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DISCS AND BLOCKS

	StarCeram Z-AI Med HD colour white	StarCeram Z-AI Med HD colours	StarCeram Z-Nature Ultra colour white	StarCeram Z-Nature Ultra colours	StarCeram Z-Nature Ultra MultiShade
Translucency	35% opaque	35% opaque	45% translucent	45% translucent	45% translucent
Description	<p>Machinable blank made of yttrium stabilized, presintered zirconium dioxide for milled production of crowns and bridge frameworks on commercial CAD/CAM systems or hand-operated copymilling machines.</p> <p>Ceramic material according to EN ISO 6872 Typ II, Class 5</p>		<p>Machinable blank made of yttrium stabilized, presintered zirconium dioxide for milled production of crowns and bridge frameworks on commercial CAD/CAM systems or hand-operated copy-milling machines.</p> <p>Ceramic material according to EN ISO 6872 Typ II, Class 5</p>		
Compatibility	Universal for all standard milling machines with standard diameter of 98mm		Universal for all standard milling machines with standard diameter of 98mm		
Flexural strength [MPa]	> 800	> 800	> 800	> 800	> 800
Sintering temperature [°C]	1450	1450	1450	1450	1450
Indications	Suitable for the fabrication of dental restorations in the form of crowns and bridges (both in the form of copings, pontics and in fully anatomical design with max. two pontics in the posterior region and max. 4 pontics in the anterior region), up to bar constructions, telescopes, Maryland bridges, inlays, onlays and free-end bridges (with max. 2 pontics)		Suitable for the fabrication of dental restorations in the form of crowns and bridges (both in the form of copings, pontics and in fully anatomical design with max. two pontics in the posterior region and max. 4 pontics in the anterior region), up to bar constructions, telescopes, Maryland bridges, inlays, onlays and free-end bridges (with max. 2 pontics)		
Contraindications	<p>In the case of bruxism, inadequate hard tooth structure or insufficient space, the use of full ceramic crowns and bridges is not recommended or only advised in some cases. The same applies in the case of inadequate oral hygiene or inadequate coordination of masticatory movements.</p> <p>A full ceramic crown or bridge may also not be used in the event of unsatisfactory preparation results or in the case of production faults.</p>		<p>In the case of bruxism, inadequate hard tooth structure or insufficient space, the use of full ceramic crowns and bridges is not recommended or only advised in some cases. The same applies in the case of inadequate oral hygiene or inadequate coordination of masticatory movements.</p> <p>A full ceramic crown or bridge may also not be used in the event of unsatisfactory preparation results or in the case of production faults.</p>		

DISCS AND BLOCKS

	StarCeram Z-Smile Pure colour white	StarCeram Z-Smile colours	StarCeram Z-Smile MultiShade
Translucency	49% translucent	49% translucent	49% translucent
Description	Machinable blank made of yttrium stabilized, presintered zirconium dioxide for milled production of crowns and bridge frameworks on commercial CAD/CAM systems or hand-operated copymilling machines. Ceramic material according to EN ISO 6872 Typ II, Class 4		
Compatibility	Universal for all standard milling machines with standard diameter of 98mm		
Flexural strength [MPa]	> 500	> 500	> 500
Sintering temperature [°C]	1450	1450	1450
Indications	Suitable for the fabrication of dental restorations in the form of crowns and bridges (both in the form of copings, pontics and in fully anatomical design as max. three-unit bridges in the anterior and posterior region), up to bar constructions, telescopes, Maryland bridges, inlays and onlays.		
Contraindications	In the case of bruxism, inadequate hard tooth structure or insufficient space, the use of full ceramic crowns and bridges is not recommended or only advised in some cases. The same applies in the case of inadequate oral hygiene or inadequate coordination of masticatory movements. A full ceramic crown or bridge may also not be used in the event of unsatisfactory preparation results or in the case of production faults.		

COMPOSITION

		Z-AI Med HD	Z-AI Med HD colour	Z-Nature Ultra	Z-Smile
ZrO ₂ / HfO ₂ / Y ₂ O ₃	[wt%]	> 99.0	> 99.0	> 99.0	> 99.0
Y ₂ O ₃	[wt%]	5.15 ± 0.20	5.15 ± 0.20	6.90 ± 0.20	9.30 ± 0.30
HfO ₂	[wt%]	< 5.0	< 5.0	< 5.0	< 5.0
Er ₂ O ₂	[wt%]	-	-	< 1.0	-
Al ₂ O ₃	[wt%]	< 0.3	< 0.3	< 0.1	< 0.1
Fe ₂ O ₃	[wt%]	< 0.2	< 0.2	< 0.2	< 0.01
Na ₂ O	[wt%]	< 0.04	< 0.04	< 0.04	-

MECHANICAL & PHYSICAL CHARACTERISTICS [TYP.]

