



ORTHOPAEDIC  
SURGERY

# AESCULAP<sup>®</sup> Isocer<sup>®</sup>

CERAMIC HEADS

# AESCULAP® Isocer®

CERAMIC HEADS

Isocer® CERAMIC WITH  
Viteline® POLYETHYLENE



## HIGH DEMAND HIP ENDOPROSTHETIC TREATMENT

with Isocer® ceramic heads in combination with highly-crosslinked Vitelene® Polyethylene with Vitamin E

- ✓ **High wear resistance**  
2.4 mg/mio. load cycles with 36 mm Isocer® head against Vitelene® (1)
- ✓ **In vivo oxidation stability**  
Vitelene® with stable oxidation index up to 5 weeks of aging 70°C/O<sub>2</sub>/5 bar (ASTM F2003-02) (2)
- ✓ **Proven fracture resistance**  
Statistic/dynamic fracture resistance 89.3 kN/72.6 kN Isocer® head 28L/TiAl6V4 12/14 (3)
- ✓ **More corrosion resistant taper connection**  
Reduced ion transfer of ceramic heads compared to metal heads (4)

Material Properties	Isocer®	ISO 6474-2 Type X
Al <sub>2</sub> O <sub>3</sub> [Vol. %]	82 ± 2	70 – 93
ZrO <sub>2</sub> [Vol. %]	18 ± 2	7 – 22
TD theoretical density [g/cm <sup>3</sup> ]	4.37 (100 %)	≥ 99 % der TD
Average grain size [µm]	0.8	≤ 1.5
Biaxial bending strength [MPa]	≥ 700	≥ 600
Fracture toughness [MPa√m]	≥ 5.0	≥ 4.0

Size	28 mm	32 mm	36 mm
S	NK324	NK424	NK524
M	NK325	NK425	NK525
L	NK326	NK426	NK526
XL	–	NK427	NK527



Al<sub>2</sub>O<sub>3</sub>/ZrO<sub>2</sub> ISO6474-2

Isocer® heads are approved with PE / XLPE articulation only. No ceramic-ceramic articulation.

- (1) Data on file; Aesculap AG; Testreport T443 März 2014.
- (2) Grupp TM et al. Biotribology of a vitamin E-stabilized polyethylene for hip arthroplasty – Influence of artificial ageing and third-body particles on wear. Acta Biomater. 2014 Jul;10(7):3068-78.
- (3) Data on file; Aesculap AG; Testreport V1659 März 2015.
- (4) Kocagoz SB et al. Ceramic heads decrease metal release caused by head-taper fretting and corrosion. Clin Orthop Relat Res. 2016 Apr;474(4):985-94.

# AESCULAP® – a B. Braun brand

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