



Colourflow

light cured dental flowable composite

D L S DENTAL LIFE
SCIENCES

Colourflow

flowable dental composite





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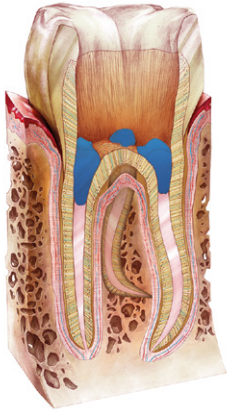
www.dentallifesciences.com

Manufactured by:

ARKONA

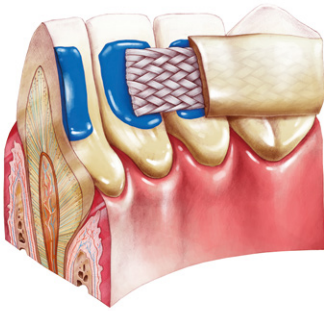
Laboratorium Farmakologii Stomatologicznej
Nasutów 99 C, 21-025 Niemce, Poland, EU

INDICATIONS



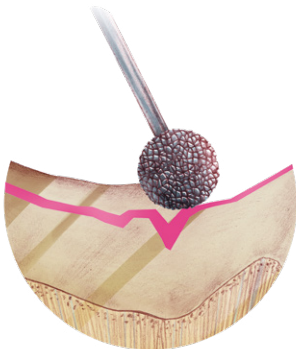
MARKING AND SEALING ROOT CANAL ORIFICES AFTER ENDODONTIC TREATMENT

Marking root canal orifices after endodontic treatment makes it easier to locate them in the case of retreatment. The procedure also protects root canals from secondary caries development. Additionally, assigning particular colours to certain cases, facilitates subsequent procedures.



PROTECTING ENAMEL DURING THE REMOVAL OF TEMPORARY SPLINTS AND RETAINERS

Attaching temporary fibres or retainers using tooth-coloured composites poses the risk of damaging healthy enamel. On the other hand, an incomplete removal of composite material results in poor aesthetics and may lead to the development of secondary caries. Using COLOURFLOW as a fibre or a retainer attachment ensures a clear demarcation between composite and a tooth, eliminating the risk of enamel damage.



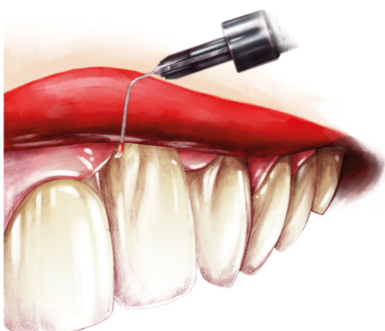
PROTECTING TEETH DURING THE REMOVAL OF OCCLUSAL CORRECTIONS

Using tooth-coloured material to correct the bite may result in damage to the underlying enamel, if it needs subsequent removal. Applying a first layer using a contrasting colour composite eliminates the risk of accidental tooth damage.



SEALING PROCEDURE WITH ABILITY TO MONITOR THE AMOUNT AND DISTRIBUTION OF SEALANT IN CHILDREN

Using COLOURFLOW for filling pits and fissures in the occlusal surfaces of children's teeth allows parents to monitor the level of composite wear. The less visible the colour, the sooner should the sealing procedure be repeated.

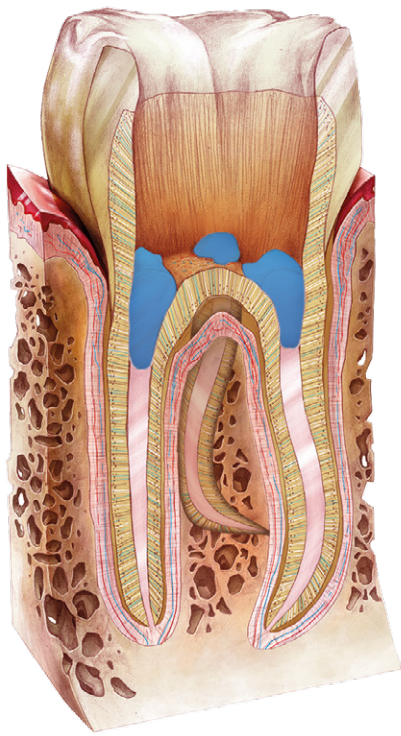


IMPROVING AESTHETICS OF RESTORATIONS BY CHARACTERISATION AND STAINING

COLOURFLOW is ideal to restore aesthetics and natural look of oral cavity. The composite can be used for various tooth characterisations or for recreating the gum line.

MARKING AND SEALING ROOT CANAL ORIFICES AFTER ENDODONTIC TREATMENT

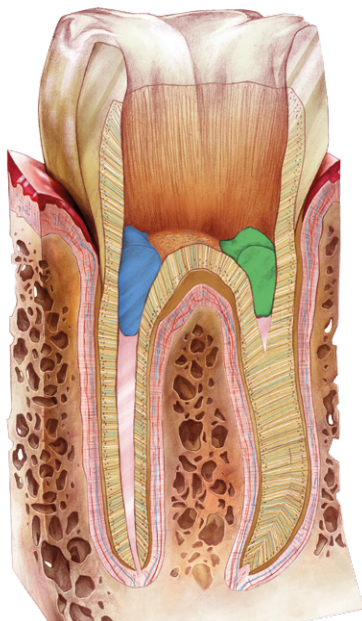
CORRECT TREATMENT



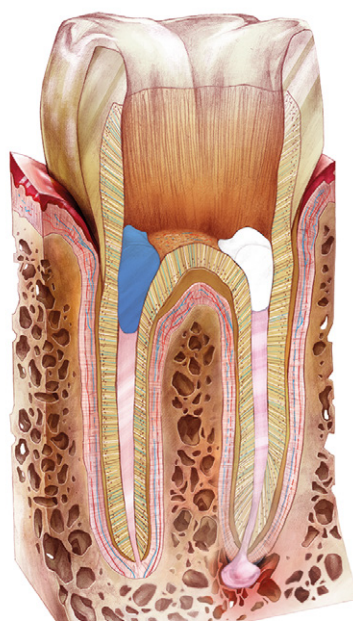
Cross sections of teeth at various stages of endodontic treatment indicated by the use of coloured composites.

