

in:joy

Technical description



in:joy – the new veneering composite



Froggin' good. in:joy – the new veneering composite.

in:joy is a light-curing composite designed for high-quality aesthetic veneers on metal and non-metal frameworks. The material has excellent physical properties and offers impressive shade and shape reproduction even in situations where space is at a premium.

Indications

- Inlays, onlays and veneers
- Anterior and posterior crowns without metal frameworks
- Veneering of fixed crowns and bridges with metal frameworks
- Restorations with telescope crowns and precision attachments

Ingredients

in:joy Cervical Modifier, Dentine, Incisal, Transpa Accent:

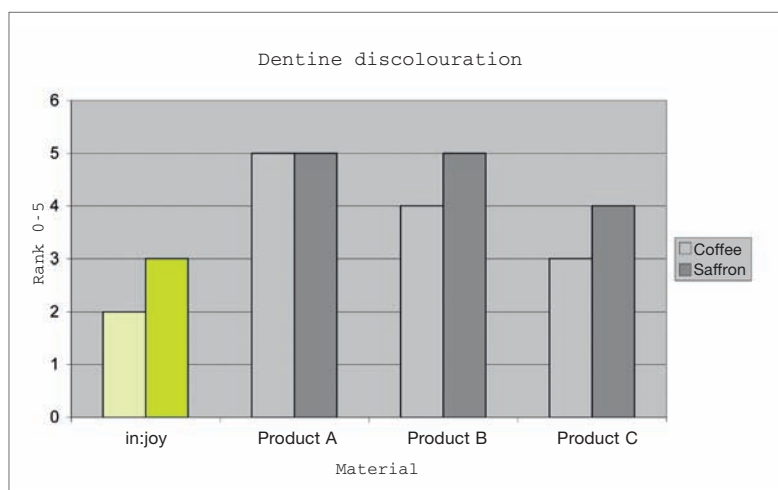
- Dimethacrylic acid esters
- Pyrogenic silicic acid (silanized)
- Organic/inorganic pre-polymerisates
- Rheology modifiers
- Inorganic pigments (non-cadmium)
- Camphor quinone
- Stabilizers

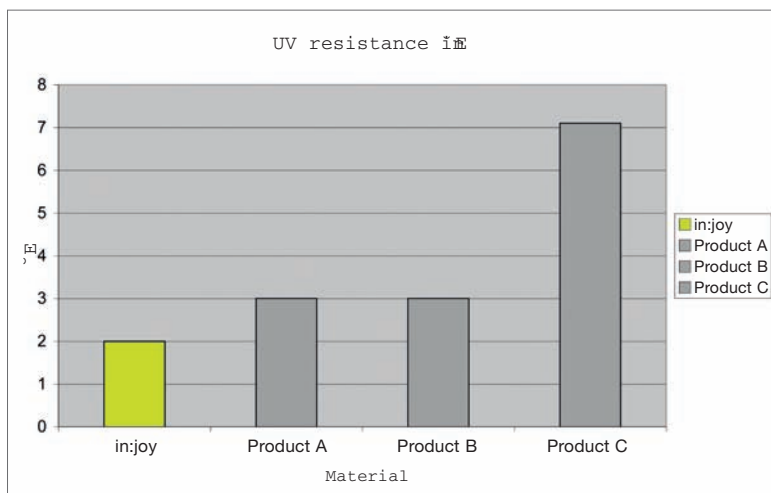
Filler: 55 % w/w
Filler material: Glass

Results of independent studies:

Colour stability

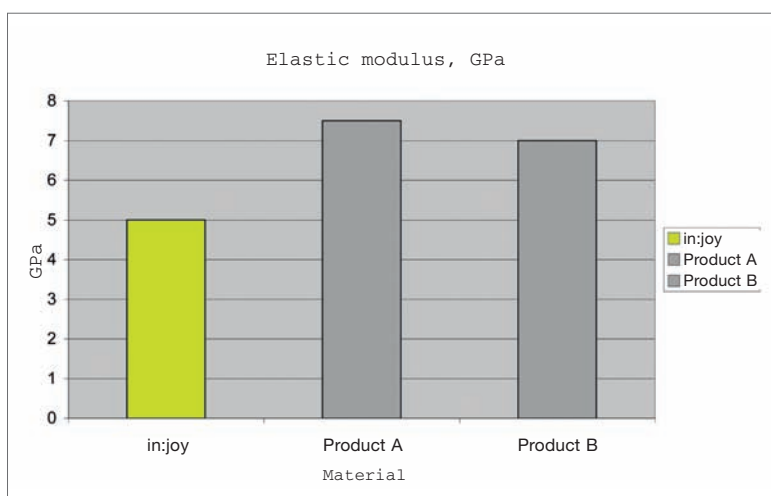
In a staining test, in:joy composite exhibited good colour stability in the presence of coffee and saffron. Test specimens were immersed in boiling liquid containing the respective substance and kept there for 16 hours, then visually compared with untreated original specimens. The test specimens were rated on a scale from 0 to 5, with 0 indicating no discolouration and 5 indicating extreme discolouration. Compared to products A, B and C, in:joy composite exhibited only minor discolouration.





