

# Artificial acrylic teeth REF-LINE



**REF-LINE**<sup>®</sup>  
*Look and feel natural.*



## HIGH END ANATOMICALLY SHAPED MULTI-LAYER TOOTH LINE FOR NEW GENERATION PROSTHESES

### Natural colour and shape

- natural morphology of tooth surface
- incisal cracks and minor irregularities
- transparent incisal area
- visible mamelons
- intensive chromaticity of the gingival region
- including cervical wider shapes of tooth designs for covering metal structures in implants and partial prostheses
- obscured fissural zones on the occlusal surface
- anatomically designed pronounced cusps assure the main taining of the natural tooth appearance and structure in individual matching with the antagonists



### Brand new production technology

- perfection of tooth design
- retention opening on the lower part of transcanine teeth provides for easier and faster work

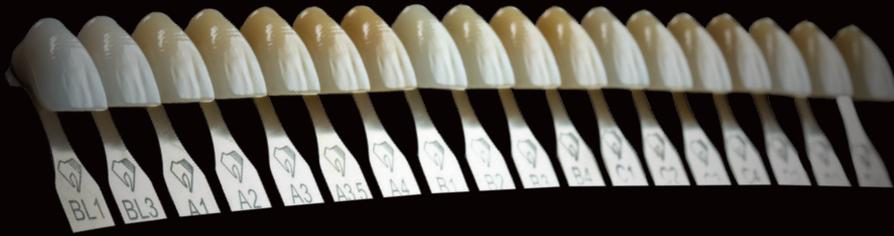


### New material

- 50% improvement in tooth wear\*
- 15% improved hardness\*
- elasticity remains unchanged\*