		Z-AI Med HD	Z-AI Med HD colour	Z-Nature Ultra	Z-Smile
Density	[g/cm ³]	> 6.05	> 6.00	> 6.00	> 6.00
Flexural strength	[MPa]	1000 ± 200	1000 ± 200	1000 ± 200	600 ± 100
Young's modulus	[Gpa]	210	210	210	210
Thermal expansion	[10 ⁻⁶ 1/K]	10.7	10.7	10.7	10.4
Open porosity		-	-	-	-
Radio activity					
Activity 238U. 226Ra. 232Th.	[Bq/g]	< 0.2	< 0.2	< 0.2	< 0.1
Biocompatibility and chemical solubility					
Cytotoxicity ISO 1		Inofensive	Inofensive	Inofensive	Inofensive
Chemical Analysis 2	[µg/cm ²]	<100	<100	<100	<2000

SINTERING

	Z-AI Med HD	Z-AI Med HD colour	Z-Nature Ultra	Z-Nature Ultra colour	Z-Nature Ultra MultiShade	Z-Smile	Z-Smile colour	Z-Smile MultiShade
Sintering temperatures	1450 °C	1450 °C	1450 °C	1450 °C	1450 °C	1450 °C	1450 °C	1450 °C
Soaking time	2,0 h	2,0 h	2,0 Std	2,0 Std	2,0 Std	2,0 Std	2,0 Std	2,0 Std
Heating rate	up to 600 K/h	up to 600 K/h	up to 600 K/h	up to 600 K/h	up to 600 K/h	up to 600 K/h	up to 600 K/h	up to 600 K/h
Cooling rate	up to 600 K/h	up to 600 K/h	up to 600 K/h	up to 600 K/h	up to 600 K/h	up to 600 K/h	up to 600 K/h	up to 600 K/h



The shrinking factor depends on the lot and it is noted on the label, the blank and the inspection certificate.

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COLOURS & DISC THICKNESSES

Z-AI Med HD	
Colour	Thickness [mm]
A1	10; 12; 14; 16; 18; 20
A2	10; 12; 14; 16; 18; 20
A3/B3	10; 12; 14; 16; 18; 20
C2/C3	10; 12; 14; 16; 18; 20
A3,5/B4	10; 12; 14; 16; 18; 20
A4	10; 12; 14; 16; 18; 20
White pure	10; 12; 14; 16; 18; 20

Z-Smile		Z-Smile MultiShade	
Colour	Thickness [mm]	Colour	Thickness [mm]
A1	12; 14; 16; 18; 20	A1	14; 18; 22
A2	12; 14; 16; 18; 20	A2	14; 18; 22
A3	12; 14; 16; 18; 20	A3	14; 18; 22
A3,5	12; 14; 16; 18; 20	B1	14; 18; 22
B2	12; 14; 16; 18; 20	BL1/0M2	14; 18; 22
B3	12; 14; 16; 18; 20	BL4/B1	14; 18; 22
C2	12; 14; 16; 18; 20		
D2	12; 14; 16; 18; 20		
White pure	12; 14; 16; 18; 20		

Z-Nature Ultra		Z-Nature Ultra MultiShade	
Colour	Thickness [mm]	Colour	Thickness [mm]
A2	12; 14; 16; 18; 20	A2	14; 18; 22
A3	12; 14; 16; 18; 20	A3	14; 18; 22
A3,5	12; 14; 16; 18; 20	B1	14; 18; 22
B2	12; 14; 16; 18; 20	B2	14; 18; 22
B3	12; 14; 16; 18; 20	B3	14; 18; 22
C2	12; 14; 16; 18; 20	B4	14; 18; 22
D2	12; 14; 16; 18; 20		
White pure	12; 14; 16; 18; 20		

PRODUCT RANGE

	Opaque 35%	Translucent 45%	Very Translucent 49%
Multilayer	-	Z-Nature Ultra MultiShade	Z-Smile MultiShade
Preshade	Z-AI Med HD colour	Z-Nature Ultra Colour	Z-Smile MultiShade colour
White	Z-AI Med HD	Z-Nature Ultra, white	Z-Smile MultiShade, white



APPLICATIONS

Application		Z-AI Med HD	Z-Nature Ultra	Z-Nature Ultra MultiShade	Z-Smile	Z-Smile MultiShade	
Anterior region	Bending strength Mpa*typical values [4-point method]	1200 +/- 200	1000 +/- 200	1000 +/- 200	600 +/- 100	600 +/- 100	
	Class	5	5	5	4	4	
	Veneer		✓	✓	✓	✓	
	Crown	✓	✓	✓	✓	✓	
	Telescopic	✓					
	Bridge with up to 3 units	✓	✓	✓	✓	✓	
	Bridge with 3 to 6 units	✓	✓	✓			
	Inlay/onlay	✓	✓	✓	✓	✓	
	Posterior region	Crown	✓	✓	✓	✓	✓
		Telescopic	✓				
Bridge with up to 3 units		✓	✓	✓	✓	✓	
Bridge with 3 to 6 units		✓	✓	✓			
Bridge with 6 or more units		✓	✓	✓			



WORKING STEPS

