

Our COLOR CAPABILITIES for your DENTAL COMPONENTS



Color Anodizing (Type III)

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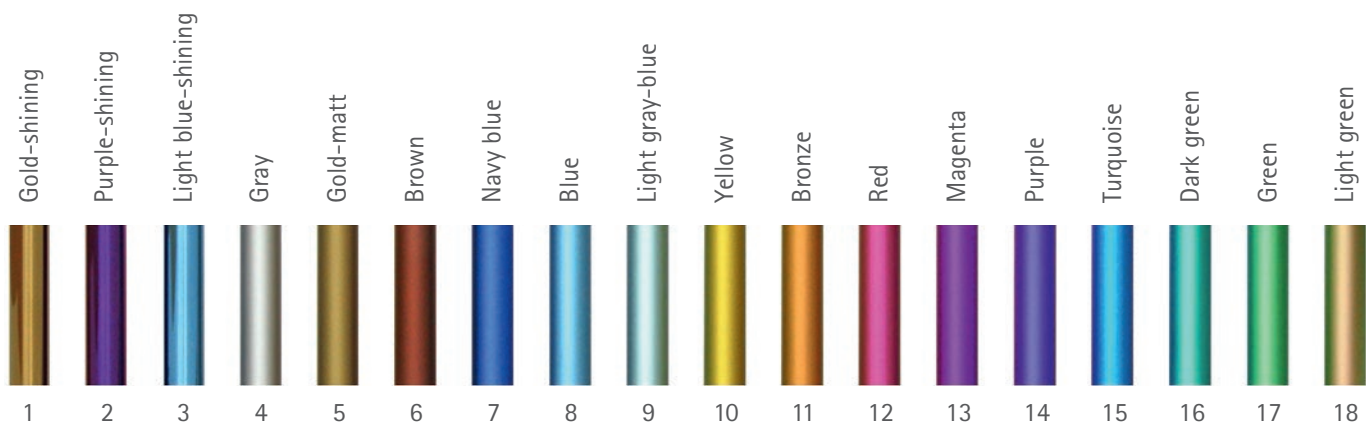
Color anodizing is a process with which the color of an implant or instrument surface is modified by using anodic oxidization. Color anodizing is mainly used to make surgical and traumatological products identifiable before and during a surgical procedure (size marking).*

*Literature on request

Description of the Surface

Color anodizing (type III) occurs when titanium and titanium alloys are oxidized in diluted, acid electrolytes. The coating thickness of the oxide level of the metal surface is linearly dependent on the applied voltage.

During the color anodizing process, white light is refracted on entering the transparent titanium oxide coating and is reflected on the surface of the titanium oxide coating as well as on the boundary between the oxide coating and the metal. Depending on the coating thickness, a certain spectral component of the light is extinguished by destructive interference. The color of the coating results from the mixture of the spectral components not extinguished.



Characterization of the Surface

Test Criteria	Result
Color	In line with the coating thickness from the color scheme
Coating thickness (DIN EN ISO 2360)	20-200 nm (dependent on the required color)
Tensile strength (ASTM F1147)	≥ 22 MPa
Roughness R_a (DIN EN ISO 4288) (DIN EN ISO 3274)	R_a corresponds to the roughness of the base material, insofar as no chemical or mechanical pretreatment is required to achieve a homogeneous surface
Wear resistance	Reduced wear after color anodizing (type III)
Friction coefficient	Reduction of the friction coefficient

Advantages of the Surface

- Improved identification of surgical components
- Cosmetically brilliant appearance
- No dimensional changes
- Various colors configurable at customer request

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