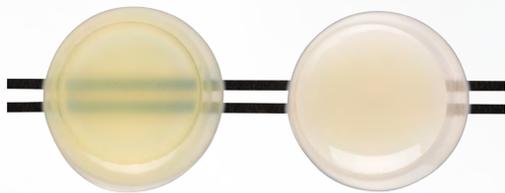
Conventional composites designed for the placement of large increments are often very translucent. Ivocerin-containing composites offer enamel-like and dentin-like translucency levels and up to 4-mm increment placements whilst achieving a reliable depth of cure.<sup>[5]</sup>



The **Aessencio® technology** presents a milestone in the esthetic optimization of 4-mm composites. The material features a high initial translucency to be able to cure to the desired depth of cure. Whilst polymerizing, it gradually changes to a more opaque shade. In the case of Tetric PowerFlow, the final translucency is below 10% – a value that is very close to that of natural dentin. This allows stained tooth structure to be concealed effectively.



The in-vitro test<sup>[6]</sup> demonstrates the effect of the Aessencio technology: The black lines under the Tetric PowerFlow sample are clearly visible before light-curing. After curing, they are completely masked due to the change in translucency:



Tetric PowerFlow before and after polymerization

### Well-matched materials

The different consistencies and shades are uniquely formulated to be used in any combination. For instance, you can achieve restorations with natural esthetic properties by combining Tetric PowerFlow and Tetric Prime.



# The same performance, in thicker layers\*\*

Tetric PowerFill and Tetric PowerFlow can be applied in layers of up to 4 mm. Therefore, fewer layers are needed in comparison with conventional placement techniques. This helps to streamline the treatment protocol.<sup>[2-4]</sup>

## Low susceptibility

to process-related air entrapments<sup>[7, 8]</sup>

## Reliable depth of cure

in increments up to 4 mm<sup>[2-6]</sup>

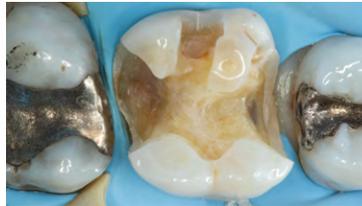
## High performance,

similar to conventional composites<sup>[5, 9-11]</sup>

\*\*In comparison with conventional composites



Preoperative situation



Prepared cavity



Baseline



6-month recall

Source: Dr Lukas Enggist, Ivoclar Vivadent, Liechtenstein, 2018

# Reliable depth of cure and short exposure times<sup>[5]</sup>

Light polymerization is seen as the most common source of error in direct restorative treatments<sup>[18, 19]</sup>. An efficient polymerization protocol featuring the shortest possible light exposure time heightens the reliability of the curing step and therefore enhances the quality of the final restoration.<sup>[1]</sup>

## Bluephase PowerCure curing light

CURING MODE	TIME	LIGHT INTENSITY	APPLICATION SPECTRUM	MATERIAL
<b>3s</b>	3 seconds	3,000 mW/cm <sup>2</sup>	restorations in the posterior region of permanent dentition (Class I and II)	Tetric PowerFill, Tetric PowerFlow, Adhese Universal
<b>Turbo</b>	5 seconds	2,000 mW/cm <sup>2</sup>	all restorations in Class I – V cavities indirect restorations (per mm of ceramic and per surface)	e.g. IPS Empress® Direct, Tetric Prime, Adhese Universal
<b>High</b>	10 seconds	1,200 mW/cm <sup>2</sup>	all direct and indirect restorations	e.g. IPS Empress Direct, Tetric-Line, Adhese Universal, Variolink® Esthetic
<b>PreCure</b>	2 seconds	950 mW/cm <sup>2</sup>	removal of cement excess	e.g. Variolink Esthetic

Comparison: Bluephase G4 offers the curing modes "High" and "PreCure".

