



More shades.
More indications.
More success.

SDR[®] Plus
Bulk Fill Flowable

 Dentsply
Sirona

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The unmatched SDR bulk fill technology

In 2009, SDR was the first technology that allowed 4mm bulk placement in flowable consistency. More than 50 million applications and several long-term clinical studies later, it is the bulk fill technology of choice for faster and easier creation of reliable direct restorations. SDR technology answers the two challenges of direct restorations: adaptation and efficiency.

Adaptation is the key to long term success

Studies indicate that marginal gaps can lead to the development of wall lesions and can result in secondary caries¹, ultimately putting restoration longevity at risk.

- Voids and gaps between restoration and cavity walls directly influence secondary caries formation¹
- Improper adaptation of composite during placement leads to the formation of voids²
- High shrinkage stress may lead to marginal gap formation²

Flowability

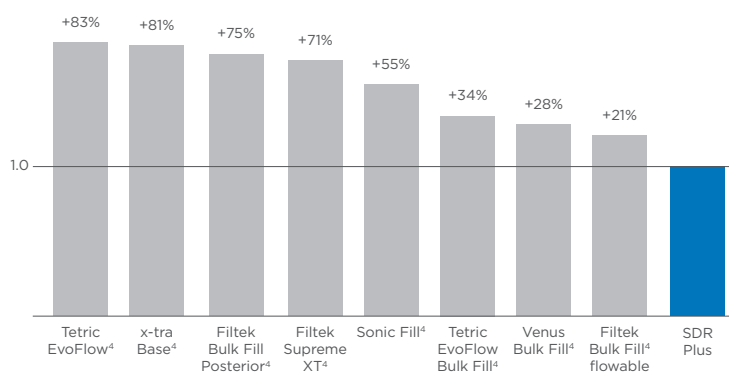
SDR's unique chemistry helps ensure the longevity and overall quality of a bulk fill restoration. SDR flowable bulk fill technology fills and easily adapts to the cavity, flowing into nooks and crannies to provide excellent cavity adaptation during placement.

Low shrinkage stress

During light-cured polymerization, resin monomers are in chaotic movement as they begin to form the polymer matrix. SDR technology enables the formation of a more relaxed network, minimizing the build-up of stress. This reduces the risk of gap formation during polymerization.



Shrinkage stress: Shown as a ratio of SDR Plus material vs. competitors³



¹ Kuper NK, Opdam NJ, Ruben JL, de Soet JJ, Cenci MS, Bronkhorst EM, et al. Gap size and wall lesion development next to composite. J Dent Res 2014;93, 1085-135

² Nedeljkovic et al. Is secondary caries with composites a material-based problem? Dent Mater 31 (2015), e247-e277

³ Data on file

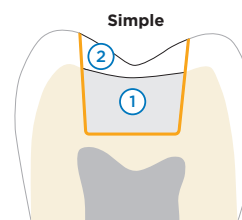
⁴ Not a registered trademark of Dentsply Sirona



Efficiency is the key to productivity

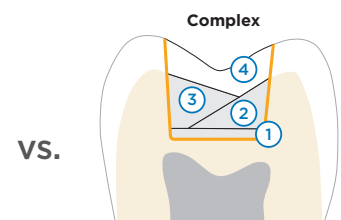
Direct restorations represent approximately a third of the annual revenue of a general practice. Increasing the efficiency of the Class II treatment directly impacts day-to-day dental office revenue.^{5,6} SDR bulk fill technology allows the material to be applied in 4mm increments without an additional liner. This automatically decreases procedural time and inventory.

- Bulk fill for up to 40% time savings over classic layering technique
- Use without an additional liner
- Self-levels and does not require additional manipulation to adapt



SDR Plus procedure

- Bonding
- ① SDR Plus material
- ② Capping Layer: Universal composite



Conventional procedure

- Bonding
- ① Flowable Liner
- ② Increment 1: Universal composite
- ③ Increment 2: Universal composite
- ④ Increment 3: Universal composite

5 2010 Survey of Dental Practice - Income from the Private Practice of Dentistry. <http://www.ada.org/1444.aspx>

