

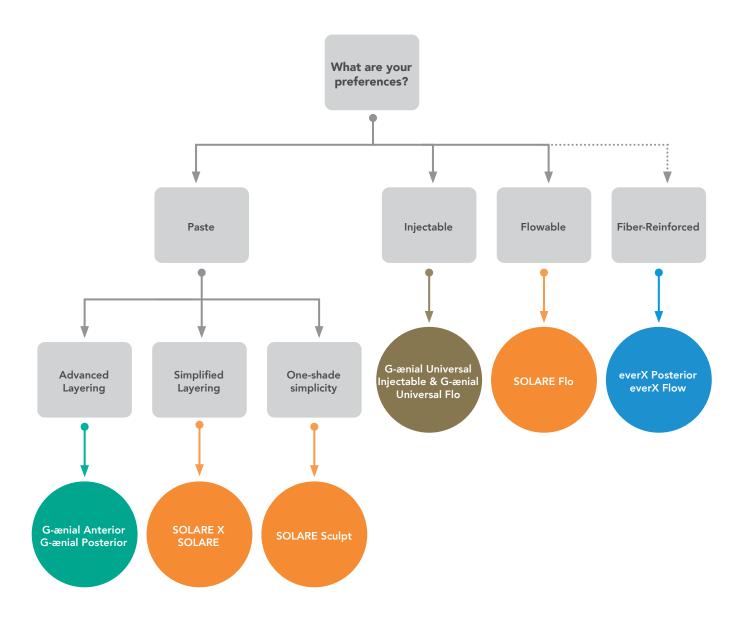
# GC COMPOSITE PORTFOLIO

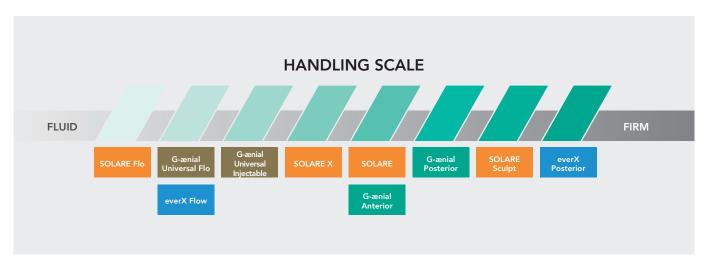
YOUR TOOLS FOR SUCCESS



### Select the right tools for the job

Which GC composite is the best choice to fit your requirements?





### The perfect match for all your needs

GC composites are designed utilising optimised properties for outstanding performance both functionally and aesthetically. The full GC range of composites allows you to choose your preferred handling and shade system that will ensure predictable aesthetic outcomes. GC's filler technologies offer excellent physical properties to achieve durability, wear resistance and polish retention. Each of our universal composites showcases a high level of quality that is core to GC's product philosophy.

	G-ænial Anterior	G-ænial Posterior	SOLARE Sculpt	SOLARE X	SOLARE
Viscosity	Paste	Paste	Paste	Paste	Paste
Composition	Micro-HDR hybrid	Micro-HDR hybrid	Ultra-fine hybrid	Microhybrid	Microhybrid
Main indication	Universal	Universal	Universal	Universal	Anterior
Delivery system	Syringe	Syringe	Syringe	Syringe	Syringe
Volume per package	2.7 ml	2.7 ml	1 ml	2 ml	2 ml
Number of shades	22	6	4	6	7
Filler content (%w/w)	76%	81%	79%	77%	73%
Radiopacity	142%	252%	321%	214%	N.A.
Working time	240 sec	120 sec	240 sec	150 sec	270 sec
Shelf-life	3 years	3 years	3 years	3 years	3 years

