

4 Seasons® Instructions for Use

Description

4 Seasons is a radiopaque fine-particle hybrid composite for highly esthetic direct resin restorations. The material polymerizes with light in the wavelength range of 400–500 nm (blue light).

4 Seasons offers a comprehensive shade system featuring various levels of translucency and high quality materials to create highly esthetic anterior and posterior restorations. Thus, the restorations imitate the optical properties of natural teeth better than ever.

Shades

The dentin and enamel shades offer different degrees of translucency that mimic natural tooth structure and allows the user to create highly esthetic restorations. In combination with the available Translucent, Effects and Value shades, it is possible to replicate the intricate layering and natural anatomy of dentition.

The following shades and degrees of translucency are available:

Shade Category	Shade Designation	Translucency*	Color Code (Cavifil Cap or Syringe Plunger)
Dentin Shades (12 total)			
Dentin (D)	A1, A2, A3, A3.5, A4, A5, A6 B1, B2 C3 D2 Bleach XL	Similar to natural dentin. (7–8%)	Dark Blue
Enamel Shades (28 total)			
Enamel Shaded (ES)	A1, A2, A3, A3.5, A4 B1, B2, B3, B4 C1, C2, C3, C4 D2, D3, D4 Bleach XXL, XL, L, M	Similar to natural enamel. (13–15%)	Medium Blue
Enamel Translucent (ET)	Amber, Clear, Super Clear	(26%, 30%, 56%)	Light Blue
Enamel Value (EV)	Low, Med, Hi	(20%)	White
Enamel Effects (EE)	White, Blue	(6%, 24%)	Black

* Translucency measurements are approximate

Composition

The monomer matrix is composed of Bis-GMA, urethane dimethacrylate and triethylene glycol dimethacrylate (22–24 wt%). The inorganic fillers contain barium glass, ytterbium trifluoride, Ba-Al-fluorosilicate glass, highly dispersed silicon dioxide and spheroid mixed oxide (75–77 wt%).

Additional contents: catalysts, stabilizers and pigments (<0.5 wt%).

The total content of inorganic fillers is 75–77 wt% or 55–58 vol%.

The particle size is 0.04–3.0 µm. The mean particle size is 0.6 µm.

Indication

- All cavity classifications (I – VI)
- Anterior restorations (Class III, IV and Direct Veneers)
- Class V restorations
- Posterior restorations (Class I and II)
- Direct Veneering
- Diastema closure
- Correction of tooth position and tooth shape (e.g. closure of interdental triangles, lengthening of incisal edges)

ANSI/ADA Spec. 27 specifies minimum requirements for all resin-based filling materials and does not address the clinical application of Class A materials.

Contraindication

Placement of 4 Seasons is contraindicated:

- if a dry working field cannot be established, or if the stipulated technique cannot be applied
- if a patient is known to be allergic to any of the ingredients in 4 Seasons

Side effects

In individual cases, components of 4 Seasons may lead to sensitization in predisposed persons. 4 Seasons should not be used in such cases.

To avoid possible irritation of the pulp, areas close to the pulp should be protected with a suitable pulp/dentin protector.

Interactions

Substances containing eugenol/oil of cloves may inhibit the polymerization of composite materials. Consequently, application of such materials together with 4 Seasons must be avoided.

Discoloration may occur in combination with cationic mouthwashes, plaque disclosing agents, and chlorhexidine.

Application

1. Shade determination

Clean the teeth prior to shade determination with a polishing paste. The shade is selected while the tooth is still moist. Using the 4 Seasons shade, the necessary dentin shades and enamel shades can be selected in order to design and imitate the natural anatomy and optic appearance of the tooth.

When using the 4 Seasons shade guide, all tabs related to the dentin shades are distinguished by the small wedge shapes. While the Enamel shades are distinguished by the tooth shaped tabs. Note that one side of the Enamel tabs are glossy, while the opposite flat side is dull.

4 Seasons materials can be easily located by cross referencing the color coded bar on the 4 Seasons shade guide with the color coded caps or plungers on the cavifils or syringes, respectively.

The color code system of the various shade groups are as follows:

Dentin (D)	Dark Blue
Enamel Shaded (ES)	Medium Blue
Enamel Translucent (ET)	Light Blue
Enamel Value (EV)	White
Enamel Effects (EE)	Black

2. Isolation

Appropriate isolation for adhesive procedures can be accomplished by placing a rubber dam.