# Reliable curing results with Polyvision

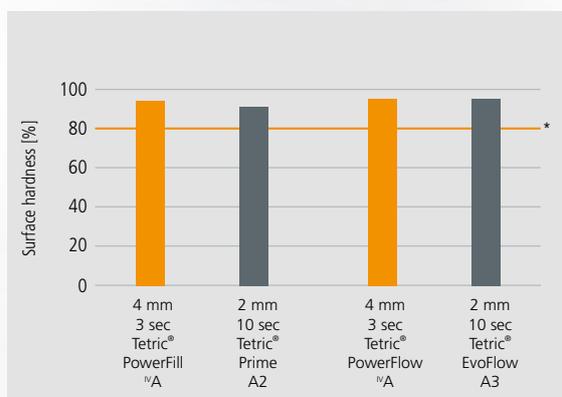
The innovative Bluephase® PowerCure is the first intelligent Bluephase LED curing light that actively supports you in your polymerization tasks. The curing light automatically detects movement of the handpiece during the light-curing procedure and identifies the potential for an inadequate cure of the restoration. If this is the case, it alerts the user of the improper operation by vibrating and it automatically extends the exposure time by 10 per cent. If the handpiece accidentally slips a long way from its position, the light automatically switches off, allowing the operator to repeat the light-curing procedure applying the correct light dose.



# Same performance as conventional composite restorations [5, 9–11]

Although they are applied in 4-mm increments and light-cured with significantly reduced curing times, Adhese Universal, Tetric PowerFill<sup>[1–6]</sup> and Tetric PowerFlow result in only minimal polymerization shrinkage<sup>[5, 6]</sup>, excellent marginal adaptation<sup>[11]</sup> and low heat development<sup>[20]</sup>. Their physical properties have been shown several times to be on a par with those of conventional composites placed using a more complicated incremental method.

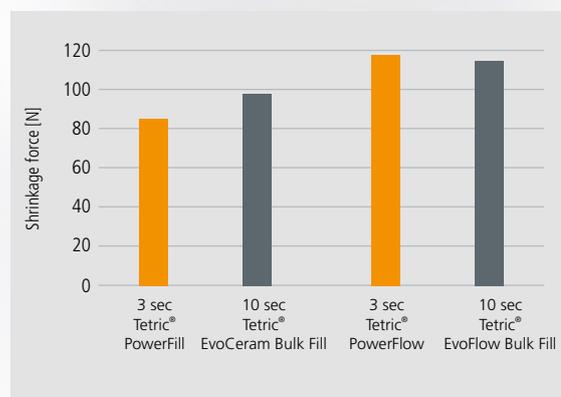
## 1 Reliable curing results



Sources: S. Lenz, Research Report of Tetric PowerFill, *Test Report*, Ivoclar Vivadent, 2019; S. Lenz, B. Gebhardt, *Verification Report Tetric Prime*, *Test Report*, Ivoclar Vivadent, 2019

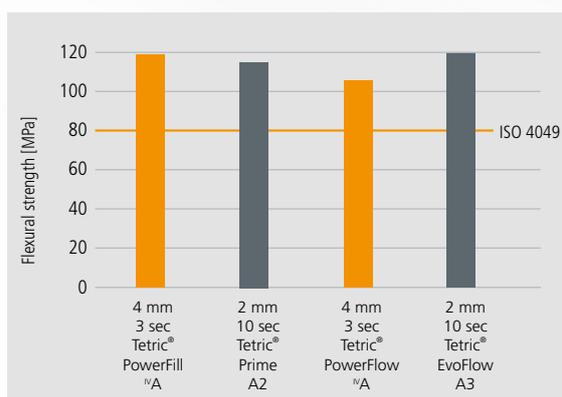
\* Reference: D. Watts, O. Amer, E. Combe, Characteristics of visible light activated composite systems, *Br Dent J.* 1984, 156, 209-215.

## 2 Low shrinkage



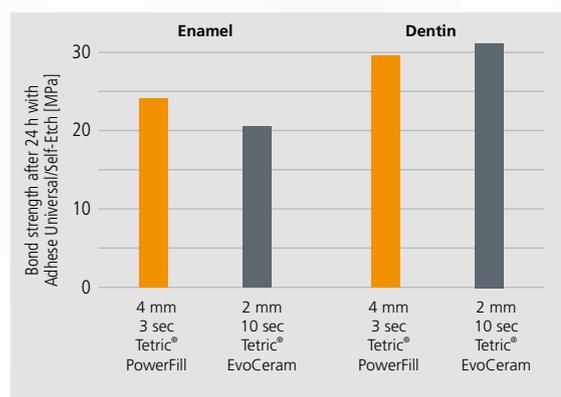
Source: B. Gebhardt, Verification Report Tetric PowerFill, *Test Report*, Ivoclar Vivadent, 2017.

