



AMANNGIRRBACH

CLINICAL GUIDE II
PRACTICE GUIDELINE

 **zolid**
/// DNA GENERATION



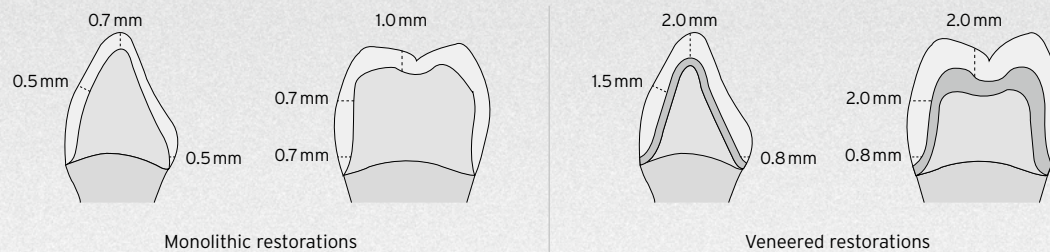
PREPARATION

Preparation	4
Cementation	11
Surface treatment	15

PREPARATION RECOMMENDATIONS AND MATERIAL PARAMETERS FOR ZOLID

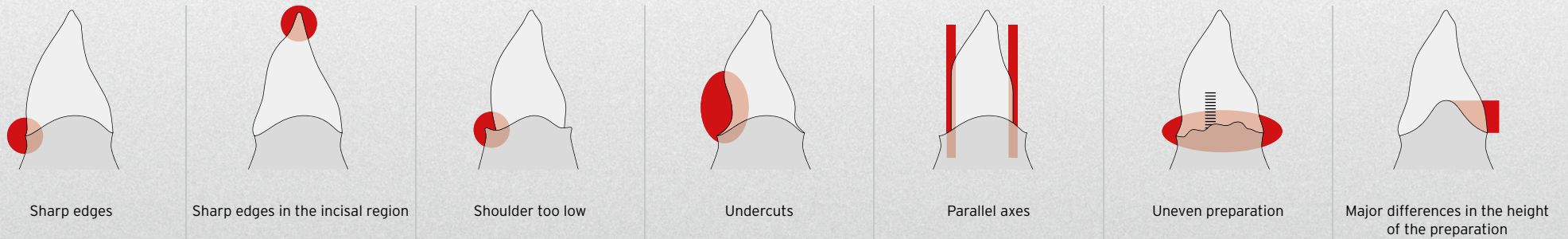
The use of Zolid brings a high degree of reliability, esthetics and clinical benefits. The material allows supragingival preparation due to its tooth-like color, thus enabling easier cementation and preparation control. When planning, it is important to distinguish between monolithic and ceramic veneered restorations. The consideration of minimum wall thicknesses, preparation guidelines and the creation of sufficient space for the veneer ceramics in anatomically reduced work have a marked influence on the quality and functionality of the restorations.

DIFFERENT SPATIAL CONDITIONS FOR DIFFERENT INDICATIONS*



CONTRAINDICATIONS

The following preparations are contraindicated for zirconium oxide restorations



*Minimum wall thicknesses are based on bridges from 4 pontics

PREPARATION RECOMMENDATIONS AND DESIGN PARAMETERS FOR ZOLID

DESIGN PARAMETERS FOR ZOLID SHT / HT / LT - UP TO MAX. 3-PONTIC BRIDGES

INDICATION	ANTERIOR REGION				POSTERIOR REGION			
	Wall thickness (mm)		Connector cross-section (mm ²)		Wall thickness (mm)		Connector cross-section (mm ²)	
	incisal/occlusal	circular	SHT	HT/LT	incisal/occlusal	circular	SHT	HT/LT
Single tooth	0.5	0.5	-	-	0.5	0.5	-	-
3-pontic bridges and 1 pontic	0.5	0.5	≥ 12	> 7	0.7	0.5	≥ 12	> 9