#### COMPOSITE SUBSTRUCTURE

	SOLARE Flo	G-ænial Universal Injectable	G-ænial Universal Flo	everX Flow	everX Posterior	
Viscosity	Flowable	Injectable	Injectable	Injectable	Paste	
Composition	Ultra-fine hybrid	Ultra-fine hybrid	nybrid Ultra-fine hybrid Fiber-reinforce	Fiber-reinforced	Fiber-reinforced	
Main indication	Universal	Universal	Universal	Posterior, core build up	Posterior	
Delivery system	Syringe	Syringe	Syringe	Syringe	Unitip	
Volume per package	0.56 ml	1 ml	2 ml 2 ml	2 ml	15 x 0.13 ml	
Number of shades	4	16	15	-	1 77%	
Filler content (%w/w)	69%	69%	69%			
Radiopacity	303%	252%	252% 181%	223%	290%	
Working time	75 sec	100 sec	70 sec	90 sec	90 sec	
Shelf-life	3 years	3 years	3 years	3 years	3 years	

### G-ænial Anterior & G-ænial Posterior

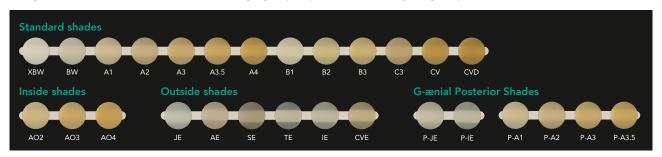
#### Key advantages

- Smooth, non-sticky, and sculptable handling
- Versatile in use: from single shade simplicity to multi shade complexity
- Age-based enamel shades: increase predictability in shade matching
- Longer working time: working time under ambient light extended to 4 minutes
- Brushable consistency: works well with GC Brush & Modelling Liquid



#### Forward-thinking shading concept

From aesthetically invisible single-shade to aesthetic masterpieces in a multi-shade build-up. For most cases, the use of standard shades is sufficient to produce beautiful, natural results. When multilayering is required, G-ænial Anterior offers Inside Shades which add opacity and eradicate shine through, and Outside Shades which replicate enamel. Thoughtfully designed enamel shades with reference to age group of patients makes layering simple and efficient.



#### Outstanding invisible aesthetics

G-ænial is an all round restorative that offers beautiful high-gloss restorations, exceptional natural shade matching for remarkable anterior aesthetics. It gives you total control over your results with the right viscosity for effortless manipulation.

#### **G-ænial Anterior**

A medium consistency that will not stick or slump – it is ideal for free-hand contouring of aesthetic restorations. G-ænial Anterior brings natural vitality and exceptional shade matching for outstanding aesthetic results.



#### **Diastema Closure**

Dr Matthew Wong, Singapore Using G-ænial Anterior AO2, A3, AE



Achromatic palatal shell made with GC G-ænial Anterior AE using a palatal stent.



Pre-operative labial view.



Layered build-up using G-ænial Anterior A02 in the cervical 2/3, G-ænial Anterior A3 in the middle 1/3, G-ænial Anterior AE in the incisal 1/3, finished and polished to achieve symmetrical line angles.



After etching the enamel, apply G-Premio



Final post-operative labial view.

#### **Recountour of Peg-shaped Lateral**

Dr Clarence Tam, New Zealand Using G-ænial Anterior AO2, AE, IE



Pre-operative view.



G-ænial Anterior AE was utilised to form the palatal shelf.



G-ænial Anterior AO2 was applied next in increments to form the internal structure of dentin.



G-ænial Anterior IE was applied on the incisal third of the tooth. This will enhance light transmission into the tooth.



Final layer of G-ænial Anterior AE was placed, enhanced and sculpted with a brush and defined interproximally.



Post-operative view.

**Class IV** Prof Marleen Peumans, Belgium





Class V Dr M Moran, Australia





After

Before

#### **G-ænial Posterior**

A firmer consistency composite, providing a more packable feel with the right amount of flow to ensure complete adaptation to the cavity floor and walls. G-aenial Posterior is easy to sculpt and optimally shaded for aesthetic posterior restorations.



Dr Ayad Mouyad Al-Obaidi, Iraq



Before



After. G-ænial Universal Flo A3, G-ænial Posterior A2, G-ænial Posterior JE, white effect with XBW.

Dr Jason Smithson, UK







After



#### Fast & Effortless Restoration - Inject, shape, and contour all at once

Because G-ænial Universal Injectable doesn't slump or string, you have total control to adapt, shape and contour as you inject. It will adapt perfectly to the cavity floor and allows you to easily build contours, cusps, and even proximal wall.









