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ZIRCONIUM OXIDE FOR GREAT EXPECTATIONS

Zirconium oxide enjoys great popularity due to its convincing technical as well as optical properties. Its versatility and outstanding biocompatibility frequently make high-performance ceramics the first choice for high-quality restorations with high esthetic demands. With the Zolid brand zirconium oxide blanks, Amann Girrbach offers the right material for every zirconium-based indication to fabricate restorations with long-term stability and natural esthetics economically and efficiently.
“AG Esthetic Management” makes the fabrication of highly esthetic restorations from zirconium oxide easier than ever before for users of the Zolid system. The new concept includes efficient and reproducible workflows after the milling process, as well as suitable products and aids.

The focus is on simplifying and optimizing all work after milling the restoration. The clearly illustrated instructions for use and numerous video tutorials guide users through the process step by step. In addition, users have a wide range of courses and online webinars at their disposal. Add to this the new products and aids that make daily work with zirconium oxide considerably easier for the user.
### PROCESSING TECHNIQUES AND INDICATIONS

The optimum zirconium oxide for an indication is determined by a host of different factors. Esthetic requirements, the position of the denture in the patient's mouth or the shade of the stump have a decisive influence on the choice of material. The more precisely the shade of the stump, the material and the indication are matched, the more predictable and esthetically accurate the final result will be realized.

<table>
<thead>
<tr>
<th>Stump shade</th>
<th>Translucency</th>
<th>Product</th>
<th>Processing</th>
<th>Indication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bright</td>
<td>SHT</td>
<td>Zolid FX Multilayer</td>
<td>○ ○ ○ ○ ○ ○ ○ ○ ○</td>
<td>○</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Zolid FX Preshades</td>
<td>○ ○ ○ ○ ○ ○ ○ ○ ○</td>
<td>○</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Zolid FX White</td>
<td>○ ○ ○ ○ ○ ○ ○ ○ ○</td>
<td>○</td>
</tr>
<tr>
<td>Bright - slightly discolored</td>
<td>HT</td>
<td>Zolid Gen-X Multilayer</td>
<td>○ ○ ○ ○ ○ ○ ○ ○ ○</td>
<td>○</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Zolid HT+ Preshades</td>
<td>○ ○ ○ ○ ○ ○ ○ ○ ○</td>
<td>○</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Zolid HT+ White</td>
<td>○ ○ ○ ○ ○ ○ ○ ○ ○</td>
<td>○</td>
</tr>
<tr>
<td>Bright - discolored/metal</td>
<td>LT</td>
<td>Z1 White</td>
<td>○ ○ ○ ○ ○ ○ ○ ○ ○</td>
<td>○</td>
</tr>
</tbody>
</table>

### RECOMMENDATIONS FOR USE OF AMANN GIRRBACH ZIRCONIUM OXIDE IN TERMS OF STUMP SHADE AND DEGREE OF TRANSLUCENCY

![Graph showing recommendations for use of Amann Girrbach zirconium oxide](image-url)
CAD/CAM DESIGN

- Stump preparation
- Minimum wall thickness
- Restoration design
- Data set-tips
- Nesting Zolid FX Multilayer
- Magnification factor
- Sintering support structures
CAD/CAM DESIGN

During the CAD/CAM design of crowns and bridges certain parameters already have to be considered. Only this guarantees the long-term clinical success of Zolid restorations.

STUMP PREPARATIONS

Some important points apply when using a model (plaster, CAD/CAM fabricated model).

- Use scannable plaster or CAD/CAM model material
- Never mark the preparation margin with a pencil before scanning, this will lead to a deterioration of the scanning results
- Sharp edges should be blocked out in the CAD software. The cement gap can be increased specifically with the help of the brush instrument (see video “Additional distance brush”)

MINIMUM WALL THICKNESSES AND CONNECTOR CROSS-SECTION

It is essential to observe the following minimum wall thicknesses and connector cross-sections when designing Zolid restorations. Minimum wall thickness and connector cross-section depend on the material and indication.