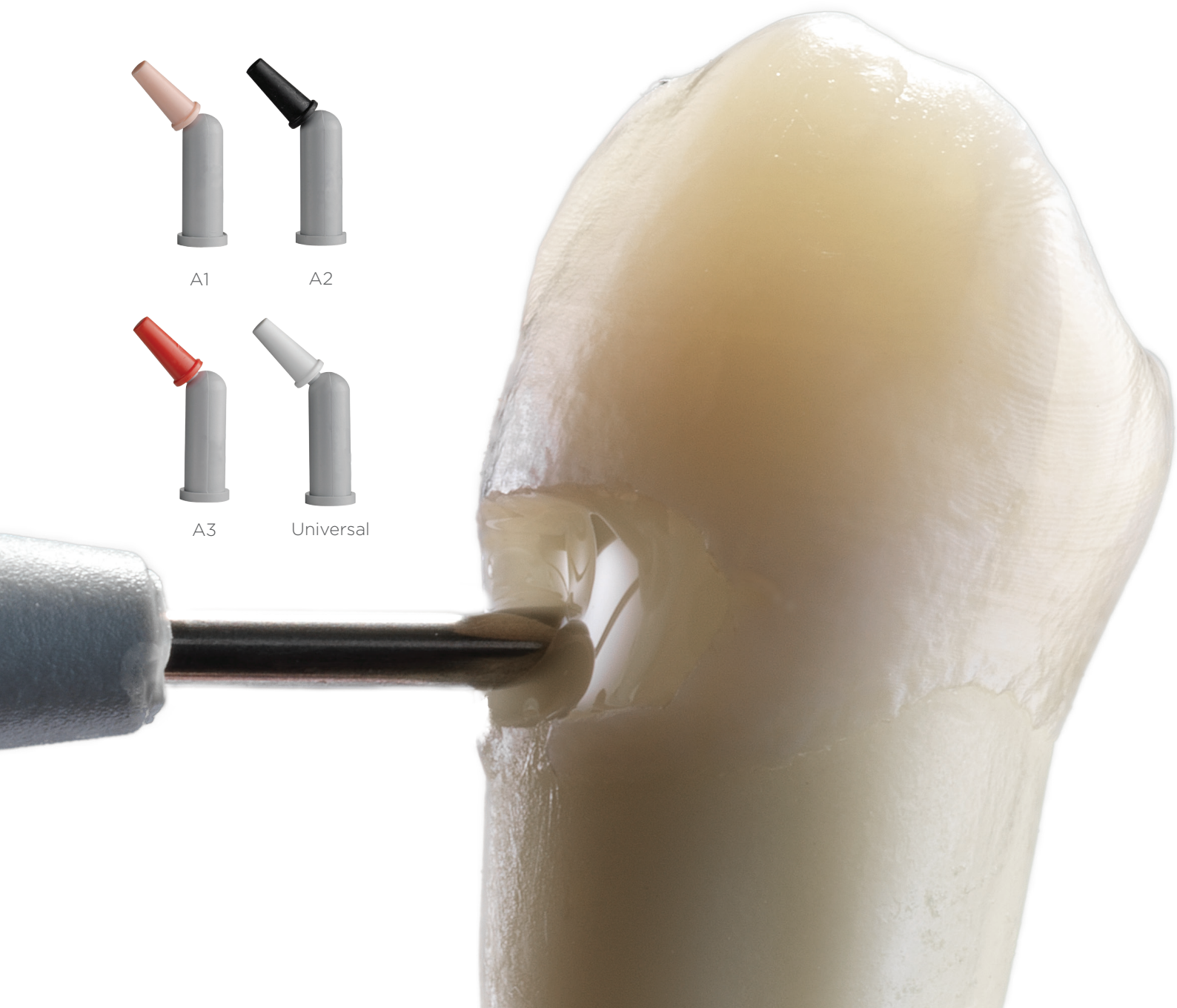
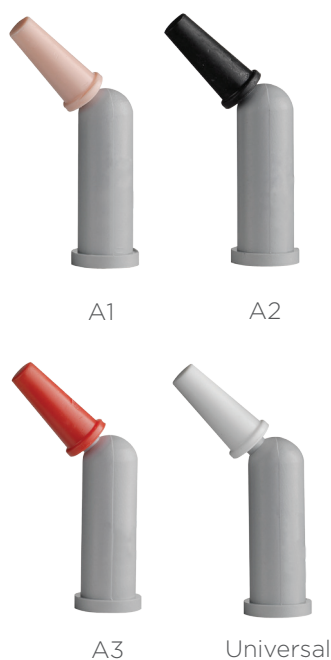
6 American Dental Association Procedure Recap Report (2006)

How do you make the best even better? Make it more versatile.

The upgraded formulation of SDR Plus material adds even more versatility, by introducing new shades and expanding the range of indications.