Root canals during treatment, with indeterminate treatment results and/or asymptomatic chronic inflammation are marked using COLOURFLOW red, green and white.

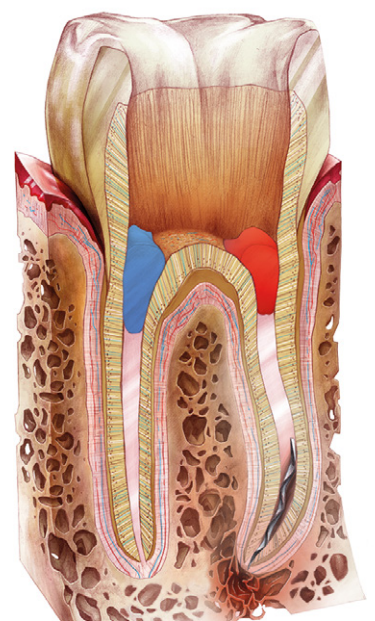
CONDITIONAL TREATMENT



GREEN
Obstructed, partially filled root canal



WHITE
Overfilled root canal

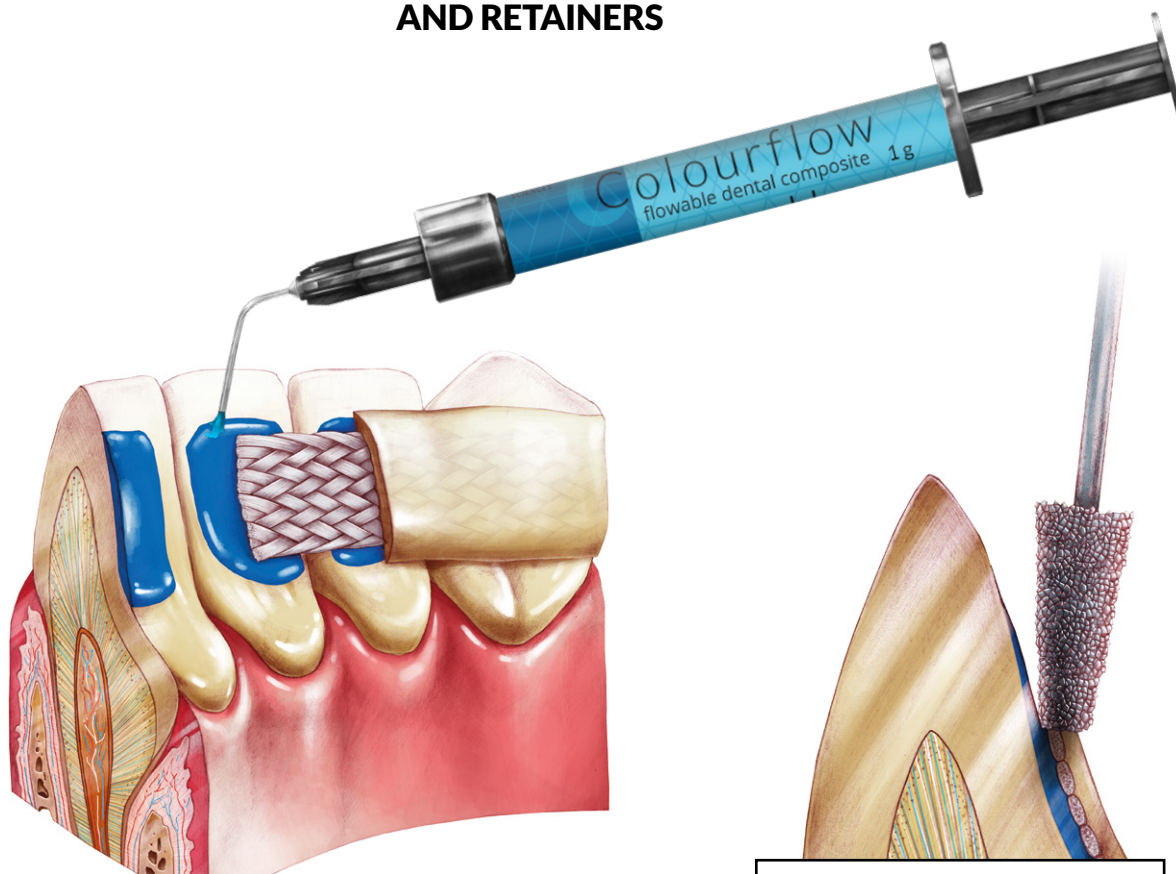


RED
Root canal with a damaged instrument or root perforation

The standard for marking and sealing root canal orifices has been developed on the basis of the method used by 70% of dentists in many European countries.