MATERIAL PARAMETERS FOR ZOLID SHT / HT / LT – UP TO MAX. 3-PONTIC BRIDGE

<table>
<thead>
<tr>
<th>INDICATION</th>
<th>ANTERIOR REGION</th>
<th>POSTERIOR REGION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Wall thickness (mm)</td>
<td>Connector cross-section SHT</td>
</tr>
<tr>
<td></td>
<td>incisal/occlusal</td>
<td>circular</td>
</tr>
<tr>
<td>Single tooth</td>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td>3-pontic bridges and 1 pontic</td>
<td>0.5</td>
<td>0.5</td>
</tr>
</tbody>
</table>

MATERIAL PARAMETERS FOR ZOLID HT / LT – UP TO 14-PONTIC BRIDGE

<table>
<thead>
<tr>
<th>INDICATION</th>
<th>ANTERIOR REGION</th>
<th>POSTERIOR REGION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Wall thickness (mm)</td>
<td>Connector cross-section HT/LT</td>
</tr>
<tr>
<td></td>
<td>incisal/occlusal</td>
<td>circular</td>
</tr>
<tr>
<td>As of a 4-pontic bridge and a maximum of 2 pontics</td>
<td>0.7</td>
<td>0.5</td>
</tr>
<tr>
<td>As of a 4-pontic bridge and a maximum of 3 pontics</td>
<td>0.7</td>
<td>0.5</td>
</tr>
<tr>
<td>Cantilever bridge and one cantilever pontic</td>
<td>1.0</td>
<td>0.7</td>
</tr>
</tbody>
</table>

DESIGN OF THE RESTORATIONS

In addition to minimum wall thickness and connector cross section, which must be strictly complied with during the fabrication of Zolid restorations, it is essential to also observe other points:

- Avoid sharp edges and corners during restoration design
- Smooth sharp edges again after the function “Shrinking the anatomy”
- Cusp-supporting design for later use of veneering ceramics
- Support of the veneering ceramic is also recommended for proximal contacts (see video “Garland proximal saddle”)
- The transition from the connector to the abutment crown should be kept as wide as possible

TIPS FOR A “CLEAN” DATA SET

To give precise milling results, “clean” STL data sets should be generated and transferred to the CAM software. Once the final design has been defined, the following steps should be followed.

- Change display to “wireframe”
- Select the “Smooth” function in the free-form area
- Reduce the amount of smoothing
- Then smooth the surface of the restoration such that the grid surface is as small and even as possible (see video “Adding the wireframe”)
NESTING ZOLID FX MULTILAYER

Depending on the nesting position, a total of two tooth shades per blank can be covered with the Zolid FX Multilayer blanks. A few aspects need to be taken into account to ensure that the shade gradient is optimally matched. The choice of the correct blank height in proportion to the restoration height is decisive for success.

![Image of nesting positions](image)

**As a rule, the following applies to the nesting of Zolid FX & Zolid Gen-X Multilayer:**

Under no circumstances should too low restorations be nested in too high blanks and vice versa, as the proportions will otherwise no longer be correct. Thus, the selection of the appropriate height of the blank depends on the height of the respective restoration (e.g. 14 mm: posterior teeth, 16 mm: anterior teeth, 25 mm: constructions with gingival section).

![Image of nesting examples](image)

**When nesting restorations in a Zolid Gen-X 25mm blank please observe the following:**

**Upper half of the blank:** color distribution corresponds to that of a 16mm Zolid Gen-X blank  
**Lower half of the blank:** no color distribution, but fully stained (Preshade)

Restorations with a gingival section should therefore be nested such that only the gingival section lies in the lower, fully stained half of the blank.
MAGNIFICATION FACTOR

To compensate for volume shrinkage during the sintering process, Ceramill restorations made of zirconium oxide and Sintron are always fabricated with a certain allowance. This is defined by entering the so-called magnification factor in the CAM software.