\*compared to the existing material



**M1**

**M3**

**M4**

**M6**

**K3**

**K4**

**K6**

**N3**

**N4**

**N6**

**W3**

**W4**

**W6**

**H3**

**H4**

**H6**



**V1,V3**

**V3,V4,U3**

**V4,U3,U4**

**V4,V6,V8,U4**

**V4,V3,U3**

**V6,V4,U4**

**V8,V6,U6**

**V3,V4,U3**

**V4,V6,U3,U4**

**V6,V8,U4,U6**

**V3,V4,U3**

**V4,V6,U3,U4**

**V6,V8,U4,U6**

**V3,V4,U3**

**V4,V6,U3,U4**

**V6,V8,U4,U6**



**Q1**

**R2,R4,Q1,Q3,F2,F4**

**R2,R4,Q3,F2,F4**

**R4,R6,Q5,F4,F6**

**R4,F4,Q3,R2,F2**

**R4,F4,Q3,R2,F2**

**R6,F6,Q5,R4,F4**

**R2,R4,Q3,F2,F4**

**R2,R4,Q3,F2,F4**

**R4,R6,Q5,F4,F6**

**R2,R4,Q3,F2,F4**

**R2,R4,Q3,F2,F4**

**R4,R6,Q5,F4,F6**

**R2,R4,Q3,F2**

**R2,R4,Q3,F2,F4**

**R4,R6,Q5,F4,F6**

### SHADES

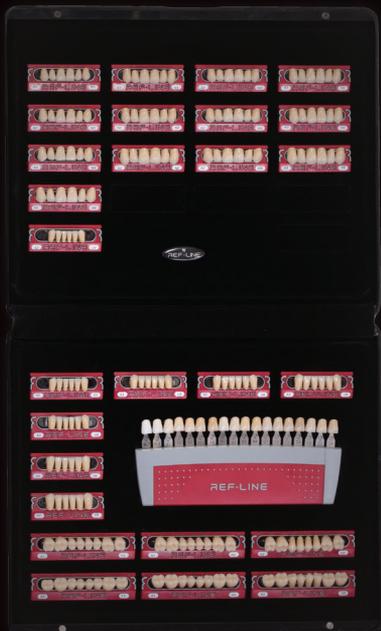
BL1 - BL3

A1 - A2 - A3 - A3,5 - A4

B1 - B2 - B3 - B4

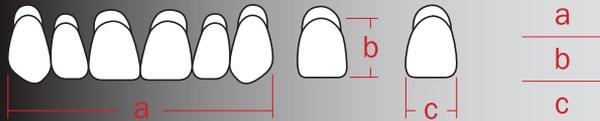
C1 - C2 - C3 - C4

D2 - D3 - D4



# Artificial acrylic teeth

## REF-LINE



### M1

a 40,8  
b 8,7  
c 7,5



### M3

a 43,2  
b 9,7  
c 8,2



### M4

a 45,3  
b 9,9  
c 8,5



### M6

a 49,1  
b 10,5  
c 9,1



### K3

a 44,1  
b 9,9  
c 8,3



### K4

a 46,1  
b 10,3  
c 8,7



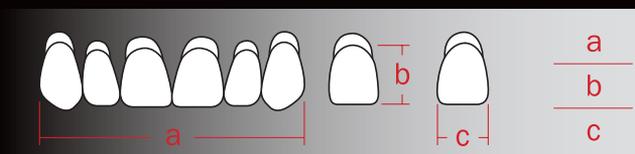
### K6

a 49,6  
b 11,1  
c 9,3



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**N3**

a 43,6  
b 9,9  
c 8,3



**N4**

a 45,4  
b 10,9  
c 8,6



**N6**

a 48,8  
b 11,4  
c 9,3



**W3**

a 43,4  
b 9,3  
c 8,2



**W4**

a 45,3  
b 9,7  
c 8,5



**W6**

a 48,7  
b 10,6  
c 9,2



**H3**

a 43,0  
b 10,7  
c 7,8



**H4**

a 44,9  
b 11,2  
c 8,2



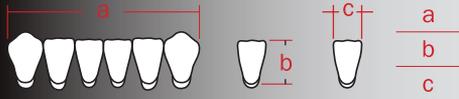
**H6**

a 48,3  
b 12,0  
c 8,8



# Artificial acrylic teeth

## REF-LINE



### V1

a 29,8  
b 8,0  
c 4,3



### V3

a 31,9  
b 8,3  
c 4,7



### V4

a 33,7  
b 8,7  
c 4,9



### V6

a 35,8  
b 9,2  
c 5,3



### V8

a 38,6  
b 10,5  
c 5,6



### U3

a 34,1  
b 8,4  
c 5,1



### U4

a 35,9  
b 8,7  
c 5,4



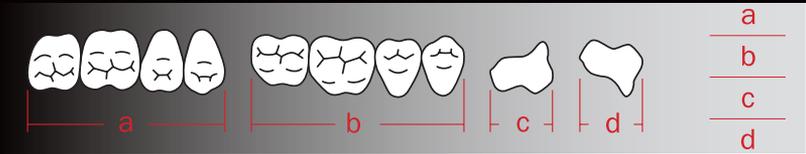
### U6

a 38,3  
b 9,4  
c 5,7



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**R2**

a 30,6  
b 32,8  
c 10,6  
d 9,8



**R4**

a 33,2  
b 35,4  
c 11,4  
d 10,7



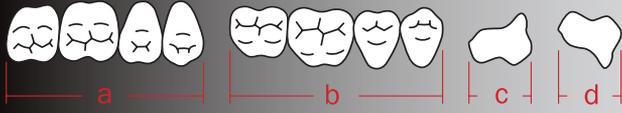
**R6**

a 35,0  
b 38,0  
c 12,3  
d 11,3



# Artificial acrylic teeth

## REF-LINE



**Q1**

a 29,1  
b 31,6  
c 10,2  
d 9,4



**Q3**

a 31,9  
b 34,6  
c 11,2  
d 10,3



**Q5**

a 33,8  
b 36,7  
c 11,9  
d 10,9



**F2**

a 30,4  
b 32,4  
c 10,2  
d 9,5



**F4**

a 32,9  
b 35,1  
c 11,1  
d 10,2



**F6**

a 35,4  
b 37,7  
c 11,9  
d 11,0





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**WHY REF-LINE TEETH ARE THE BEST CHOICE IN THE RANGE OF ANATOMIC MULTI-LAYER COMPOSITE TEETH**



First advantage is in the basic development concept. Ref-line teeth were developed by an in-house technician who works in close relationship with company's tool-makers. We can say that Ref-line teeth were carefully designed by a dental technician for dental technicians. The tooth shapes, surface texture, internal layering system and shading, mamelons, micro cracks and smaller imperfections were all taken under consideration with no compromise to make the tooth line as close as possible to natural teeth. It is a perfect combination of natural shapes with high-end digital production technologies, new production processes and the newest material development enclosed in one product.

Completely new high anatomical shapes were taken directly from natural teeth. Physical and digital modeling was done by a dental technician with the best compromise between the natural tooth shape and production mold. Even the finest details were enhanced. New layering and shading system with intensive cervical and dentin color and whitish translucent enamel allows high customization and different color effects by only grinding the enamel layer. The high color intensity assures color stability even with exportation of bigger amounts and has mask functionality over metal substructures. Darker canines, darker cervical areas, mamelons, mesial and distal transparency makes dentures look just real.

The bottom of the tooth follows the shape of the gum, therefore very little to no grinding at all is necessary to set up a tooth. And even in really tight conditions with little height there is a cervical opening at the bottom of posterior teeth that reduces/limits the grinding to the outer border therefore with big time savings. The bottom opening was designed to facilitate the modeling of retentions in implant supported dentures and facilitates the creation of teeth retentions with thermo-injected non PMMA denture base materials. Anterior teeth are subdivided in different categories by application. Wide necks of some anterior teeth allow full coverage of metal substructures in combined work and/or on implant supported dentures. Extremely aesthetically and perfected tooth design was supplemented with advanced material. In the development of the material we followed guidelines of chemical findings and avoided the mistakes made by different producers evident from the market. New composite acrylic material is composed of pre-cross-linked polymer and the matrix reinforced by inorganic micro-fillers. Compared to conventional acrylic, the new Ref-line material offers an improved resistance to the mechanical wear (50% improvement), higher hardness (15% improvement) by unchanged elasticity, good resistance to plaque adhesion, color stability, excellent polishing properties and still perfect adhesion to denture base materials due to controlled use of silanized composite particles. Together with newly designed molds for material injection and improved production process we ensure production of exact, compact and perfectly shaped teeth. Due to our continuous injection production technology density of material is much higher in comparison with conventional techniques and tooth layers are not only chemically but also physically pressed into each other. No bubbles, no shrinkage, no excess material ensures constant repeatability which is crucial in digital dentures design.

Our main achievements, are natural look, high color stability of composite material and no cracking due to use of silanized composite particles which are chemically bonded to acrylic matrix. At the same time we developed advanced tooth molds to inject material inside which enables us to prevent air bubbles and natural shrinkage of material during heating and therefore all produced Ref-line tooth shapes are perfectly repeatable.

*Dentures made with* REF-LINE<sup>®</sup>

Chris Urist Primotec USA sent us the following images...



*Arian Deutsch,*  
CDT. Lab is Deutsch Dental Arts in USA CW



*Thank you for sharing your work with us.*

*We love it!*