PROTECTING ENAMEL DURING THE REMOVAL OF TEMPORARY SPLINTS AND RETAINERS

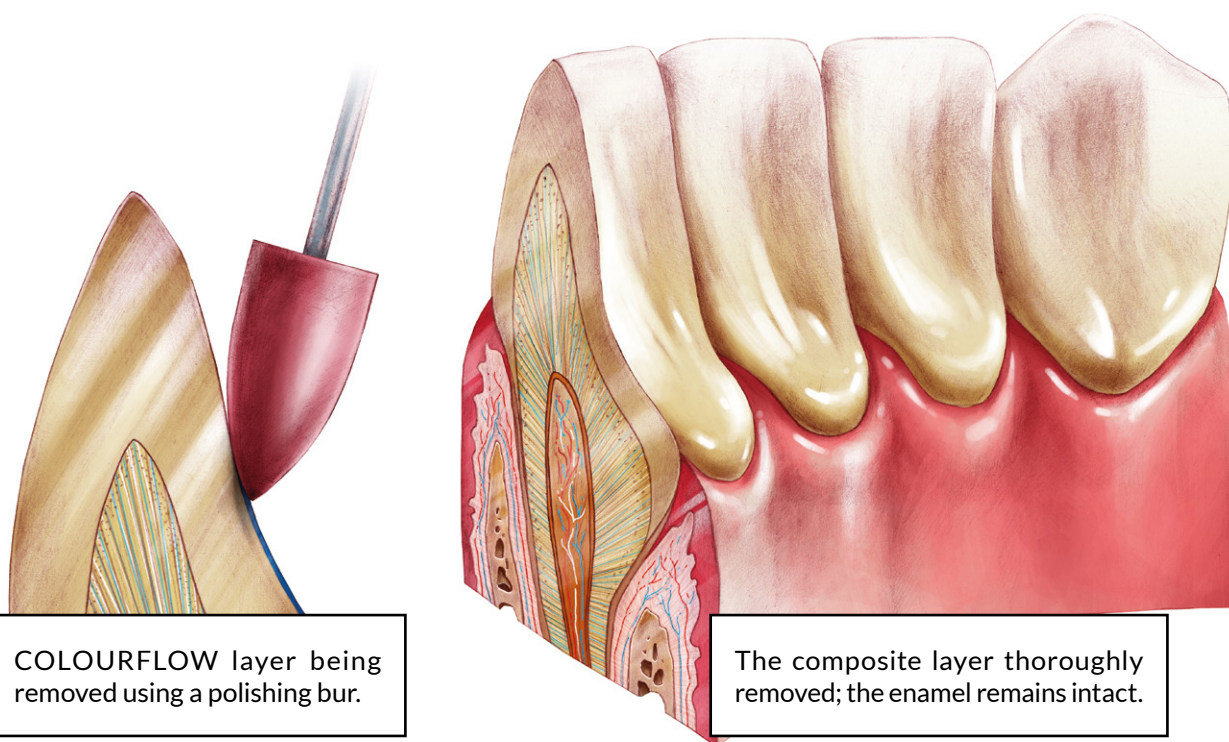
SOLUTION



Cross section of a tooth with blue COLOURFLOW used as a fibre attachment: a clear boundary between the enamel and the composite layer.

A dental bur and a thin layer of COLOURFLOW remaining on the tooth surface.

RESULT



COLOURFLOW layer being removed using a polishing bur.

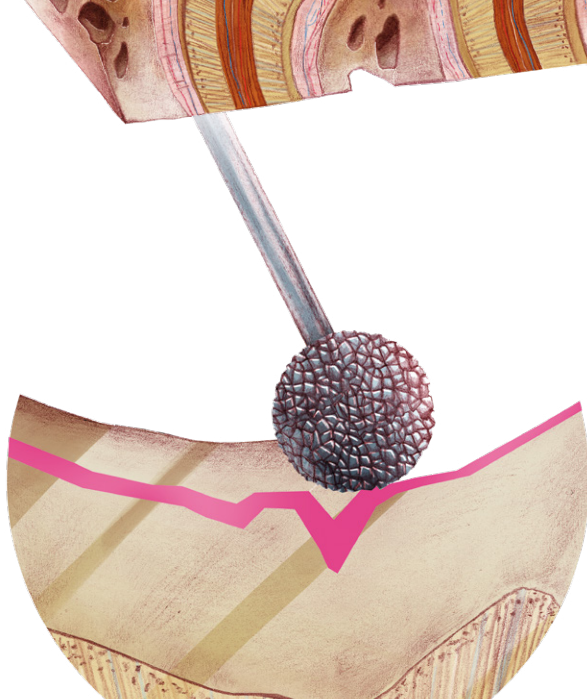
The composite layer thoroughly removed; the enamel remains intact.

PROTECTING TEETH DURING THE REMOVAL OF OCCLUSAL CORRECTIONS

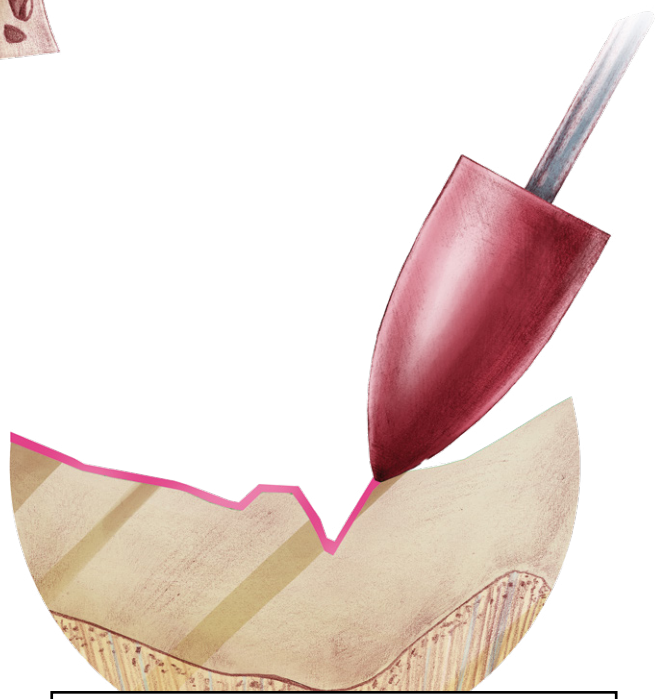
SOLUTION



RESULT



A dental bur and a thin layer of COLOURFLOW remaining on the tooth surface.