There are various CAM software systems on the market, all of which require different values to be entered. To meet the various requirements, the Ceramill blanks are marked with the following three specifications for the magnification factor:

<table>
<thead>
<tr>
<th>F-value</th>
<th>Special AG factor, only relevant for Amann Girrbach customer/fabrication systems</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ceramill Zolid FX ML 0/A1 71 F 10.27 V23.37 S 18.94</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>V-value</th>
<th>General magnification factor (expressed in %), most common magnification factor specification - often required as factor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ceramill Zolid FX ML 0/A1 71 F 10.27 V23.37 S 18.94</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S-value</th>
<th>Special magnification factor, very rare - relevant e.g. for Zirkonzahn system</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ceramill Zolid FX ML 0/A1 71 F 10.27 V23.37 S 18.94</td>
</tr>
</tbody>
</table>

The most common specification of the magnification factor for external systems is the V-value. On the Amann Girrbach blanks this is stated in %, however the input of the factor is often required. This is calculated as follows:

**Calculation example:** \( \frac{23.37}{100} + 1 = 1.2337 \) (factor)

In general, CAM users of third-party systems should always consult the CAM manufacturer in advance to avoid confusion.
SINTERING SUPPORT STRUCTURES

To avoid problems of distortion and fit, large span bridges should always be sintered with a sintering support structure. The following bridge constructions require a sintering support structure under all circumstances:

- Bridge constructions with more than 9 pontics
- Bridge constructions with a pronounced curvature, such as anterior tooth bridges

**TIPS**

- For the support structure, the “dynamic stabilizer” is selected in the CAM software
- The terminal bridge pontics must be connected to the sintering block via connectors
- The number of connectors between the sintering block and the bridge should be at least four
- The connectors should be arranged as symmetrically as possible
- The connectors should preferably be positioned between the pontics and the sintering block
- The connectors to the sintering block should be at least 3 mm thick
- In the staining technique with liquids, the attachment point of the connector in particular must be stained to a greater extent to ensure that no unstained areas remain after subsequent separation. The sintering support structure must not be stained, as heating could then lead to cracks
REMOVE & REFINE
FINISHING ZIRCONIUM OXIDE

Finishing before sintering
Finishing after sintering
FINISHING

To prevent damage to the material, correct finishing is essential after the milling process. Here a distinction is made between finishing before sintering and finishing after sintering. The choice of suitable instruments is also crucial for success.

FINISHING BEFORE SINTERING

The final material properties have not yet been attained in the white blank state, therefore the milling objects should be handled very carefully. The following basic rules should be observed:

- Never fall below minimum wall thicknesses and connector cross-sections
- If possible, all steps for preparation should be carried out before sintering to prevent damage in the material
- Separate objects from the blank with care and caution. Gently sever the connectors with circular movements. Avoid the formation of wedges
- Use a turbine or a well-maintained handpiece for separation, avoid any unbalance
- After finishing, the milled objects should be thoroughly cleaned of any adhering milling dust. Metal-free brushes and oil-free compressed air are suitable for this purpose
- If the surface of the whites is polished too much, this can lead to poorer absorption of the liquid

INFO

More information on the kits under “Remove & Refine”
Using the “milling cutter” special tool, the restoration can be separated gently in circular movements.

Coarse grinding of the connectors with the Grenade

Fine grinding of the connectors

Tip: marking the preparation margin with a wax crayon facilitates thinning of the crown margin before sintering

Thinning the margins with the fine universal polisher

The fissure milling cutter enables extremely fine fissures to create a natural morphology

More information in the video “ Processing zirconium before and after sintering”
FINISHING AFTER SINTERING

To prevent damage to the material, correct finishing is essential after the milling process. Here a distinction is made between finishing before sintering and finishing after sintering. The choice of suitable instruments is also crucial for success.