## 3 High flexural strength



Sources: S. Lenz, Research Report of Tetric PowerFill, *Test Report*, Ivoclar Vivadent, 2019; S. Lenz, B. Gebhardt, *Verification Report Tetric Prime*, *Test Report*, Ivoclar Vivadent, 2019.

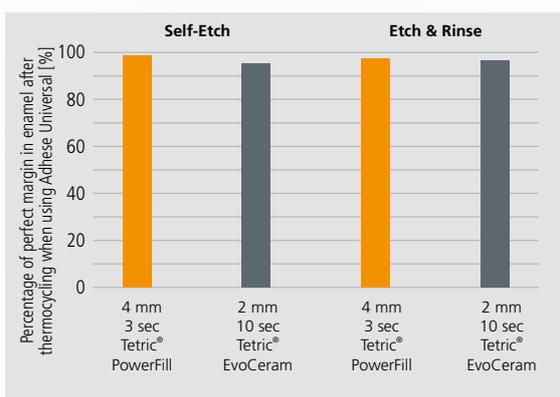
## 4 Predictable high bond strength values



Source: B. Gebhardt, Verification Report Tetric PowerFill, *Test Report*, Ivoclar Vivadent, 2017.

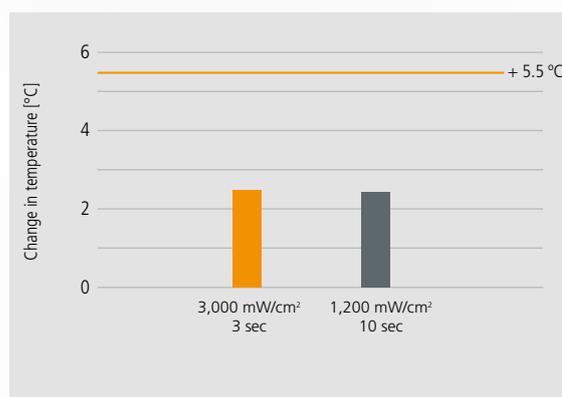


### 5 Excellent marginal adaptation



Source: U. Blunck, Marginal adaptation study, *Study Report*, Berlin, 2018.

### 6 Low heat development



Source: C. Arrais, Analysis of pulp temperature and inflammatory response to radiant exposure from an experimental Polywave® LED light curing unit, *Research Report*, State University of Ponta Grossa, 2019.

## Save up to 51% on time in the posterior region<sup>[12]</sup>

Maximize the efficiency of your workflow with Tetric PowerFill and Tetric PowerFlow<sup>[12-15]</sup>. You will need fewer increments, which means that you have to switch less between the composite, the modelling instrument and the light-curing device – whilst achieving the same treatment results compared to conventional layering techniques.

Fewer steps thanks to 4-mm increments:



## Experience the difference with 3s PowerCure

When direct Class I and II restorations are placed in permanent posterior teeth, 3-second exposures from the occlusal aspect are sufficient for all curing steps with the Bluephase PowerCure in the 3sCure mode. Simply expose Adhese Universal, Tetric PowerFill<sup>(1)</sup> and Tetric PowerFlow to the light-intensity of 3,000 mW/cm<sup>2</sup> produced by the curing light. You will notice right away that the curing time you require is considerably reduced. At the same time, you will continue to achieve the customary high-quality esthetic results.