The COLOURFLOW layer being removed by a polishing bur; the enamel remains intact.

Colourflow

flowable dental composite available in nine different colours

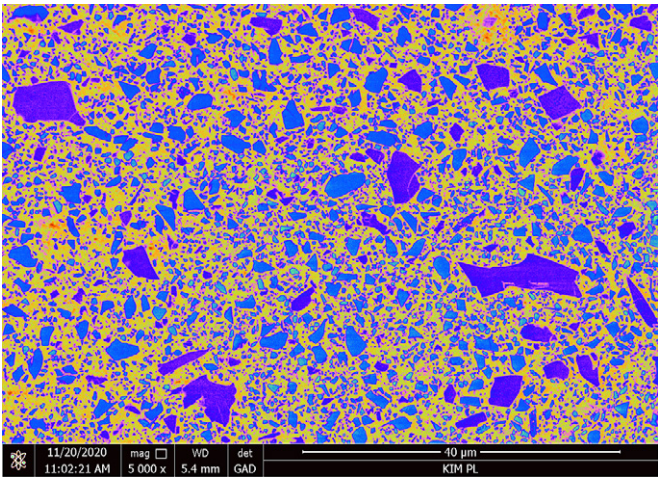
COMPOSITION

Mixture of dimethacrylate resins: BisGMA, TEGDMA, UDMA, BisEMA; mineral fillers (approx. 61% by weight): Al-Ba-B-Si glass, Ba-Al-B-F-Si glass, pyrogenic silica, pigments; photoinitiation system (CQ :DMAEMA). Inorganic filler par ticle size is in the range of 20 nm to 2.0

POLYMERISATION TABLE

Lamp	Colour	20 s	30 s
Halogen/LED (500-800 mW/cm²)	pink, green, blue, yellow, purple	1,5 mm	2,0 mm
	white, orange	-	1,0 mm
LED (>800 mW/cm²)	pink, green, blue, yellow, purple	2,0 mm	2,5 mm
	white, orange	1,0 mm	1,5 mm
	red, black	-	1,0 mm

COLOURFLOW structure



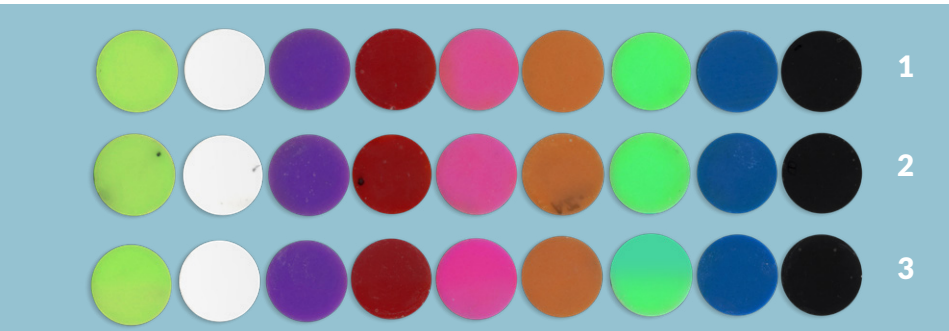
Cross section of polymerised COLOURFLOW material (5 000 x)

Average size of filler particles in COLOURFLOW composite:
 Fraction 1: 2 µm
 Fraction 2: 0.7 µm
 Fraction 3: 0.02 µm (about 1% by weight)

The introduction of a small amount of nanosilica and its even distribution determines the effective packing of all filler fractions, which guarantees high mechanical strength, resistance to the moist environment of the oral cavity, high colour stability and excellent polishability of COLOURFLOW composite.

COLOUR STABILITY TESTING FOR COLOURFLOW COMPOSITE

The tests confirm the excellent colour stability of COLOURFLOW composite both in a moist environment of the oral cavity and after the exposure to UV radiation.



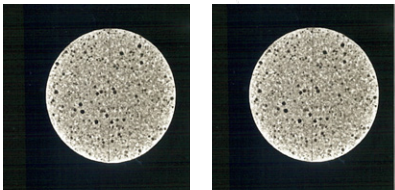
Photos of COLOURFLOW discs subjected to accelerated aging for a period of 1 month.

From the top:
 1 - initial sample (control) stored at room temperature, in the dark;
 2 - sample aged in a solution of artificial saliva, temperature 37°C,
 3 - sample aged in a solution of artificial saliva, temperature 37°C and exposed to UV*

* During irradiation, the lower half of the sample was covered with aluminum foil to show potential changes that could be caused by the exposure to light. Slight changes are visible only in the case of COLOURFLOW green and yellow (the exposed area is darker).