3. Cavity preparation

Cavity preparation is carried out according to the requirements of the adhesive technique. Do not prepare sharp, internal edges or any additional undercuts in caries-free areas. The dimensions of the cavity are generally determined by the extent of the caries or the size of a previous restoration.

Bevel enamel edges in the anterior region to improve the esthetic integration and marginal adaptation of the restoration.

In the posterior region, only the sharp enamel edges should be rounded (finishing diamonds, 25–40 µm). Caries-free cervical defects are not prepared, only cleaned with pumice or other suitable cleaning pastes with the help of rubber cups or rotary brushes. Subsequently, remove all residue in the cavity with water spray.

4. Matrix / Interdental wedge

Use a transparent matrix for cavities affecting the proximal area (e.g. Contour Strip in the anterior region) and wedge. The use of steel matrices in the posterior region is also possible.

5. Conditioning / Application of the bonding agent

Conditioning of the dentin surfaces and application of the bonding agent should be carried out according to the Instructions for Use of the product in use. Given the coordination of Ivoclar Vivadent materials, we recommend using Syntac® (with phosphoric acid etching) or Excite® (with phosphoric acid etching) or AdheSE® self-etching adhesive.

6. Application of 4 Seasons

As 4 Seasons is available in a wide range of dentin and enamel shades and various degrees of translucency as well as in shades used for creating anatomic details and special effects, any layering technique can be used to fabricate highly esthetic restorations.

Apply 4 Seasons in layers (2 mm max. for all Enamel shades and 1.5 mm max. for all Dentin shades) and adapt with suitable instruments (e.g. P1 instruments). Sufficient exposure to light prevents incomplete polymerization. Thus, polymerize each layer for 20 seconds with a curing light with an intensity of at least 500 mW/cm² (e.g. Astralis®5, 7). With an intensity of more than 1200 mW/cm² (e.g. Astralis 10) each layer can also be polymerized in just 10 seconds.

Hold the light tip as close as possible to the surface of the restorative material.

When using a metal matrix, additional polymerization may be required from the buccal or lingual/palatal areas after removing the matrix.

Optional:

The application of a flowable composite (e.g. Tetric®Flow, Heliomolar®Flow) as an initial layer is optional. This initial layer of flowable composite may help to fill in any small voids in the preparation, creating a smoother surface and acting as a wetting agent in the base of the cavity for the subsequent layer of 4 Seasons material. This layer should be polymerized prior to placing the first layer of 4 Seasons material. (Please refer to the respective Instructions for Use.)

7. Finishing / Checking the occlusion / Polishing

Remove excess material with suitable finishers (e.g. Astropol®F) or fine diamonds after final polymerization. Remove proximal excess with diamond or tungsten carbide finishers or finishing strips. Check occlusion and adjust as necessary. Use silicone (e.g. Astropol P, Astropol HP), polishing discs, and polishing strips to polish the restorations to a durable high gloss.

Additional information

1. If necessary, additional 4 Seasons material can be directly applied to previously polymerized material. If the 4 Seasons restoration has already been polished, the surface must be roughened, and bonding agent reapplied before fresh 4 Seasons is applied.
2. 4 Seasons should be placed at room temperature. Cool temperatures can cause the material to be more stiff and more difficult to dispense.
3. If 4 Seasons is dispensed from the Cavifil, it should be applied directly to the tooth. It is recommended that Cavifil be disposed of after use for hygienic reasons (avoiding cross contamination between patients).

Warning

Unpolymerized 4 Seasons material should not come in contact with the skin, mucous membrane, or eyes. Unpolymerized 4 Seasons material can have a slight irritating effect and may lead to a sensitization against methacrylates.

Commercial medical gloves do not provide protection against the sensitizing effect of methacrylates.

Storage

- Do not use 4 Seasons after the indicated date of expiration.
- Store packages at 2–28 °C / 36–82 °F.
- Close syringes and Cavifils immediately after use. Exposure to light causes premature polymerization.
- Shelf life: see information on syringes / packages.

Keep material out of children's reach.

For use in dentistry only.

Date information prepared

04/2003

Manufacturer

Ivoclar Vivadent AG
FL-9494 Schaan/Liechtenstein

This material has been developed solely for use in dentistry. Processing should be carried out strictly according to the Instructions for Use. Liability cannot be accepted for damage resulting from failure to observe the Instructions or the stipulated area of application. The user is responsible for testing the material for its suitability and use for any purpose not explicitly stated in the instructions. Descriptions and data constitute no warranty of attributes and are not binding.