DESIGN PARAMETERS FOR ZOLID HT/LT - 4 TO 14-PONTIC BRIDGES

INDICATION	ANTERIOR REGION			POSTERIOR REGION		
	Wall thickness (mm)		Connector cross-section HT/LT	Wall thickness (mm)		Connector cross-section HT/LT
	incisal/occlusal	circular	HT/LT	incisal/occlusal	circular	HT/LT
As of a 4-pontic bridge and a maximum of 2 pontics	0.7	0.5	> 9	1.0	0.7	≥ 12
As of a 4-pontic bridge and a maximum of 3 pontics	0.7	0.5	> 9			
Cantilever bridge and one cantilever pontic				1.0	0.7	≥ 12

Designation and assignment of zirconia materials

SHT= Zolid FX, Zolid FX Multilayer

HT= Zolid HT+, Zolid HT+ Preshades, Zolid Gen-X, Zolid DRS

LT= ZI



PREPARATION

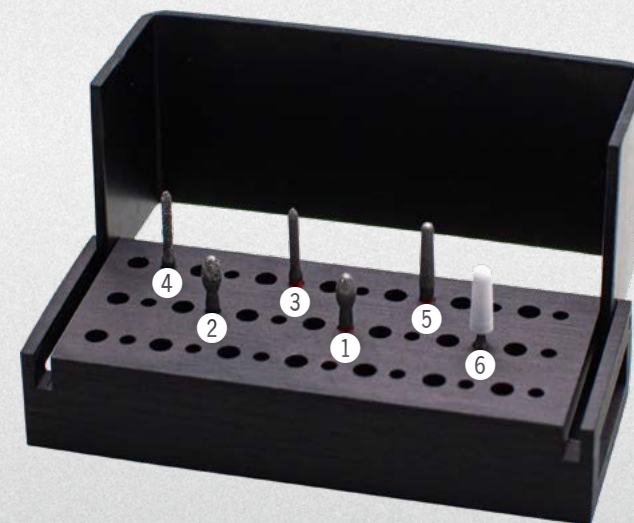
Before each preparation it is important that the dentist and dental technician agree which zirconia is to be used for the subsequent restoration. This ensures that all the correct preparation parameters are complied with for the respective material. The principle of preparation is to remove as little hard tooth substance as possible, but still as much as is required for the material thickness of the restoration. If insufficient tooth substance is available or if the clinical crown height is too low, it is recommended to prepare retention grooves in the stump. The Zolid Preparation Dent Kit contains preparation tools which are optimally adapted to the Amann Girrbach workflow - from the CAD/CAM milling machine to the zirconias. As a result, the required parameters are easy to implement and perfectly fitting restorations can be achieved. This set was developed in close cooperation between Dr. M. Fischer and MDT B. Votteler.

THE MOST IMPORTANT POINTS AT A GLANCE

- _Perfectly matched tools which guarantee process reliability from the preparation through to the final restoration**
- _The six selected preparation tools allow efficient preparation of anterior and posterior crowns, bridge abutments, partial anterior crowns and veneers**
- _The clearly arranged preparation set stands for an efficient workflow in everyday routines (preparing, preparation, disinfection)**
- _Perfectly matched set for the zirconias of the Zolid DNA generation from Amann Girrbach**

ORDERING INFORMATION

875530	Zolid Preparation Dent-Kit	
	Delivery include: see image	
875531	❶ Diamond Egg Fine	5 pcs.
875532	❷ Diamond Egg Coarse	5 pcs.
875533	❸ Diamond Torpedo Fine	5 pcs.
875534	❹ Diamond Torpedo Coarse	5 pcs.
875535	❺ Diamond Conical Fine	5 pcs.
875536	❻ Abrasive Arkansas FG	5 pcs.