Class II restoration Dr Javier Tapia, Spain



Removal of the old restoration & caries
 removal



4. Removal of the sectional matrix after building the wall.



2. Undercuts can easily be reached thanks to the bendable tips.



5. A class I procedure can now be followed; the dentin layer is created with the A4 shade



3. Building the proximal wall using the enamel shade JE.

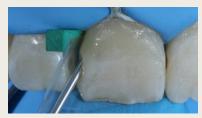


6. Final situation after finishing and polishing of the margins.

#### Class III restorations Dr Ahmed Al-Jaff, Iraq



1. Initial Class III cavities.



2. Injecting G-ænial Universal Injectable (A2).



3. Recall situation showing perfect integration.

#### Injection moulding technique Dr Ali Salehi, France



1. Model with wax-up of the desired tooth shape.



2. An impression tray is filled with EXACLEAR.



3. The desired shape is copied. The mould can be easily removed from the impression tray and the model



4. Holes are drilled in the EXACLEAR mould through which the composite will be injected.



5. Etching the enamel.



6. Application of the adhesive (G-Premio BOND).



7. Injection of the composite into the mould. This process is repeated for each tooth.



8. Finishing the vestibular and palatal margins.



9. Finishing the approximal



10. Polishing the composite restorations



11. Result after polishing.



12. Smile after treatment.

### G-ænial Universal Flo

#### A full-strength, universal, injectable composite for all cavity classifications

- Impressive aesthetics: Highly aesthetic restorations can be achieved using single shade or layered techniques
- True technology innovation: A new formulation of high translucency strontium glass was developed with an incredibly fine particle size
- Unmatched polish retention: Highest level of aesthetic outcome with exceptional wear resistance
- Available in 15 shades







Before



After





After

### everX Flow

Fibre-reinforced flowable composite – where core strength matters

#### Key advantages

- Optimal for dentin replacement in large cavities or use as a core under indirect prostheses, thanks to the reinforcing effect of fibres
- Fracture toughness equivalent to dentin and almost double that of other composites<sup>1</sup>
- Designed to redirect or arrest cract propagation, thus redusing the risk of catastrophic failures<sup>2</sup>
- Widens the direct restorative options, offering an economic alternative to inlays/ onlays

#### References:

- $1.\ Garoushi\ et\ al.,\ 2018:\ Short\ fiber-reinforced\ composite\ restorations:\ A\ review\ of\ the\ current\ literature$
- 2. Alvalforoush et al., 2017: Comparison between published clinical success of direct resin composite restorations in vital posterior teeth.



#### Two shade options for greater flexibility



#### Translucent shade

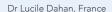
Optimal for deep posterior cavities

Depth of cure: 5.5mm



Dentin shade

Optimal for more aesthetic results and for core build-up





 ${\sf Cavity\ preparation}.$ 



Application of everX Flow (Translucent shade).



everX Flow is covered with G-ænial Universal Injectable A3.



Post-operative situation.

### everX Posterior

### Fibre-reinforced composite for dentin replacement

Featuring paste consistency with one universal shade (Translucent).

# 24%



#### **Preparations for amalgam replacements**

Prof Marleen Peumans, Belgium



Old failing amalgam restoration.



Cavity preparation.



everX Posterior to replace dentin.



Enamel layer with a regular composite.

### **G-Premio BOND**

#### Key advantages

- Fast and simple, no rubbing or complex application procedures
- Ultra-thin 3µm film thickness for premium margin esthetics
- Durable, hydrophobic bond layer, thanks to HEMA-free formulation
- Universal bonding capabilities, thanks to 4-MET, MDP, and MDTP monomers
- Up to 300 applications per bottle

#### It's as simple as A-B-C



1. Select preferred technique. Etch for 10-15s rinse & dry.



Apply G-Premio BOND and wait for 10sec.



3. **Blast** with maximum air pressure for 5sec.