TIPS

Processing should be kept to a minimum after sintering
- Only apply slight pressure
- Restrict heat generation to a minimum
- Only use suitable tools
- If possible finish under water cooling
- Never re-separate the bridge units with a cutting disc, this applies in particular to the basal areas (tensile stress)
- All contact points (occlusal & proximal) should always be polished to a high gloss with a multi-stage polishing system to prevent abrasion of the antagonist

STEP-BY-STEP FINISHING AFTER SINTERING

Gentle grinding of the occlusal contacts
Polishing “Lens” or “Swivel”
Tip: “Swivel” is ideal for difficult to access areas such as the occlusion or interdental area
High gloss polishing “Lens” or “Swivel”

Polishing paste for final high gloss polishing

TIP More information in the video “Processing zirconium before and after sintering”
INTERNAL FINISH

General recommendations
Fasthetix
Aesthetix
Aesthetix Advanced
Pre-drying
GENERAL RECOMMENDATIONS FOR PROCESSING LIQUIDS

When using staining liquids for coloring before sintering, some tips can prove to be very useful.

TIPS

- Remove the remaining zirconium dust from the frames with a brush and compressed air
- Only work with metal-free brushes with synthetic hair
- Do not use too much Ceramill Liquid Eye, as this can lead to a thinning of the A-D shade
- Completely dry the restorations before sintering (see page 20 on the subject)
- Do not mix Ceramill Liquid with another Ceramill Liquid System. The staining solutions may only be combined within one liquid system

The following information about immersion times and brush applications are only approximate values and depend on numerous factors; if necessary, they may have to be adjusted individually according to workflow and preference.

Zirconia Stain Brush Kit - available in three different sizes for targeted application of the staining liquids with Liquid Eye. The brushes are metal-free and the synthetic brush hair is easy to clean.

INFO More information under “Internal Finish”
FASTHETIX - RAPID STAINING TECHNIQUE

The “Fasthetix concept” allows preparing esthetic restorations with a color gradient in just a few seconds using only a single “Ceramill Liquid new formula” liquid set. The uncomplicated Fasthetix method is the perfect entry into the world of the Amann Girrbach zirconium oxides.

FASTHETIX

FASTHETIX BASIC
IMMERSION TECHNIQUE

Immersion in Dimmer Liquid for approx. 2-4 s

FASTHETIX ADVANCED
COMBINATION BRUSH AND IMMERSION TECHNIQUE

Apply Dimmer Liquid with brush

Immerse in Liquid A-D 10-30 s

TIPS

More information in the video “Fasthetix Basic”

More information in the video “Fasthetix Advanced”

For the tooth shades A4, B4, C4 and D4 in combination with Zolid HT+ and Zolid FX the immersion time should be extended to 45-60 seconds to achieve the corresponding tooth shade.

Instead of Dimmer Liquid, a mixture of dimmer/effect stain grey/violet can be used in the ratio 15/15/70. This lends the incisal/cusp area a natural appearance.

The intensity of the incisal effect depends on the depth of immersion in the Dimmer Liquid or in the mixture of effect stains respectively.
AESTHETIX - HIGHLY ESTHETIC INDIVIDUALIZATION

In addition to the dentin liquids specifically developed for each translucency stage and special color shades for customization, the “Aesthetix concept” offers mature immersion and brush techniques.

AESTHETIX BASIC
IMMERSION TECHNIQUE

Ideally suited for simple and fast monochrome staining of frames which are subsequently veneered.

<table>
<thead>
<tr>
<th>MATERIAL</th>
<th>PROCESSING</th>
<th>IMMERSION TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zolid FX White</td>
<td>90 % Liquid FX</td>
<td>10 % Dimmer</td>
</tr>
<tr>
<td>Zolid HT+ White</td>
<td>100 % Liquid “new formula”</td>
<td>Immersion time 10 seconds</td>
</tr>
<tr>
<td>ZI White</td>
<td>100 % Liquid “new formula”</td>
<td></td>
</tr>
</tbody>
</table>

Doubling the immersion time is recommended for dark shades (A4, B4, C4, D4).