Contrast in X-ray

COLOURFLOW composite is perfectly visible on X-ray images



Sample X-ray images of COLOURFLOW discs (d = 8 mm, h = 1 mm);

FLEXURAL STRENGTH, σ[MPa]

In accordance with ISO 4049 (min. 80 MPa)

where:
 F – the maximum load exerted on the specimen [N]
 l – the distance between the supports [mm]
 b – the width of the specimen in its centre [mm]
 h – the height of the specimen in its centre [mm]

$$\sigma \text{ [MPa]} = \frac{3Fl}{2bh^2}$$



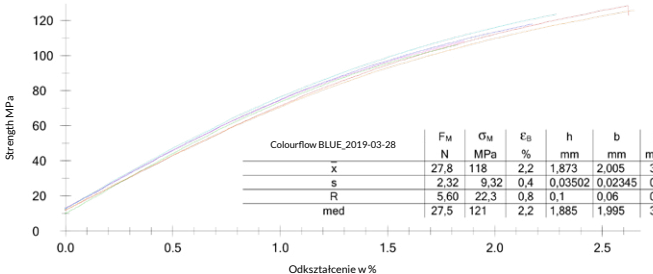
Flexural strength

Description: Flexural strength
 Ordering party: ARKONA
 Relevant quality standard: EN ISO 4049

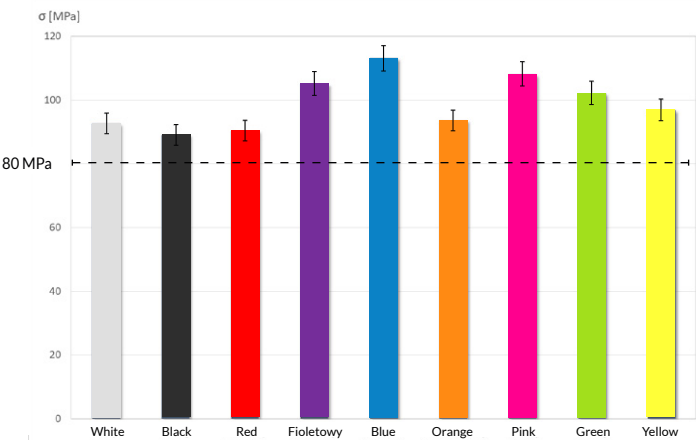
Type and designation: Comp/3-point bending
 Material: Colourflow BLUE_2019-03-28

Initial load: 1 N
 Test speed: 0.75 mm/min

Chart:



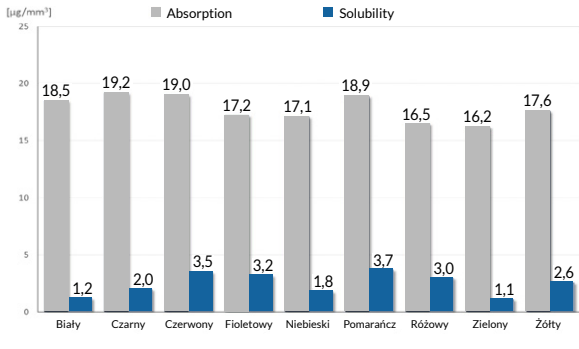
COLOURFLOW composite flexural strength chart (here BLUE)



Average flexural strength of each colour, in accordance with ISO 4049

WATER SOLUBILITY AND ABSORPTION

ISO 4049 requirements: Absorption ≤ 40 µg/mm³;
 Solubility ≤ 7,5 µg/mm³

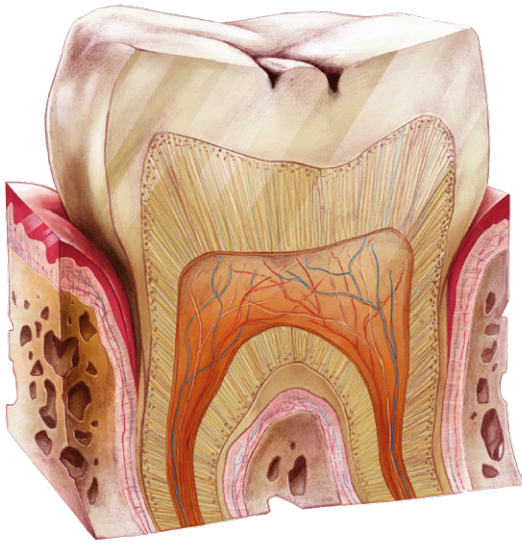


Average values of water absorption and solubility of individual colours, labelled in accordance with ISO 4049

All COLOURFLOW colours meet the requirements of the ISO 4049 standard for polymeric filling materials.

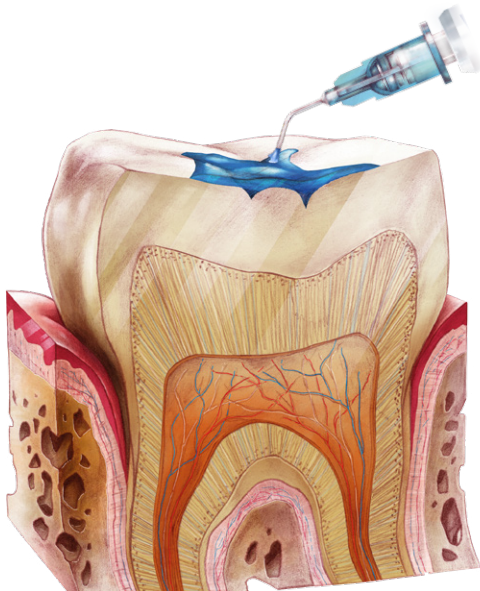
SEALING PROCEDURE FACILITATING THE CONTROL OF THE AMOUNT AND DISTRIBUTION OF SEALANT IN CHILDREN

PROBLEM

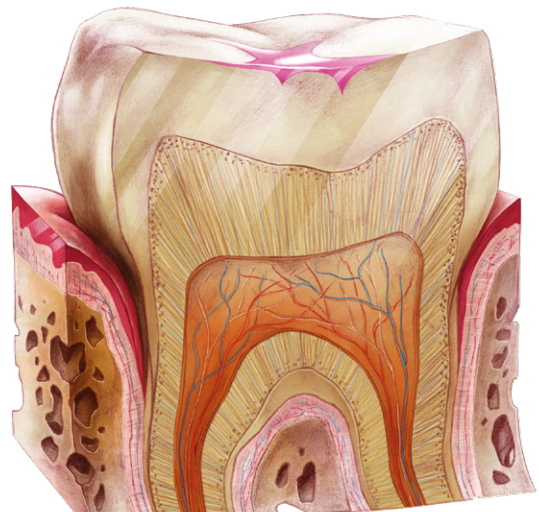


Dental caries may easily develop in unprotected fissures of healthy teeth. A cross section of an unsealed tooth: bacteria located in pits and fissures of the occlusal surface.