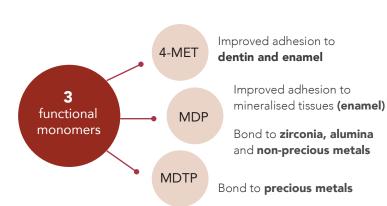


4. **Cure** with lightpolymerization unit for 10sec.

#### The importance of HEMA-free adhesive

HEMA is a monomer used in most adhesives to enhance monomer diffusion into dentin and to act as a solvent for other monomers. While its hydrophilic nature is advantageous for initial bond strengths, its subsequent water uptake and plasticisation accelerates degradation of the adhesive interface. Of additional concern is HEMA's inhibition effect on the nano-layering capabilities of MDP which is the key functional monomer used for chemical bonding to dentin. G-Premio BOND does not contain HEMA therefore reducing risk of hydrolytic degradation and ensuring optimum chemical adhesion and durable bonding to dentin.

References: Yoshida et al 2012: HEMA inhibits interfacial nan-layering of the functional monomer MDP | Spencer et al 2010: Adhesive/Dentin interface: the weak link in the composite restoratio | Cadenaro et al 2023: Progress in Dental Adhesive Material



### COMBINATION WITH G-CEM ONE FOR CEMENTATION



#### UNIVERSAL INDICATION



#### VISUAL CONTROL OF APPLICATION



### **SOLARE Sculpt**

#### Key advantages

- Excellent handling & sculptability
- Achieve benchmark aesthetics with just 4 shades
- Self polishing effect & long lasting gloss retention
- 4 available shades: A1, A2, A3, A3.5



#### Single shade simplicity

SOLARE **Sculpt** features GC's smart light-scattering technologies developed to give you absolute simplicity: **Invisible restorations using just one shade, without complex layering!** 





#### GC's pioneering filler technologies

SOLARE Sculpt incorporates three unique filler technologies Single Dispersed Nanofillers (SDN), Full-coverage Silane Coating (FSC) and High-performance Pulverised CERASMART (HPC).

The combination of these technologies allows you to sculpt beautiful high gloss aesthetic restorations with **benchmark strength**, **wear resistance and durability.** 



### **SOLARE Flo**

#### Key advantages

- Flowable with impressive strength
- Designed for traditional flowable applications but strong enough to be placed in any cavity classifications
- High radiopacity 303% Al at 1 mm
- 4 available shades: A1, A2, A3, A3.5





Lining or base



Filling undercuts



Tunnel restorations



Fissure filling



M.I. estorations



Class V restorations

### SOLARE UNIVERSAL BOND

#### Key advantages

- One bonding agent for all etching modes
- Superior bond strength and durable adhesion, thanks to two clinically proven functional monomers, 4-MET and phosphoric acid monomer
- Quick, simple, and efficient application



### **SOLARE X**

#### **Key advantages**

- Non-sticky handling that allows for easy manipulation
- Nearly 60% increase in radiopacity compared to SOLARE
- Low polymerization shrinkage stress for reduced post-op sensitivity
- Easy and quick to polish for a smooth, glossy surface
- 6 available shades: X-A1, X-A2, X-A3, X-A3.5, Z-AO2, X-WT



### **SOLARE**

#### Key advantages

- Perfectly matches and adapts to natural tooth shade
- Simple, easy shade selection
- Non-sticky consistency for superior handling
- Low polymerization shrinkage stress for reduced post-op sensitivity
- Easy to polish for a smooth, glossy surface
- Optimum translucency
- 7 available shades: A1, A2, A3, A3.5, AO3, B2, CV



### Modeling Liquid

Liquid to model composite materials for direct restorations

#### Key advantages

- Low viscosity for ease of use
- Completely invisible after light-curing
- Simple & quick application
- 350 drops per bottle
- Compatible with all direct composites



#### Simplify your composite work using GC Modeling Liquid with your brush or instruments

Dr Javier Tapia Guadix (Spain) & Prof. Marleen Peumans (Belgium); composite: Essentia (GC)



Quick & easy application and shaping
Using a brush wetted with GC Modeling
Liquid results in a quick and easy application
and shaping of composites.