TIP More information in the video “Aesthetix Basic”

Pretreatment of the bridge unit through immersion technique

Prior to immersion, it is recommended to apply Dimmer Liquid at least once evenly with a brush to the solid pontic to obtain a shade of the pontic after immersion which is not too intensive.

When using CL1-CL4 shades for ZI, please follow the Instructions for Use for Ceramill Liquids CL1-CL4.
AESTHETIX ADVANCED
BRUSH TECHNIQUE

Ideal for staining monolithic restorations with a color gradient. To give very individual results, the effect stains can be used to set specific highlights.

STAINING WITH DENTIN AND EFFECT STAINS

- **Blue, gray for translucency in the incisal area**
- **Orange for a depth effect in the cervical or fissure area**
- **Dentin shade for a natural color gradient**

### TIPS

**Pretreatment of the bridge unit through brush technique**

To provide sufficient shade intensity to the solid pontic, it is recommended to apply one additional drop of dentin to the basal pontic surface per brush application, depending on the size of the pontic.
**STAINING WITH GINGIVA SECTION**

**PRE-DRYING**

After staining with Ceramill Liquid, Zolid zirconium oxide should be pre-dried. This acts to avoid stains (homogenization). The risk of cracks and fissures is also reduced for large objects.

<table>
<thead>
<tr>
<th>Material</th>
<th>Pre-drying temperature</th>
<th>Pre-drying duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zolid zirconium oxide frames (without sintering block)</td>
<td>80 °C</td>
<td>60 min</td>
</tr>
</tbody>
</table>

**TIPS**

- Always start with the application of Dentin Liquid on the teeth, this prevents Gingiva Liquid from infiltrating the teeth.
- Apply Gingiva Liquid in the second step. Depending on the material thickness, 3-5 applications are sufficient for a satisfying pink basic shade.
- Dry restorations sufficiently long before sintering or select sintering programs with a pre-drying function.
- When sintering such restorations, always select programs with long-term cooling to avoid thermal stress.

When using CL1-CL4 shades for ZI, please follow the Instructions for Use for Ceramill Liquids CL1-CL4.
SINTERING

Sintering programs
SINTERING OF ZOLID RESTORATIONS

Sintering of zirconium oxide is one of the most important process steps in the fabrication of dental restorations.

The porous white body condenses under the influence of high temperatures and the blank achieves its final mechanical (strength) and optical (translucency) properties. The standardized as well as material-friendly sintering temperature of 1450 °C ensures economical processes. This allows ZI, Zolid, Zolid HT+, Zolid Gen-X or Zolid FX to be sintered together in a single furnace run.

Optimum results are achieved with the Ceramill Therm and Therm S high-temperature furnaces from Amann Girrbach. These are fully matched to the Zolid portfolio and thus achieve the best possible material properties.
EXTERNAL FINISH
COLORING AFTER SINTERING

Finalizing
FINAL CHARACTERIZATION AFTER SINTERING

After sintering, Zolid restorations can be further individualized and refined by applying veneering ceramics or stains. Here, too, the choice of the right aids is crucial for success.

The “Optimum” & “Revolution” ceramic brushes are ideally suited for the application of ceramic materials and stains. “Optimum Brush Line” also features a built-in steel spring.

Honey Comb Stand, the ceramic honeycomb stand for firing Zolid restorations including special ceramic pins for implant restorations.

Crown Holder Complete Kit, provides excellent hold of the restorations during layering or painting. The material does not leave any sticky residue and can be used several times.

Texture Eyes, the copper paste visualizes the morphology and surface texture of, for example, crowns, bridges or plaster models. The quick-drying, alcohol-free solution can be removed easily later on using a steam jet.

Ceramic spatula made of zirconia for optimal and contamination-free mixing of ceramic materials.

Instrument Bench Stand, the ideal storage unit for the ceramic brushes “Optimum” and “Revolution”.