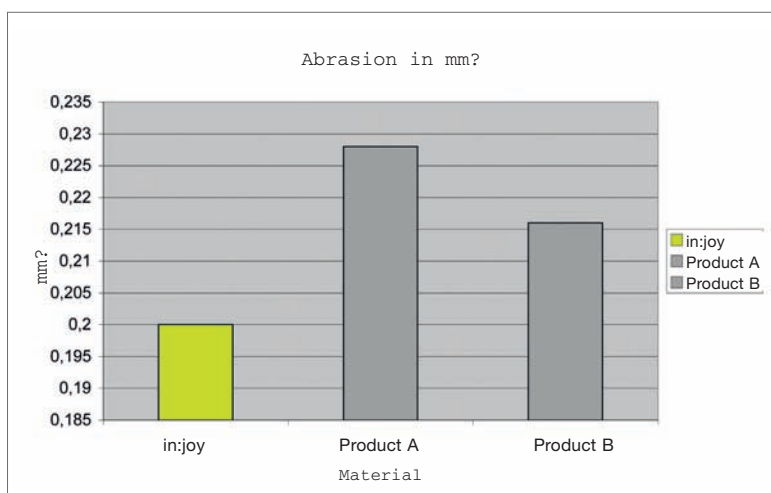
UV resistance

The in:joy composite was tested for UV resistance according to the ISO 7491 standard. Test specimens were prepared pursuant to the requirements of the standard, then one-half of each specimen was covered with aluminium foil and the specimen exposed to UV light for 72 hours. On conclusion of the testing period, the colour deviations between the covered and the non-covered parts of the specimens were measured. Colour discrepancies were determined based on ΔE values: the smaller the value found, the more UV-resistant the material. Compared to other products, in:joy composite exhibited very low values, indicating that it is particularly UV-resistant.



Elastic modulus

The elastic modulus indicates how elastic a material is. It is defined as the slope of the stress-strain curve in the elastic deformation region. The lower the elastic modulus, the higher the elasticity of the material. in:joy composite was shown to have a lower elastic modulus than products A or B, indicating a high level of elasticity of the composite, which is a clear advantage in terms of safety and longevity.

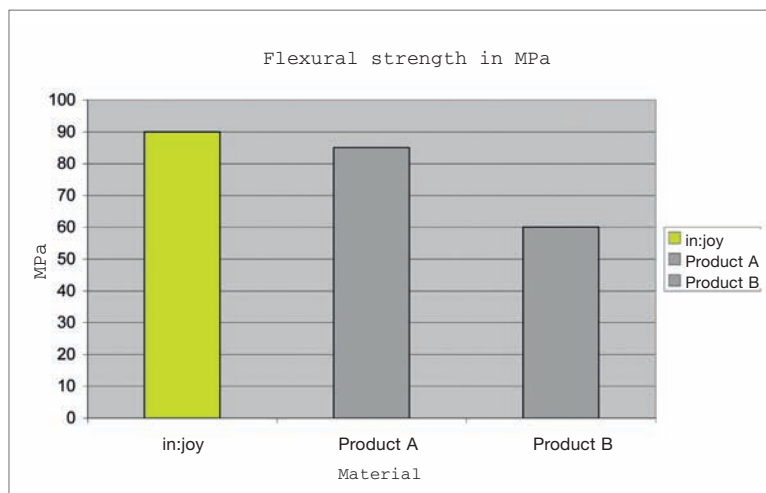


Abrasion resistance

in:joy composite alloy is characterized by excellent abrasion resistance, which was shown within the framework of an in-vitro study on wear (comparison of two media) in a Willytec chewing simulator. Test specimens were exposed to 120,000 chewing cycles (at a frequency of 1.6 Hz) at a force of 50 N and a lateral movement of 0.7 mm. The result indicates the volume loss of the restoration in mm³. A high abrasion resistance helps preserve the contact points and eliminate material losses.

Flexural strength

Compared with other products, in:joy composite exhibited excellent flexural strength even after aging. Test specimens were prepared and tests performed according to the ISO 10477 standard. Prior to the measurements, the test specimens were stored in water at 37 °C for 24 hours. They were then tested in a Zwick Universal 1455 universal testing unit, loading the specimens until fracture. The load at fracture was measured in MPa.



Flexural strength testing after aging was performed according to the requirements of the U.S. Food and Drug Administration (FDA). Test specimens were stored at 37 °C in a 75 % solution of ethanol and water for one week. The test results indicated that the flexural strength of in:joy is retained even after protracted storage in an ethanol/water solution at elevated temperatures.

