

Aura Anterior Enamel / Dentine Restorative



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In March 2014, after two years of clinical usage in Australia, the Melbourne-based Australian company SDI Ltd. (formerly Southern Dental Industries) launched Aura, a new filling system for direct restorations, into the European market. In introducing this composite system, SDI has responded to the challenge of accurately determining and re-creating the natural tooth colour.

Aura offers eight dentine colours (DC shades and bleach shade), three enamel colours (E shades), four multipurpose colours for lateral posterior restorations (MC Shade) and a bulk fill material. Aura allows the dentist to take care of all direct restorations in daily practice using a single composite system. SDI's Aura comes with a specially developed and extremely easy to use colour matching system, which is based on the anatomical characteristics of natural teeth.

CASE STUDY

A 20 year old patient presented with a caries induced fracture of the mesio-incisal edge of tooth #22. **(FIG 1)**.

As a preparatory measure, teeth cleaning was carried out first, followed by bleaching using the Pola Office+6% tooth whitening system. This in-office product does not require the use of a gingival barrier.

Using the shade tabs included in the Aura Master Kit, the dentine shade in the cervical third of the tooth was first determined, followed by the enamel colour on the incisal edge of the tooth. **(FIG 2)**.

Teeth 21 to 23 were isolated using a rubber dam, the fractured enamel edges straightened and the cavities excavated. In areas near the pulp, some residual caries was retained and treated using a diamine-silver fluoride solution, Riva Star, Part 1 (SDI Ltd.) **(FIG 3)**.

In recent years, there has been an increasing trend in conservative dentistry to avoid excavating carious lesions, as this is seen as a radical measure. Numerous scientific publications show the effectiveness of using diamine-silver fluoride solutions for stabilisation and disinfection of the infected carious dentine, however, this method was not fully implemented, until today,

due to the unavoidable stains caused by silver ions which are reduced to metallic silver and silver oxide overtime. Riva Star manufactured and marketed by SDI Ltd, is the second generation silver diamine fluoride system that addresses the clinical staining problem. This system uses a second application of potassium iodide (Riva Star, Part 2) immediately following the silver fluoride treatment. The potassium iodide "mops" up any silver ions on the treated surface so they can't be reduced to metallic silver and silver oxide.

A thin layer of resin modified glass ionomer (SDI's Riva Bond LC) was placed as a liner, light-cured, and then conventionally etched with 37.5% phosphoric acid gel (SDI's Super Etch). A single component adhesive (SDI's Stae) was then applied to the restoration site, and a pre-moulded metal mould gently fixed to the papillae using Fixafloss (Kerr Hawe).

The construction of the palatal wall and the incisal edge was carried out first using Aura enamel, shade E2. **(FIG 4)**, This was followed by coating of the dentine cores using Aura Dentine, shade DC3, **(FIG 5)** and completed by a final cover - again using Aura enamel.

The restoration was completed by using polishing and finishing discs (Kerr Hawe's Optidisc) and a yellow oval diamond finisher, under constant cooling spray, for the palatal contours. The excellent polishing properties of Aura Enamel composite became evident as, in just a few steps, a natural shine was achieved. **(FIG 6)**.



Fig 3. Teeth 21 to 23 isolated with a rubber dam



Fig 4. Construction of the palatal wall & incisal edge with Aura Enamel (Shade E2)



Fig 5. Coating of the dentine cores with Aura (Shade DC3)



Fig 1. Caries-induced fracture.



Fig 2. Determine enamel colour.



Fig 6. The finished restoration.

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CASE 2

A 19 year old female patient presented with a fracture on the cutting edge of tooth 22, which was caused by a lip piercing.

Firstly, a thorough teeth cleaning with a perlite based prophylactic paste was performed and followed by teeth whitening using Pola Office+ 6%. (FIG 7), After this preparation the Aura shade system was used to determine the dentine colour on the cervical third of the tooth (FIG 8) followed by the enamel colour on the incisal edge. (FIG 9).

Tooth #22, as well as the adjacent teeth, was isolated with a rubber dam, and then the fractured edges were bevelled and smoothed using a yellow diamond finisher. (FIG 10). Further isolation of adjacent teeth was then carried out using a Frasako mould. Enamel etching was carried out using 37% phosphoric acid gel (SDI's Super Etch) for 45 seconds and then thoroughly rinsed with a water spray.

Stae from SDI was used as bonding agent.

SDI's Stae was used as the bonding agent in this case. Following bonding, the construction of the palatal wall was completed using Aura enamel material. The dentine core was coated with Aura dentine material, shade DC2, (FIG 11), and finally covered with Aura enamel. (FIG 12).

The restoration was finished using the OptiDisk system from Kerr Hawe (FIG 13) and the palatine contours finalised with a yellow oval diamond finisher, under constant cooling spray.

The final image (FIG 14) shows an excellent aesthetic result.

Conclusion: With the new Aura "Ultra Universal Restorative System" from SDI, a dentist receives a composite that meets the necessary requirements to complete any highly aesthetic restorations in the anterior region, as well as durable restorations in the posterior region. The components are perfectly matched, and the colour matching system follows the natural colouring of the tooth, making the Aura system simple, fast and reliable. By combining a nanohybrid with a microhybrid, the result is a low shrinkage composite with high compressive and flexural strengths and excellent polishing characteristics leading to a long lasting shine.



Fig 7. Teeth whitening performed using Pola Office+.



Fig 11. Dentine core coated with dentine (DC2).



Fig 8. Determine dentine colour.



Fig 12. Cover with hot enamel.



Fig 9. Determine enamel colour.



Fig 13. Palatine contours processed.



Fig 10. Isolate tooth, bevelled edge.



Fig 14. Final restoration.



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