PREPARATION FOR CONVENTIONAL AND ADHESIVE CEMENTATION

VENEERS AND CROWNS IN THE ANTERIOR REGION



Initial situation with pronounced attrition and insufficient fillings in the anterior tooth region



Preparation of a mock-up using the silicone key



The original length of the anterior teeth is achieved by using the mock-up



Separation with coarse torpedo 12 mm (green ringed)



Mock-up is separated from the natural tooth



Preparation of the crown alignment 12 mm torpedo (green ringed)



Reduction palatal with football (green ringed)



Fine preparation of the chamfer with torpedo 12 mm (red ringed)

PREPARATION FOR CONVENTIONAL AND ADHESIVE CEMENTATION

VENEERS AND CROWNS IN THE ANTERIOR REGION



9 Palatal finish with football (red ringed)



10 Final smoothing with Eva file (red ringed) or with the Abrasive Arkansas FG of the Zolid Preparation Dent Kit



11 Check of the final spatial conditions using the silicone key



12 Final preparation with minimal loss of substance



13 Occlusal perspective of the final anterior tooth preparation



14 Occlusal perspective of the final inserted restorations



15 The incorporated restorations fit harmoniously into the oral situation



16 Frontal view of the highly esthetic crowns (12-22) and veneers (13/23) made of Zolid

PREPARATION FOR CONVENTIONAL AND ADHESIVE CEMENTATION

PREMOLAR, MOLAR OF A POSTERIOR BRIDGE



1 Separation of the premolar with interdental wedge / adjacent tooth protection



2 Separation with coarse torpedo 12 mm (green ringed)



3 Occlusal view after separation



4 Pre-preparation 12 mm torpedo (green ringed)



5 Preparation of the crown alignment 45° and fine preparation of the chamfer with torpedo 12 mm (red ringed)



6 Incisal trimming with football (green ringed) for optimal esthetic results



7 Occlusal finish with fine football (red ringed)



8 Final smoothing with Eva file (red ringed) or with the Abrasive Arkansas FG of the Zolid Preparation Dent Kit

PREPARATION FOR CONVENTIONAL AND ADHESIVE CEMENTATION

PREMOLAR, MOLAR OF A POSTERIOR BRIDGE WITH RETENTION GROOVES FOR SHORT CLINICAL CROWNS



9 Pre-preparation of the posterior crown with 12 mm torpedo (green ringed)



10 Fine preparation of the chamfer with torpedo 12 mm (red ringed)



11 Preparation of the crown alignment 45°



12 Applying the retention groove with conical roller (red ringed)



13 Applying the retention groove with conical roller (red ringed) in particular for short stumps, to ensure optimum retention of the restoration



14 Occlusal view, preparation visible throughout



15 Conical retention grooves on the saw model in the laboratory



16 Crown is already securely fixed to the stump with retention grooves





Zolid FX Multilayer | Amann Girrbach



CEMENTATION

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Cementation	11
Surface treatment	15



Zolid FX Multilayer | Amann Girrbach



FORMS OF CEMENTATION

Due to their high strength, zirconia restorations can be attached both adhesively as well as conventionally. A prerequisite for conventional cementation is sufficient retention and a corresponding minimum stump height of 4 mm. Highly translucent zirconia such as Zolid FX benefits from adhesive cementation in particular. Translucent and procolored cementation materials can underline coloring, especially in the anterior region.

	Conventional cementation	Adhesive/self-adhesive cementation
Processing	Low effort	High effort
Bonding strength	No adhesive bonding (Attention: adequate retention shape of the die and minimum stump height of 4 mm must be observed)	Adhesive bonding High adhesive bond
Luting materials*	<ul style="list-style-type: none"> _ Zinc oxide phosphate cements _ Acrylic-reinforced glass ionomer cements e.g. Fuji PLUS (EWT) / GC _ Glass ionomer cements e.g. Vivaglass CEM / Ivoclar Vivadent 	<p>Adhesive cementation:</p> <ul style="list-style-type: none"> _ e.g. PANAVIA™ V5, 21, F 2.0 / Kuraray Noritake _ e.g. Multilink® Automix / Ivoclar Vivadent <p>Self-adhesive cementation</p> <ul style="list-style-type: none"> _ e.g. RelyX™ Unicem / 3M Espe _ e.g. SpeedCEM® / Ivoclar Vivadent



MDT Benjamin Votteler, Dentaltechnik Votteler/GER

*These are recommendations only! Please observe the respective information of the manufacturers.