“ There is no way around the polymerization of composite materials. A 3-second cure comes in exceptionally handy here. ”

**Dr Nathaniel Lawson**  
Assistant Professor and Division Director of Biomaterials  
UAB School of Dentistry, Birmingham, USA



# Delivery forms

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## Bluephase PowerCure & Tetric PowerFill Kit Syringe – Article No. 668253

### 1x Bluephase PowerCure 100–240V with Tetric PowerFill Kit:

1x 3 g syringe Tetric PowerFill <sup>®</sup>A, 1x 2 g syringe Tetric PowerFlow <sup>®</sup>A, 1x 2 ml Adhese Universal VivaPen

## Bluephase PowerCure & Tetric PowerFill Kit Mixed – Article No. 691918

### 1x Bluephase PowerCure 100–240V with Tetric PowerFill Kit:

20x 0.2 g Tetric PowerFill <sup>®</sup>A, 1x 2 g syringe Tetric PowerFlow <sup>®</sup>A, 1x 2 ml Adhese Universal VivaPen

## Tetric PowerFill Kit Syringe – Article No. 692419WW

1x 3 g syringe Tetric PowerFill <sup>®</sup>A, 1x 2 g syringe Tetric PowerFlow <sup>®</sup>A, 1x 2 ml Adhese Universal VivaPen

## Tetric PowerFill Kit Mixed – Article No. 692421WW

20x 0.2 g Tetric PowerFill <sup>®</sup>A, 1x 2 g syringe Tetric PowerFlow <sup>®</sup>A, 1x 2 ml Adhese Universal VivaPen

Additional delivery forms are available.

#### Sources:

- [1] N. Ilie, Characteristics of composite and curing unit, *Study Report*, Munich, 2019.
- [2] N. Ilie, Characteristics of composite and curing unit, *Presentation*, Munich, 2018.
- [3] W. Palin, Polymerization characteristics of Tetric EvoCeram Bulk Fill and F-Composite 2, *Study Report*, Birmingham (UK), 2015.
- [4] W. Palin, M. Hadis, High irradiance polymerization of "flash-cured" resin composites, *Study Report*, Birmingham (UK), 2018.
- [5] S. Lenz, Research Report of Tetric PowerFill, *Test Report*, Ivoclar Vivadent, 2019.
- [6] B. Gebhardt, Verification Report Tetric PowerFill, *Test Report*, Ivoclar Vivadent, 2017.
- [7] S. Heintze, Design validation report Tetric PowerFill, *Test Report*, Ivoclar Vivadent, 2017.
- [8] R. Hirata, Effect of sonic resin composite delivery on void formation assessed by micro-computed tomography, *Operative Dentistry* 2018, 43-2, 144-150.
- [9] M. Cowen, J. M. Powers, Bond strength laboratory evaluation of a new curing light and restoratives, *Study Report*, Dental Advisor, 2018.
- [10] T. Bock, Research report Adhese Universal, Shear Bond Strength (SBS), *Research Report*, Ivoclar Vivadent, 2018.
- [11] U. Blunck, Marginal adaptation study, *Study Report*, Berlin, 2018.
- [12] A. Lebedenko, Comparative fillings: Conventional layering technique versus 3sCure two-layer technique, *Test Report*, Ivoclar Vivadent, 2018.
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- [14] N. Ragazzini, Comparison of restorative time of direct fillings class I & II placed with traditional layering technique or bulk layering technique, *Clinical Report*, Bologna, 2020.
- [15] N. Lawson, Clinical evaluation of a bulk fill resin composite, 24-month report, *Study Report*, Birmingham (US), 2020.
- [16] B. Ganster et al, New photocurable structures, 4. Acylgermane-based photoinitiator for visible lightcuring, *Macromolecular Rapid Commun.* 2008, 29, 57-62.
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- [18] S.E. Kopperud et al, Light curing procedures – performance, knowledge level and safety awareness among dentists, *J. Dent.* 2017, 58, 67-73.
- [19] F. C. Calheiros, et al, Degree of conversion and mechanical properties of a BisGMA:TEGDMA composite as a function of the applied radiant exposure. *J Biomed Mater Res B Appl Biomater* 2008, 84, 503-509.
- [20] C. Arrais, Analysis of pulp temperature and inflammatory response to radiant exposure from an experimental Polywave<sup>®</sup> LED light curing unit, *Research Report*, State University of Ponta Grossa, 2019.
- [21] Bolis C et al., *Oral Health Prev. Dent.* 2015, 13, p. 545-556.