+ More Shades

In addition to one universal shade, three new A-shades of SDR Plus — A1, A2, and A3 — increase versatility even further in a wide range of cases including visible Class II restorations, primary posterior dentition, Class III and Class V restorations.



+ More Indications

Due to its unique chemistry and improved wear resistance, SDR Plus material is now approved to be used in Class III and Class V restorations where a capping agent wouldn't be used. This expands our capabilities to include more restoration classes than many other flowable materials.

Additional opportunities to use SDR Plus material



Primary molar with SDR Plus restoration after 2 years in-situ.
Dr. V. Ehlers

+Primary Posterior Dentition
SDR Plus material can be used without an additional universal composite and in increments up to the occlusal surface. Fast and easy application technique make it ideal for the treatment of children.



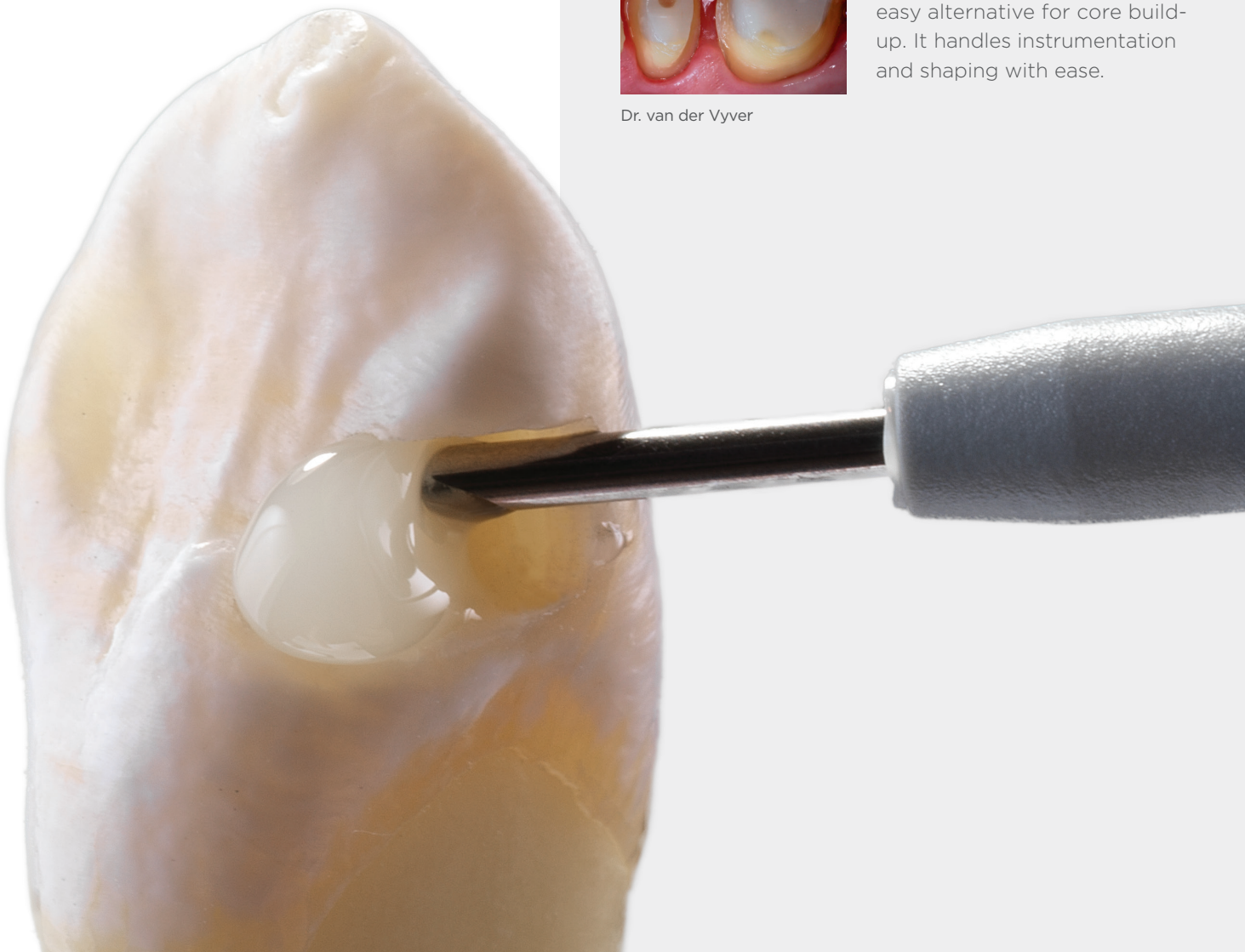
Dentsply Sirona internal picture

+Pit & Fissure Sealing
The thin compula allows the material to flow easily into all fissures for highly precise application.