A smooth finish for a shorter finishing procedure
Adapting the final layer of composite

Adapting the final layer of composite using a wetted brush aides in achieving a smoother surface and it simplifies the finishing procedure.



Invisible for the great aesthetic results
GC Modeling Liquid becomes fully
transparent after light-curing — giving nice
aesthetic results.

#### Apply, shape, smooth, enjoy!



Dispense one drop of GC Modeling Liquid on a pad.



Protect it from the light with a cover.



Touch the drop with the brush or instrument in order to moisten it.



Remove the excess thoroughly using a gauze swab.



Use your instrument or brush to apply the composite.



Use the flat brush to adapt and shape the composite.



Contouring and removal of excess composite using your instrument.



Model the dentin mamelons using a round brush.



Shape and smoothen the final layer of composite using a wetted flat brush or instrument.

### DIAPOLISHER PASTE

#### Diamond Polishing Paste

#### Key advantages

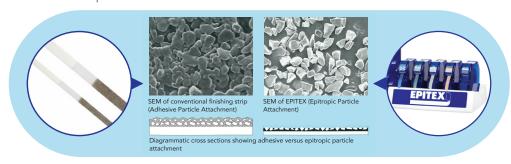
- Superfine diamond particles (1µm) offering the highest effectiveness in a short time
- Perfect glossy surface for beautiful results
- Ideal surface smoothness, effective in avoiding plaque attachment and discoloration
- Simplified handling: easy to clean off just by rinsing with water
- Comfortable for the patient: mint flavor

### **EPITEX**

Finishing and Polishing Strips

#### Key advantages

- Extremely thin and flexible it won't hurt the gum
- Excellent adaptability even between tight interproximal contacts
- Handy strip dispenser
- Four grades (coarse, medium, fine, extra fine). Coarse grit can be used for finishing, while medium/ fine/ extra fine can be used for polishing.
- Also available as matrix strips



### **NEW METAL STRIPS**

#### Finishing Strips

#### Key advantages

- Electroplated aluminum oxide particles
- Very flexible and tear resistant
- Able to reach between tight interproximal contacts
- Autoclavable and easy to clean
- Available in various grades (#1000 Fine, #600 Medium, #300 Coarse, #200 Extra Coarse)
- Available in various widths (2.6mm, 3.3mm, 4.0mm)

### GC BRUSH

Composite Manipulation Brush

#### Key advantages

- Perfect tool to be used with GC Modeling Liquid
- Available in Flat and Round tip
- Tip can be bent with pliers, especially for posterior use
- Brush Holder is autoclavable



DIAPOLISHER PASTE







### CLINICAL CASE STEP BY STEP

Using G-aenial Anterior by Dr Anthony Mak, Australia

Class IV Restoration

## Darren

Aesthetic class IV restorations can be simple and also complex. It is usually a combination of the expectations of our patients, and the complexity of the natural anatomical colours engrained in the layers of teeth that will determine the level of detail required to mimic natural aesthetics.

Realising and seeing these layers pre-operatively will help us determine the complexity of the restorations and potentially the number of layers we require to achieve these natural aesthetics.

Darren has been a long-term patient of the practice and has always been unhappy with the anterior restoration on his upper left central incisor. The old restoration was done many years ago by another dentist and a pin was placed to increase retention of the existing composite at the time. The downside to this was that it had compromised the aesthetics of the restoration.

The patient was cost conscious and had a stable occlusion with minor bruxo habits. So when the time came and he was ready to replace the restoration, the option of choice was a highly aesthetic anterior bonded restoration using composites in a multi-layered technique.

#### Technique

- A multi layered composite restoration was placed using a putty index as a matrix for the contour of the restoration.
- The palatal shell was placed using a thin enamel shade JE to form the basis of the restoration.
- Then the proximal enamel layer is built up, also using an enamel shade. This will form the basis of the emergence profile of the complex class IV restoration.
- As the tooth was healthy, the AO2 dentine shade was used to provide the bulk of the restoration, replacing dentine.
- Once the proximal areas and replacement of dentine are complete, the restoration can be finalised with a thin layer of body shade and enamel shades for the final surface layers.
- This can be accompanied with some colour tints to mimic certain characteristics of adjacent teeth.
- The polishing stage will involve contouring and creating surface texture in line with the rest of the tooth.
- The final result is a restoration that is natural, invisible and mimics the characteristics of the adjacent dentition.



