EN

AMANNGIRRBACH

CLINICAL GUIDE II
PRACTICE GUIDELINE

zolid
DNA GENERATION

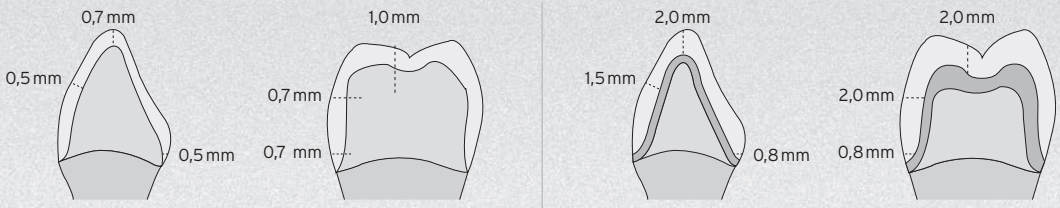
Zolid FX | Amann Girrbach

PREPARATION

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*

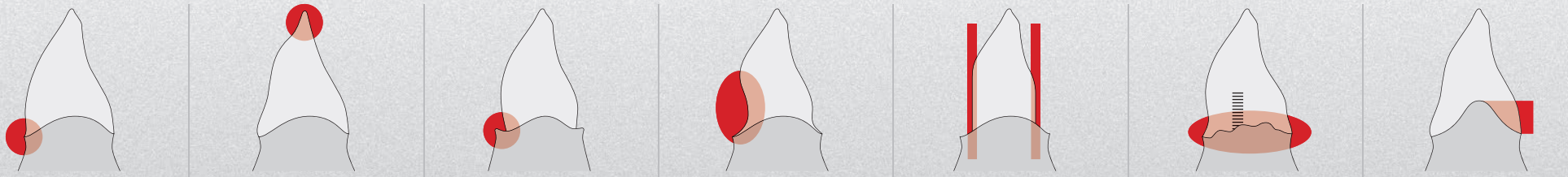


Monolithic restorations

Veneered restorations

CONTRAINDICATIONS

The following preparations are contraindicated for zirconium oxide restorations



Sharp edges

Sharp edges in the incisal region

Shoulder too low

Undercuts

Parallel axes

Uneven preparation

Major differences in the height of the preparation

*Minimum wall thicknesses are based on bridges from 4 pontics

PREPARATION RECOMMENDATIONS AND MATERIAL PARAMETERS FOR ZOLID

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

INDICATION	ANTERIOR REGION				POSTERIOR REGION			
	Wall thickness (mm)		Connector cross-section SHT	Connector cross-section HT/LT	Wall thickness (mm)		Connector cross-section SHT	Connector cross-section HT/LT
	incisal/occlusal	circular			incisal/occlusal	circular		
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

MATERIAL 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		incisal/occlusal	circular	
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 Preshades, Zolid FX Multilayer
HT= Zolid HT+, Zolid HT+ Preshades
LT= ZI

PREPARATION FOR CONVENTIONAL AND ADHESIVE CEMENTATION

VENEERS AND CROWNS IN THE ANTERIOR REGION

1

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

2

Preparation of a mock-up using the silicone key

3

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

4

Separation with coarse torpedo 12 mm (green ringed)

5

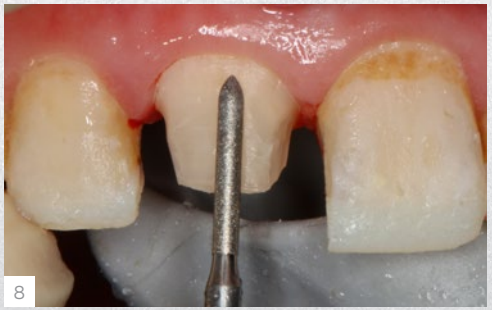
Mock-up is separated from the natural tooth

6

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

7

Reduction palatal with football (green ringed)



8

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

Images and texts: Dr. Michael Fischer, Pfullingen

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)