SOLUTION

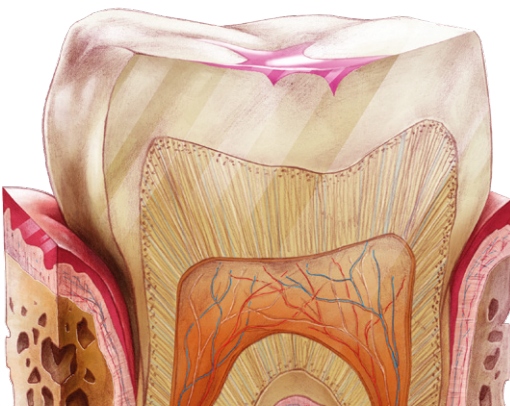


Etching and bonding are necessary prior to the sealing procedure.



A healthy tooth sealed with pink COLOURFLOW.

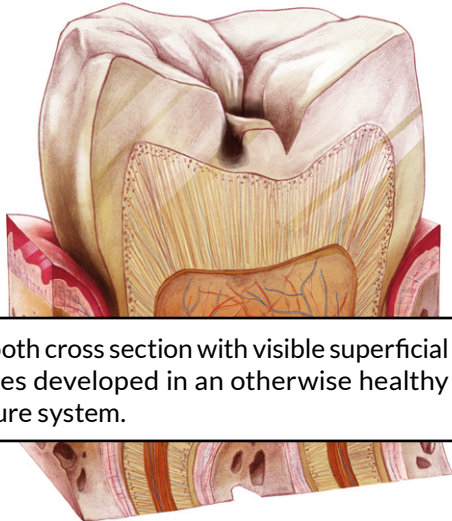
RESULT



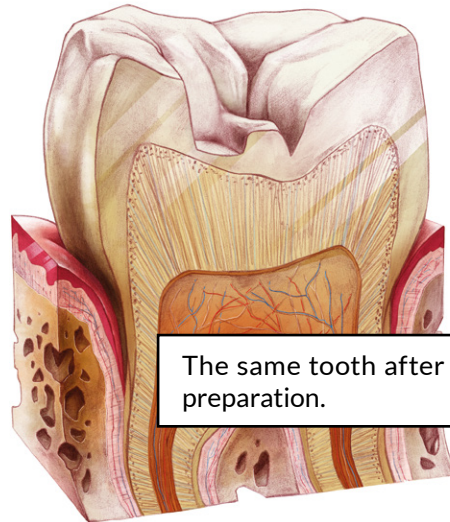
Pink COLOURFLOW visible on the occlusal surface of the tooth: all the pits and fissures protected. The lack of a clear contrast between composite and dentine indicates the need for the repetition of the procedure.

SEALING OF HEALTHY TEETH WITH SUPERFICIAL DENTAL CARIES

PROBLEM

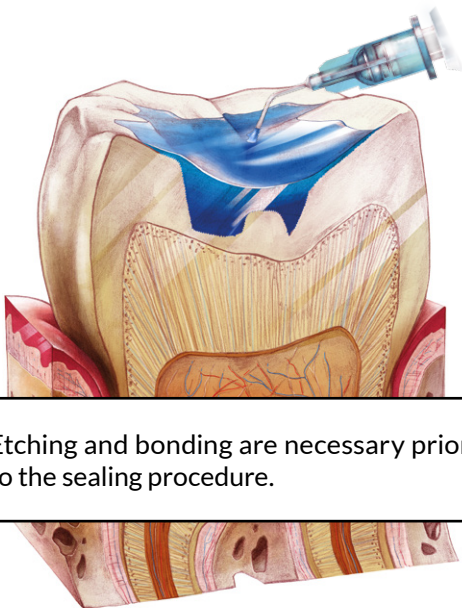


A tooth cross section with visible superficial caries developed in an otherwise healthy fissure system.



The same tooth after preparation.

SOLUTION

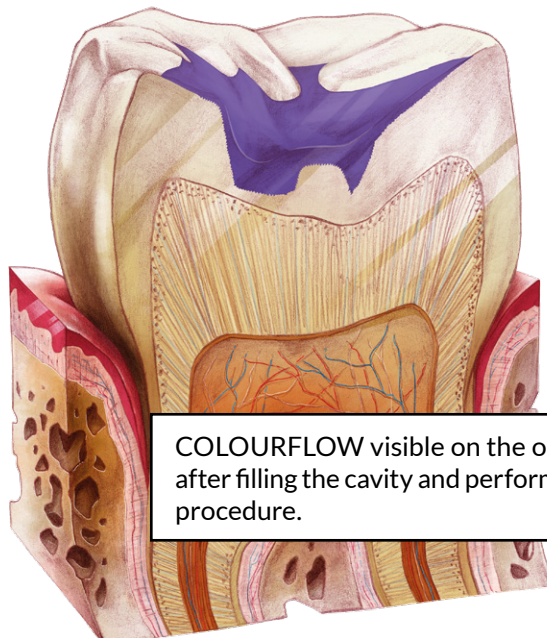


Etching and bonding are necessary prior to the sealing procedure.