Pre-operative assessment of the restoration requiring replacement. See the abundance of opalescence and characterisations present.



Old existing restoration removed showing retention pin.



Preparation complete with putty key in situ ready for the start of the new restoration.



Placement of the first palatal enamel layer with G-ænial JE.



Next the proximal is built up to create the emergence profile. G-ænial shade JE.



The dentine portion is replaced with G-ænial shade AO2.



Dentine mamelons are placed to replicate the natural anatomy.



In Darren's case, tints were used to mimic adjacent characterisations to give the restoration a very natural appearance.

#### Darren (continued)



All the inner layers have been placed and the restoration is ready for the final enamel layer.



A final layer of G-ænial shade JE, a high value enamel, was used to complete the restoration.



The restoration was polished with composite polishing points. Surface textures were placed to improve the final aesthetic outcome.



Final aesthetic outcome shows an invisible restoration that mimics the natural anatomy and adjacent teeth.



Before



After

### CLINICAL CASE STEP BY STEP

Using G-aenial Anterior by Dr Anthony Mak, Australia

**Direct Veneers** 



# Danielle

Danielle was referred to my practice by a close friend. When she presented, she enquired about veneers as she said her "bondings" were failing and she wasn't happy with the look of her smile.

She also complained that she felt her teeth were short and would like them longer.

She insisted that whichever option she chooses, she wants to keep the diastema between her central incisors. She said that she's had it all her life and she feels "not herself" when it was closed previously.

Intraorally, Danielle had a deep overbite with moderate occlusal and bruxo stress on the dentition.

Danielle chose to go ahead with composite veneers spanning from the upper canine to canine.

An aesthetic analysis was undertaken and because of the existing deep overbite, the only way to lengthen her anterior teeth, without changing the occlusion, was to crown lengthen by removing excessive soft tissue. Orthodontics was not an option. This fitted well, as her aesthetic analysis showed a gummy smile in line with excessive soft tissue in her dentition.

#### **Technique**

- A gingivectomy was performed in the upper anterior region to lengthen these teeth aesthetically.
- At the time of laser gingivectomy, PVS diagnostic models were taken and sent to the laboratory for an aesthetic work up and wax up.
- After a two week period, the patient returned for composite bondings on the upper canine to canine.
- Rubber dam isolation was used to provide ideal isolation and bonding to the cervical areas.
- The old composite bondings were removed and G-ænial composites were bonded to the remaining enamel and dentine using a simplified layering technique for each individual tooth.
- Mamelons were created using body shades to create aesthetics that were not only pleasing but also natural in appearance.
- The end result is a minimally invasive aesthetic improvement using direct composites that can be comparable with indirect restorations and also very maintainable in the long term.



Pre-operative photo showing previous partial composite bondings, deep overbite and diastema.



Gingivectomy with a diode laser was performed. PVS diagnostic impressions were taken at this appointment.



Diagnostic wax up (Brad Grobler – Oral Dynamics NZ).



Rubber dam placed with soft tissue retraction for ideal composite bonding.



Existing old composite bondings removed and infinity bevel placed, ready for new composite bonding.



The use of a body shade A2 to create mamelons for a natural anatomical appearance.



A final layer of enamel composite shade JE. New composite veneers complete prior to polishing and contouring.



Post operative photo showing new composite veneers from canine to canine and the diastema being maintained.