Dr. van der Vyver

+Core Build-Up
The 4mm depth of cure of SDR Plus material make it a fast and easy alternative for core build-up. It handles instrumentation and shaping with ease.



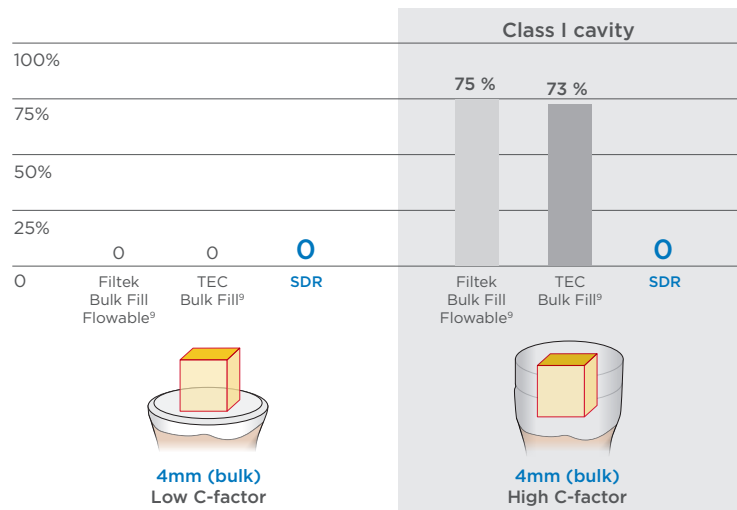
Reliable adhesion and tight seal in high C-factor cavities

+Reliable adhesion

Endodontic cavities are particularly challenging for bulk fill composites, as most are very deep Class I like cavities. This maximizes shrinkage stress potential, indicated by a high C-factor. Studies indicate that when high C-factor cavities are filled in bulk, the choice of the composite is an important element to avoiding adhesive debonding.⁷

SDR Plus material with SDR technology can deal with high C-factor cavities, leading to a tight coronal seal even for post-endodontic cavities.

Pre-test failures [%] during micro tensile bond strength testing to cavity floor

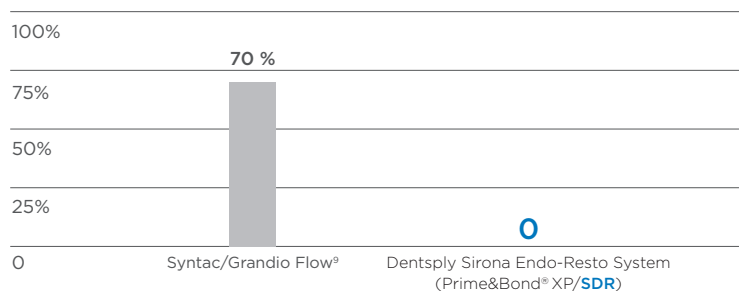


+Tight seal

“SDR Plus ensures a tight seal of the endodontic access cavity – an important factor for long-term endodontic treatment success.”

Prof. Dr. Schirrmeister,
University of Freiburg, Germany

Relative number [%] of specimen showing leakage into root canal⁹



⁷ Van Ende A et al., 2016: Effect of Bulk-filling on the bonding efficacy in Occlusal Class I Cavities. J Adhes Dent.; 18(2):119-24

⁸ Internal Report Ebert J, Study No 14 1408 (2011). Available upon request, see contact details

⁹ Not a registered trademark of Dentsply Sirona

Years of clinical success

While making Class I and Class II restorations faster and easier, the SDR technology in SDR Plus material also shows excellent long-term reliability in several clinical studies. In fact, the long-term survival rates of bulk fill restorations with SDR technology provided to be equivalent to those of restorations done in the conventional layering technique.

Split mouth studies

by J.W.V van Dijken and U. Pallesen^{10,11}

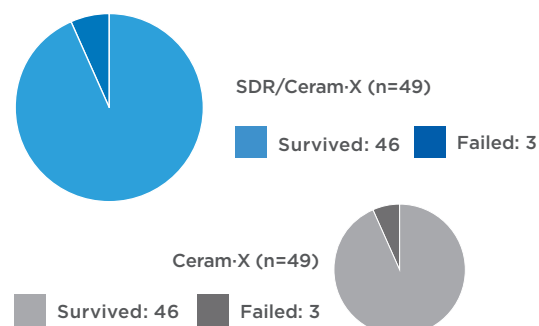
6 YEAR FOLLOW-UP¹⁰

JWV van Dijken and U. Pallesen

A total of 98 Class I and Class II restorations were evaluated at recall. 49 using SDR and Ceram-X in the bulk-fill technique against the same number using just Ceram-X composite in the layering technique.