A healthy tooth sealed with purple COLOURFLOW.

RESULT



COLOURFLOW visible on the occlusal surface after filling the cavity and performing the sealing procedure.

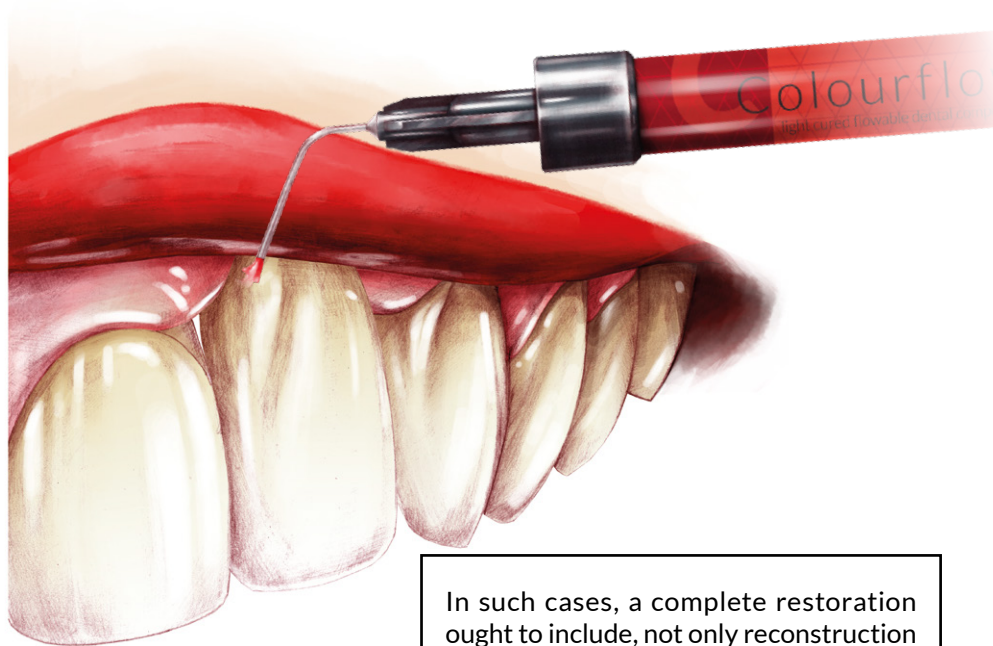
IMPROVING AESTHETICS OF RESTORATIONS BY CHARACTERISATION AND STAINING

PROBLEM



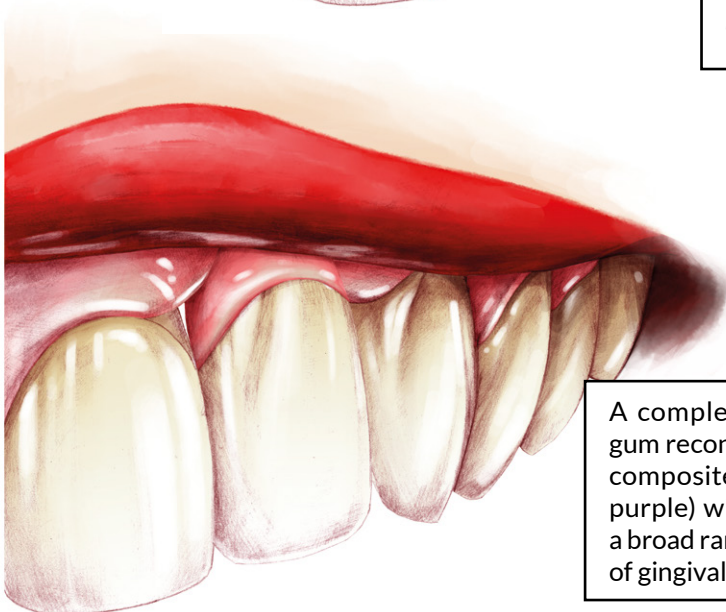
Tooth loss leads to receding gums.

SOLUTION



In such cases, a complete restoration ought to include, not only reconstruction of the tooth, but also of the gingival tissue.

RESULT



A complete and natural looking restoration: gum reconstruction made using COLOURFLOW composite. Mixing COLOURFLOW (pink, red, purple) with tooth-shade composites provides a broad range of options matching various colours of gingival tissue.

IMPROVING AESTHETICS OF RESTORATIONS BY CHARACTERISATION AND STAINING

SOLUTION

COLOURANT can be used to replicate natural looking stains on the occlusal surface of restorations.

White COLOURFLOW can be used to replicate vertical developmental grooves on incisor teeth.

Dental implants often show through thin and fragile gums. In such cases, a complete restoration ought to include, not only reconstruction of the tooth, but also of gingival tissue.

COLOURANT (GINGIVAL) can be used to increase opacity under tooth-coloured composites, and to recreate natural looking stains on the cervical part of restorations.

RESULT

A complete and natural looking restoration: gum reconstruction made using COLOURFLOW composite. Mixing COLOURFLOW (pink, red, purple) with tooth-shade composites, provides a broad range of options matching various colours of gingival tissue.

INSTRUCTIONS FOR USE

FILLING CAVITIES IN DECIDUOUS AND PERMANENT TEETH

Etch using ETCHGEL, rinse and gently dry the surface (A). Thoroughly cover the surface with a thin layer of a bonding system, blow off the excess and polymerise (B). In the case of very deep cavities cover the cavity bottom with a thin layer of liner and then apply layers of COLOURFLOW composite (approx. 1 mm thick). Cure each layer (C) in accordance with the polymerisation table provided. Cure in sections not longer than 5 mm at a time! Adjust to the bite and polish.