CAD Artistry Palette with 11 separate compartments for storage and mixing of ceramic materials with optimal consistency.

Peg Fix, the fire-resistant firing paste made of PCW fibres, is suitable for firing ceramic and metallic restorations with a stable hold during the firing process.

More information under “External Finish”
**FINAL CHARACTERIZATION WITH STAINS AND GLAZING MATERIALS**

The restorations made from Zolid DNA blanks can be finalized esthetically after the sintering process with the stains and glazing materials of the Ceramill Stain&Glaze kit. Accentuating highlights is sufficient for restorations of white blanks or work made from Zolid HT+ Preshades, Zolid Gen-X Multilayer or Zolid FX Multilayer in the 16 VITA shades infiltrated with liquids. Pre-stained, monochrome restorations in the basic shades made of Zolid FX Preshades are finalized after sintering with the Ceramill Stain&Glaze to achieve the final tooth shade.

**EXEMPLARY STAIN SCHEMA WITH CERAMILL STAINS:**

- **Eggshell/Bleach** for cusp tips and margin ridges to increase brightness
- **Orange** for occlusal surfaces and/or cervical areas for a warm depth effect or discolorations
- **Brown/dark brown** in fissure areas for discoloration
- **Blue/violet** for translucency in the cusp and marginal ridge areas
- **Dentin shades A-D** for the body region
- **Special shades** for the gingival area also allow restorations to be fabricated with a gingival section

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**TIPS**

- Thoroughly clean the restorations before applying stains and glazing materials
- Slight wetting of the restoration surface with Stain Liquid facilitates the subsequent application of the stains & glazing materials
- Stains such as blue, violet or gray can for example be used to individualize areas such as incisal edges or cusp tips
- Stains such as orange or brown can for example be used to individualize areas such as fissures or proximal contacts
LESS IS MORE! MAXIMUM FLEXIBILITY AND SHADE VARIETY DUE TO INTELLIGENT STAINING CONCEPT

The reason being, that the range of 16 Zolid HT+ Preshade blanks allows achieving all VITA tooth shades with only 7 blanks of base shades (BL, A1, A3, B2, C1, C3, D2) with the Ceramill Stain&Glaze stains by applying a sophisticated stain technique. This results in customized solutions which are both economical and offer unlimited flexibility depending on requirements and needs.

16 FROM 7 – MIXING TABLE FOR ACHIEVING THE 16 VITA SHADES

<table>
<thead>
<tr>
<th>TARGET SHADE</th>
<th>BASIS</th>
<th>1. STAIN FIRING</th>
<th>2. STAIN FIRING</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Apply dentin shade for the body region</td>
<td>Apply dentin shade for the body region</td>
</tr>
<tr>
<td>Bleach</td>
<td>Bleach</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>A1</td>
<td>A1</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>A2</td>
<td>A1</td>
<td>2/3 Dentin A + 1/3 Yellow</td>
<td>–</td>
</tr>
<tr>
<td>A3</td>
<td>A3</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>A3.5</td>
<td>A3</td>
<td>1/2 Dentin A + 1/2 Yellow</td>
<td>–</td>
</tr>
<tr>
<td>A4</td>
<td>A3</td>
<td>2/3 Dentin A + 1/3 Gray</td>
<td>2/3 Dentin A + 1/3 Gray*</td>
</tr>
<tr>
<td>B1</td>
<td>Bleach</td>
<td>1/2 Violet + 1/2 Yellow</td>
<td>1/2 Violet + 1/2 Yellow*</td>
</tr>
<tr>
<td>B2</td>
<td>B2</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>B3</td>
<td>B2</td>
<td>2/3 Orange + 1/3 Gray</td>
<td>2/3 Orange + 1/3 Gray*</td>
</tr>
<tr>
<td>B4</td>
<td>B2</td>
<td>1/3 Dentin C + 1/3 Gray + 1/3 Yellow</td>
<td>1/3 Dentin C + 1/3 Gray + 1/3 Yellow</td>
</tr>
<tr>
<td>C1</td>
<td>C1</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>C2</td>
<td>C1</td>
<td>1/4 Dentin C + 1/4 Yellow + 1/2 Blue</td>
<td>1/2 Dentin C + 1/2 Yellow</td>
</tr>
<tr>
<td>C3</td>
<td>C3</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>C4</td>
<td>C3</td>
<td>1/2 Dentin C + 1/2 Gray</td>
<td>1/2 Dentin C + 1/2 Gray*</td>
</tr>
<tr>
<td>D2</td>
<td>D2</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>D3</td>
<td>D2</td>
<td>1/2 Dentin D + 1/2 Gray</td>
<td>Dentin D cervical region*</td>
</tr>
<tr>
<td>D4</td>
<td>D2</td>
<td>2/3 Yellow + 1/3 Gray</td>
<td>2/3 Yellow + 1/3 Gray</td>
</tr>
</tbody>
</table>