SURFACE TREATMENT

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SURFACE TREATMENT

Especially with monolithic restorations made of zirconia, it is important to polish the contact surfaces after processing in order to avoid possible abrasion on the opposite tooth. During the try-in of the restorations, the static and dynamic occlusion contacts are checked. If imperfections are subsequently reworked, grinding must be carried out with the correct abrasives. The new Polishing Dent Kit from Amann Girrbach is ideal for polishing zirconia in the patient's mouth. The polishing heads are available in different shapes and grades for optimum high-gloss polishing and surface quality.

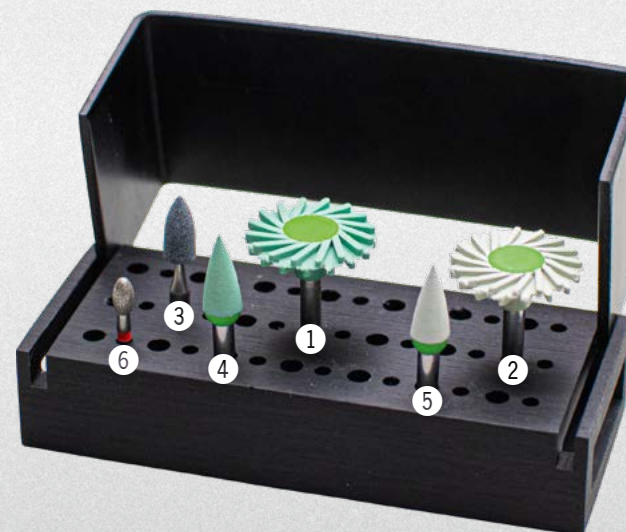
THE MOST IMPORTANT POINTS AT A GLANCE

- _Processing of zirconia with a water-cooled turbine at the recommended speeds to avoid overheating**
- _Especially with monolithic restorations, the surface must be highly polished to avoid abrasion on the antagonist**
- _Studies confirm that polished contact points of monolithic zirconia restorations show hardly any abrasive effects on the antagonist in contrast to only glazed or veneered contact surfaces***
- _Monolithic restorations must be checked in the patient's mouth once a year, taking into account the remaining dentition, the antagonists and the soft tissue**

ORDERING INFORMATION

875550 Zolid Polishing Dent Kit

875551	Smoothing and pre-polishing/swivel
875552	High gloss polishing / swivel
875553	Abrasive
875554	Gloss polishing / flame
875555	High gloss polishing / flame
875556	Diamond



* Stawarczyk B, Özcan M, Schmutz F, Trottmann A, Roos M, Hämmerle CHF. Two-body wear of monolithic, veneered and glazed zirconia and their corresponding enamel antagonists. Acta Odontol Scand 2013;71:102-12

ZOLID POLISHING DENT-KIT FOR OPTIMUM HIGH-GLOSS POLISHING AND SURFACE QUALITY

1. GRINDING WITH DIAMOND OR GRINDING TOOLS



Diamond for grinding zirconium oxide at speeds of 160,000 rpm



Grinding tool for grinding zirconium oxide at speeds of 25,000 rpm

2. POLISHING WITH SWIVEL OR FLAME DIAMOND POLISHER



Diamond polishers for smoothing and polishing at a speed of 10,000-12,000 rpm



Diamond polishers for smoothing and polishing at a speed of 7,000-12,000 rpm

3. HIGH GLOSS POLISHING SWIVEL OR FLAME DIAMOND POLISHERS



Diamond polishers for high gloss polishing with a speed of 10,000-12,000 rpm



Diamond polishers for high gloss polishing with a speed of 7,000-12,000 rpm





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