SEALING

Etch using ETCHGEL, rinse and gently dry the surface (A). Thoroughly cover the surface with a thin layer of a bonding system (B), blow off the excess and polymerise. Apply thin layers of COLOURFLOW flowable composite (approx. 1 mm). Cure each layer (C) in accordance with the polymerisation table. Cure in sections not longer than 5 mm at a time!

ROOT CANAL MARKING

It is advised to use COLOURFLOW composite to mark different conditions of root canals in order to facilitate diagnosis during subsequent treatment. For the suggested root canal marking system visit our website www.dentallifesciences.com

FIRST CONTRASTING COMPOSITE LAYER IN THE CASE OF TEMPORARY RESTORATIONS

TEMPORARY SPLINTS Etch and apply a bonding system (such as DLS BOND) in accordance with the instructions. Apply a small amount of COLOURFLOW on the teeth intended for splinting and cure each tooth separately in accordance with the polymerisation table. The layer of COLOURFLOW should be clearly visible to enable an easy distinction between the dentine and the composite which is later to be removed together with the fibre used for splinting.

POLYMERISATION TABLE

Lamp	COLOUR	Polymerisation depth dependent on duration of the exposure	
		20 s	30 s
Halogen/LED (500-800 mW/cm²)	pink, green, blue, yellow, purple	1.5 mm	2.0 mm
	white, orange	-	1.0 mm
LED (>800 mW/cm²)	pink, green, blue, yellow, purple	2.0 mm	2.5 mm
	white, orange	1.0 mm	1.5 mm
	red, black	-	1.0 mm

COMPOSITION

Mineral fillers (approx. 61% by weight): Al-Ba-B-Si glass, Ba-Al-B-F-Si glass, pyrogenic silica, pigments; photoinitiation system (CQ : DMAEMA). Inorganic filler particle size is in the range of 20 nm to 2.0 µm. COLOURFLOW can be used with any standard, light cured, dimethacrylate resin-based bonding systems. A bonding system should be applied in accordance with the manufacturer's instructions.

CONTRAINDICATIONS

Do not use COLOURFLOW composite in patients with a known acrylates allergy. Do not use the product in patients with a hypersensitivities to any of the components.

ADVERSE REACTIONS

None known. However, an allergic reaction cannot be excluded in particularly sensitive individuals.

LIMITATIONS IN USAGE,
INTERACTIONS


Do not use with materials containing phenolic compounds, especially eugenol and thymol. Such materials may disrupt polymerisation of the composite. Do not use if it is impossible to completely isolate the area from saliva, blood or moisture. Contamination may disrupt the polymerisation process. Do not use if the syringe or the applicator are suspected to be defective or damaged. Do not use when any change in product properties is found.

ŚRODKI OSTROŻNOŚCI

PRECAUTIONS FOR PATIENTS This device contains substances that may cause an allergic reaction in certain individuals. Do not use in patients with a known acrylates allergy. Avoid contact of an uncured product with skin, eyes and soft tissues of the mouth. If a prolonged contact occurs, rinse with plenty of water. If an allergic reaction occurs, seek medical attention as needed; remove the product if necessary and discontinue future use of the product. In case of swallowing or aspiration into the respiratory tract, seek immediate medical attention. If any changes in the work are noticed, attend a dental check-up.

PRECAUTIONS FOR DENTAL PERSONNEL ic reaction in certain individuals. To avoid the risk of such reaction, minimise the contact with an unpolymerised composite. If contact with skin occurs, rinse with plenty of water. To minimise the risk of contact, always wear personal protective equipment such as gloves, face masks and safety glasses. Acrylates may penetrate some commonly used gloves. If any contact with a glove occurs, remove the glove and discard it; wash your hands with soap and water and put on a new glove. If an allergic reaction occurs, seek medical attention as needed. The applicators provided with the syringe are blunt in order to reduce the risk of injury, but they should always be handled with care.

WARNINGS

 Avoid contamination of the syringe surface (the risk of cross infection). The syringe cannot be reprocessed using heat sterilisation or immersion in a high-level disinfectants. Do not reuse the syringe if it becomes contaminated. If you apply COLOURFLOW directly from a syringe, use one applicator for one patient only due to hygiene reasons. Ensure the syringe is recapped properly after each use. Polymerisation of the composite may be initiated by ambient light or by a dental operating lamp. To avoid accidental polymerisation of the composite in the applicator, always pull back the syringe plunger immediately after use. Keep out of reach of children and unauthorised persons. Use in accordance with the manufacturer's instructions. Do not use after the expiry date.

STORAGE

Protect against mechanical damage. Store at a temperature under 30°C. If stored at a lower temperature, bring back to room temperature before use. Do not expose to direct sunlight. Protect from light. Do not overheat. Do not freeze. For use by dentists, dental hygienists and dental technicians only.

WARRANTY

ARKONA will replace products that have been proved to be defective or will refund the price of purchase. ARKONA is not liable for any loss or damage caused by misuse or improper use of the product. Any serious incident that has occurred in relation to the device should be reported to the manufacturer and the competent authority of the state in which the user and / or patient is established.



COLOURFLOW



CICC IN BLISTERS



GLAZE



COMCORD



SEALPRIM



COMCORD SCISSORS



CHORDS



PREOP



PERIOFLUSH



SHAPEDCHORDS



SILKFLOW



ETCHGEL



CREATE



CREATE IN BLISTERS



BOND



COLOURANT