The observers conclude:

- Clinically safe
- Highly acceptable clinical durability
- Clinical performance and failure rate was equivalent to conventional layering (3 failures in both test and control group)



“During the six year follow up, the bulk fill technique was proven to be a clinically safe technique; highly acceptable; clinically durable.”

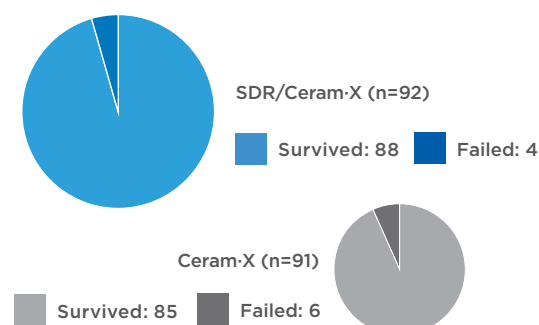
5 YEAR FOLLOW-UP¹¹

JWV van Dijken and U. Pallesen

A total of 183 Class I and Class II restorations were evaluated at recall. 92 using SDR and Ceram-X in the bulk-fill technique against 91 using just Ceram-X composite in the layering technique.

The observers conclude:

- Both restorative techniques showed good surface, marginal stability and color stability
- No statistically different annual failure rates between bulk-fill and layering technique were observed
- No post-op sensitivities have been observed at all



“The use of a 4mm incremental technique with the flowable bulk-fill resin composite showed during the 5-year follow up slightly better, but not statistical significant, durability compared to the conventional 2mm layering technique in posterior resin composite restorations.”¹¹

36 Month clinical trial results¹²

J. Burgess and C. Munoz

- No failures attributable to SDR
- No post-operative sensitivities
- No adverse effects on gingiva in contact with SDR

“There were no observations of recurrent caries associated with the low stress resin and no reports of adverse events throughout the duration of the trial.”¹²

¹⁰ van Dijken JWV, Pallesen U, 2017: Bulk-filled posterior resin restorations based on stress-decreasing resin technology: a randomized, controlled 6-year evaluation.; Eur J Oral Sci. 2017 Aug;125(4):303-309.

¹¹ van Dijken JWV, Pallesen U, 2016: Posterior bulk-filled resin composite restorations: A 5-year randomized controlled clinical study; J Dent 2016 Aug;51:29-35

¹² Internal report #765-540 (2012-02-17); Data on file

Integral to Class II Procedural Success



Palodent® V3 Sectional Matrix System

- Adapts to the natural contour of the tooth
- Creates predictable, accurate contacts and a tight gingival seal
- Can be configured for multiple restorations at once



Prime&Bond universal™ Universal Dental Adhesive

- Versatility for use with all etching methods, all indications
- Self-leveling — less pooling and dry spots
- Active moisture control for reliable performance on over-wet and over-dry dentin
- Virtually no post-operative sensitivity



ceram.x® SphereTEC™ one Universal Nano-Ceramic Restorative

- Adapts to the shape of the cavity walls, the composite, specifically SDR Plus, and the dentists' sculpting techniques
- SphereTEC™ combines adaptive consistency with excellent slump-resistance and easy sculptability
- Distinct chameleon effect covers the full VITA* range with only five shades

SDR® Plus Bulk Fill Flowable

Ordering Information



Compulas



Syringes

SDR Plus Intro Kit with Prime&Bond universal 60603047

45 Compula Universal
Compule Tips gun
2.5 ml Prime&Bond universal
CliXDish
Storage Box

SDR Plus Syringe Refill Universal Shade

2x Syringe Universal shade (1g each)
15x Syringe tips

61C130P

SDR Plus Syringe Eco Refill Universal Shade

10x Syringe Universal shade (1g each)
60x Syringe tips

60603045

SDR Plus Compula Refill Universal Shade

15 Compula universal (0.25g each)

61C101P

SDR Plus Syringe Tip Refill

60x Syringe tip

61C111P

A1 Shade

A2 Shade

A3 Shade

61C106P

61C107P

61C108P

SDR Plus Compula Eco Refill Universal Shade

50 Compula (0.25g each)

61C103P

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