

# Posterior restorations using Admira Fusion

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A 26 year old gentleman attended as a new patient. Caries was noted in a number of posterior teeth and a treatment plan agreed upon. A functional and aesthetic solution was keen called for, but budget was limited to direct restorations.

Treatment was delivered on a quadrant by quadrant basis. This case study focuses on the delivery to the lower left quadrant. Caries was identified on 37, 36 and 35.

Local anaesthetic was delivered to the lower left sextant and teeth were isolated with latex-free rubber dam (Unodent), Hygienic clamps (Coltène) on 37 and 34. Caries was removed through cavity preparation from 37 MO, 36 DO and 35 DO (Fig. 3). The cavities were checked with VOCO Caries Marker.

The cavities were treated with Aquacare Twin (Velopex International) with 29µ aluminium oxide at a pressure of 3 bar and then treated with Sylc at a pressure of 2 bar to increase retention and for final cavity cleaning before bonding. This has become an indispensable part of my routine as it guarantees a plaque-free substrate to bond to.

VOCO Vococid acid etchant was applied to the enamel margins for 15 seconds first and then to the dentine as well for a further 15 seconds, agitated with a VOCO Single Tim microapplicator then rinsed off.

A Palodent V3 (Dentsply Sirona) medium 5.5 mm matrix was placed on 35 and a medium wedge applied to ensure a good tight contact.

VOCO Futurabond U was applied then agitated with a VOCO Single Tim microapplicator, air thinned and cured with a VALO curing light (Ultradent). VOCO Admira Fusion Flow flowable nanohybrid composite was applied to the box up to the band in a very thin layer then cured.

VOCO Admira Fusion A3 universal nano-hybrid ORMOCER restorative material was applied to each proximal contact independently using an American Eagle titanium nitride teardrop instrument. It was cured on each occasion, converting each cavity into an occlusal (Black's Class 1).

The Palodent V3 matrix was then removed and the stages were repeated on 36 DO then 37 MO separately, using a medium 5.5 mm matrix with a small wedge on each occasion.

The tooth morphology was then restored on a cusp by cusp basis with VOCO Admira Fusion A3 universal nano-hybrid ORMOCER restorative material using American Eagle titanium nitride instruments. Fine detail was achieved using the Fissura (LM-Arte). The VALO curing light was used for polymerisation.

Basic shaping was then performed with an NSK X600L air turbine using fine diamond burs (yellow band) and pre-polished with a VOCO Dimanto one step diamond polisher run at slow speed with water spray in an NSK Z25L hand-piece. Finally, a high lustre was achieved by polishing with ShapeGuard Composite Plus (Coltène) 23SG11RA (pink) then 24SG11RA (blue).

The rubber dam was then removed and occlusal checks performed with Arti-Check 40µ articulating paper (Dr Bausch) and 8µ shimstock (Hanel) and final adjustments made. Contacts were cleared with Satinfloss (Oral-B) and polished with Epitex tapes (GC).

The result? One happy patient!

## Pictures



Fig. 1: Pre-operative occlusal view – caries noted 37 MO, 36 DO, 35 DO



Fig. 2: Rubber dam isolation



Fig. 3: Cavity preparation of 37 MO, 36 DO, 35 DO performed and finished with AquaCare Twin



Fig. 4: Matrix Band placement



Fig. 5: Placement of walls and removal of matrices and rings



Fig. 6: Cusp by cusp build up complete



Fig. 7: Final result after occlusal control and polishing



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James Robson qualified from Newcastle University in 1998 and spent six years working in NHS general dental practice on Teesside. This was followed by a similar period in private practice in York, before purchasing this practice in 2010.