#### G-ænial Universal Injectable

#### 1 Syringe Pack

1x syringe 1.7g (1.0mL), 5x dispensing tip needle, 5x dispensing tip long needle, 1x lightprotective cap

#### **Shades:**

XBW, BW, A1, A2, A3, A3.5, A4, B1, B2, CV, CVD, AO1, AO2, AO3, JE, AE



#### **G-ænial Anterior**

#### Syringe

1x syringe 2.7mL (4.7g)

#### Shades:

Standard: XBW, BW, A1, A2, A3, A3.5, A4, B1, B2, B3, C3, CV, CVD Inside special: AO2, AO3, AO4 Outside special: JE, AE, SE, IE, TE, CVE



#### G-ænial Posterior

#### Syringe

1x syringe 2.7mL (5.5g)

#### Shades:

Standard: P-A1, P-A2, P-A3, P-A3.5 Outside special: P-JE, P-IE



#### G-ænial Universal Flo

1 Syringe Pack 1x syringe 3.4g (2.0mL), 20x dispensing tips

#### <u>Shades:</u>

A1, A2, A3, A3.5, A4, BW, B1, B2, B3, C3,

Inside (Opaque): A02, A03 Outside (Enamel): AE, JE



#### everX Flow

#### Syringe

1x syringe 2mL (3.7g) 20x dispensing tips

#### <u>Shades:</u>

Dentin shade, Bulk shade (Translucent)



#### everX Posterior

#### Unitips

15x unitips (0.13mL, 0.25g each) – Universal shade (Translucent)



#### **SOLARE Sculpt**

#### Syringe

1x syringe 1mL (1.9g)

<u>Shades:</u> A1, A2, A3, A3.5



#### **SOLARE Flo**

#### Syringe

1x syringe 0.56mL (1g)

Shades:

A1, A2, A3, A3.5



#### **SOLARE UNIVERSAL BOND**

#### 1-bottle Refill

1x 2.5mL bottle



#### **SOLARE X**

#### Syringe

1x syringe 2mL (3.7g)

A1, A2, A3, A3.5, AO2 (Inside Shade), WT (Outside Shade)



#### **SOLARE**

#### Syringe

1x syringe 2mL (3g)

A1, A2, A3, A3.5, AO3, B2, CV



**G-Premio BOND** 

1-bottle Refill 1x 5mL bottle



**Modeling Liquid** 

1-bottle Refill 1x 6mL bottle



#### **DIAPOLISHER PASTE**

2g syringe



### Composite Manipulation Brush

Available In Packs 2x brush handles 10x brush tips flat 10x brush tips round



#### **NEW METAL STRIPS**

Assortment Packs - 4 strips of each of 3 widths (2.6mm, 3.3mm & 4.0mm)

#### Assortment – same Mesh

#200 Mesh (140 micron); Extra Coarse - Red #300 Mesh (90 micron); Coarse - Blue #600 Mesh (70 micron); Medium - Green #1000 Mesh (50 micron); Fine - Yellow

#### Refill Packs (12 strips)

#200	Mesh (140 micron)	A-Width; Extra Coarse	- Red;	2.6mm
#200	Mesh (140 micron)	B-Width; Extra Coarse	- Red;	3.3mm
#200	Mesh (140 micron	C-Width; Extra Coarse	- Red;	4.0mm
#300	Mesh (90 micron	A-Width; Coarse	- Blue;	2.6mm
#300	Mesh (90 micron)	B-Width; Coarse	- Blue;	3.3mm
#300	Mesh (90 micron)	C-Width; Coarse	- Blue;	4.0mm
#600	Mesh (70 micron)	A-Width; Medium	- Green;	2.6mm
#600	Mesh (70 micron)	B-Width; Medium	- Green;	3.3mm
#600	Mesh (70 micron)	C-Width; Medium	- Green;	4.0mm
#1000	Mesh (50 micron)	A-Width; Fine	- Yellow;	2.6mm
#1000	Mesh (50 micron)	B-Width; Fine	- Yellow;	3.3mm
#1000	Mesh (50 micron)	C-Width; Fine	- Yellow;	4.0mm



#### **EPITEX**

#### Starter Kit

Stand with dispenser of each grain (coarse; extra fine; fine; medium and translucent matrix)

#### Refills

Tx reel (10 m) - Coarse (Blue), Extra Fine (Orange), Fine (Grey), Medium (Green), Translucent Matrix Strip