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

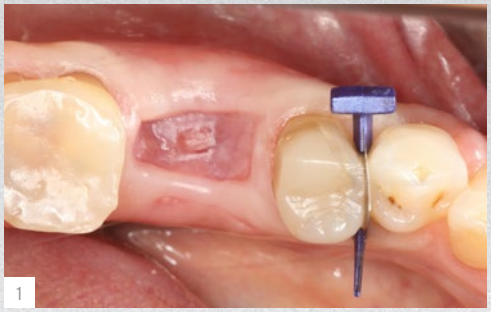
15 The incorporated restorations fit harmoniously into the oral situation

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

Images and texts: Dr. Michael Fischer, Pfullingen

PREPARATION FOR CONVENTIONAL AND ADHESIVE CEMENTATION

PREMOLAR, MOLAR OF A POSTERIOR BRIDGE

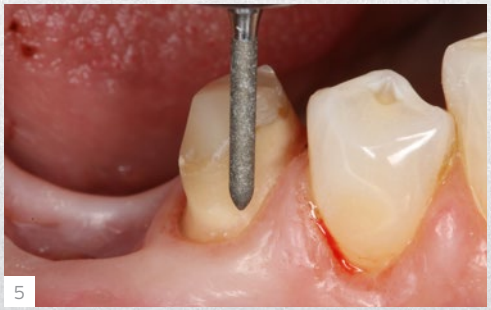


1 Separation of the premolar with interdental wedge / adjacent tooth protection

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)

Images and texts: Dr. Michael Fischer, Pfullingen

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)


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

Images and texts: Dr. Michael Fischer, Pfullingen

Zolid FX Multilayer | Amann Girrbach

CEMENTATION

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 3 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 3 mm must be observed)	Adhesive bonding High adhesive bond
Luting materials*	_Zinc oxide phosphate cements _ Acrylic-reinforced glass ionomer cements e.g. Fuji PLUS (EWT) / GC _Glass ionomer cements e.g. Vivaglass CEM / Ivoclar Vivadent	Adhesive cementation: _e.g. PANAVIA™ V5, 21, F 2.0 / Kuraray Noritake _e.g. Multilink® Automix / Ivoclar Vivadent Self-adhesive cementation _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.

Zolid HT+ Preshades | MDT Benjamin Votteler

SURFACE TREATMENT

Zolid FX Multilayer | Sandi Trkulja, Mauro Ahmic

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.

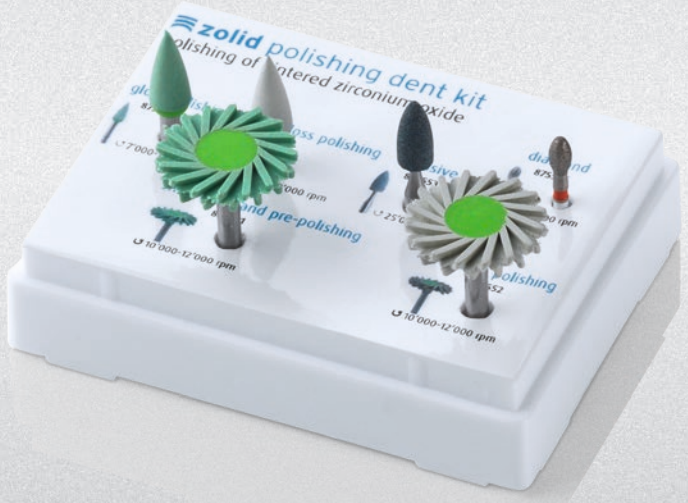
THE MOST IMPORTANT POINTS AT A GLANCE

_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

* Source: Wear of zirconia ceramics and human enamel, Bogna Stawarczyk1, Mutlu Özcan1, Felix Schmutz2, Albert Trottmann1, Malgorzata Roos3, Christoph H.F. Hämmerle1

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

Images: Dr. Michael Fischer, Pfullingen

Zolid FX Multilayer | Amann Girrbach

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