* Depending on the frame thickness, a second stain firing is recommended

TIPS

_Prior to applying the stain, wet the surface very thinly with glazing liquid to ensure an even application of the stain
_The intensity of the results can be controlled by mixing the stains with the glazing materials
_Violet, gray or blue can be used for creating effects in the incisal area
STAIN ASSIGNMENT TABLES FOR ZOLID FX PRESHADES AND ZOLID PRESHADES WITH CERAMILL STAIN & GLAZE

The stain assignment tables show which VITA tooth shades can be achieved with which blanks using the Ceramill stains.

ZOLID FX PRESHADE

<table>
<thead>
<tr>
<th>Blank shade</th>
<th>Tooth shade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bleach</td>
</tr>
<tr>
<td>Zolid FX Preshade Bleach</td>
<td>●</td>
</tr>
<tr>
<td>Zolid FX Preshade A Light</td>
<td>-</td>
</tr>
<tr>
<td>Zolid FX Preshade A medium</td>
<td>-</td>
</tr>
<tr>
<td>Zolid FX Preshade B Light</td>
<td>-</td>
</tr>
<tr>
<td>Zolid FX Preshade C Light</td>
<td>-</td>
</tr>
<tr>
<td>Zolid FX Preshade D Light</td>
<td>-</td>
</tr>
</tbody>
</table>

● Shade is achieved   ○ Shade can be achieved with stains   - shade cannot be achieved

FIRING PROGRAM CERAMILL STAIN & GLAZE

- Starting temperature: 450 °C
- Drying time: 5 min
- Temperature increase: 40 °C/min
- Final temperature: 850 °C
- Holding time: 1 min

TIPS

- The stain and glaze firing can be performed in one firing process
- Gradual long-term cooling is recommended for long-span bridges and/or solid intermediate units/gingiva sections
- If the desired shade has not been achieved, it can be corrected by firing again
TRAINING

Additional brochures, instructions and training courses
AS ESTHETICS ARE NOT HAPPENSTANCE

A product is only complete if one knows how to use it correctly. For this reason, Amann Girrbach presents a comprehensive information and training offer within the context of Esthetic Management for the use of Ceramill zirconium oxide, to ensure that esthetics are not happenstance. In combination with the individual staining concepts, the didactically prepared print and online media as well as courses ensure the desired outcomes right from the start.

CLINICAL GUIDE I
Practice brochure
All important information about the Zolid DNA System

CLINICAL GUIDE II
Practice guideline
Preparation, luting, surface polishing

CLINICAL GUIDE III
Scientific compendium
Compendium Zolid DNA studies

ZIRCONIUM BROCHURE
Zolid DNA Zirconia
Versatile, economical, esthetic.

HANDS-ON COURSES
for perfect esthetics
Precise targeted processing of the materials is the focus of our courses.

ONLINE WEBINARS
Easy and efficient
Webinars save time and create new opportunities for training and further education.

INFO
The entire pooled knowledge is available online.

TIP
Overview of all videos.