

smith&nephew

EP-FIT PLUS◇

Cementless Press-Fit
Cup System

Product Information

EP-FIT PLUS◇

Press-Fit Acetabular Cup System

A new generation in press-fit cup technology

Proven anchoring concept in combination with the latest technology – for precision work and reproducible implantation results.

The full product range, including four bearing options, allows specific care to match the patient 's individual requirements.

- Ceramic – Ceramic BIOLOX® forte/BIOLOX® delta
- Ceramic – Polyethylene/Rexpol◇
- Metal – Polyethylene/Rexpol
- Metal – Metal (PLUSMET◇)

Form-locking seat of the inserts avoids microscopic movements and prevents wear.



- Biomechanically optimised press-fit
- Large bone contact surface in the primary anchoring zone
- Minimum bone rexection
- Open-pored titanium vacuum plasma coating
- High surface roughness
- Polyethylene inserts with a minimum thickness of 6 mm in the principal load zone



Perfect connection between socket and insert through congruence of the internal shell surface and the external geometry of the insert.

Durable and safe snap mechanism ① for polyethylene/REXPOL° Standard and Hooded inserts.

Tapered clamp fit to secure the seating of the direct-anchored ceramic and metal inserts.

Excellent primary stability…

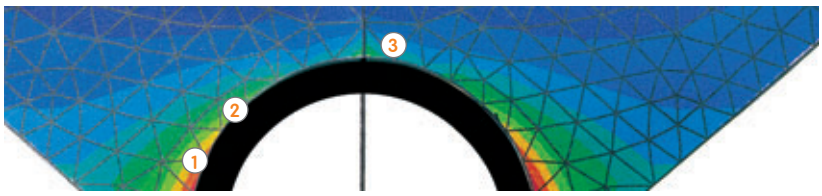
The «Triple Radius Profile» (TRP) is formed by three nonincremental radii generating a high initial press-fit.

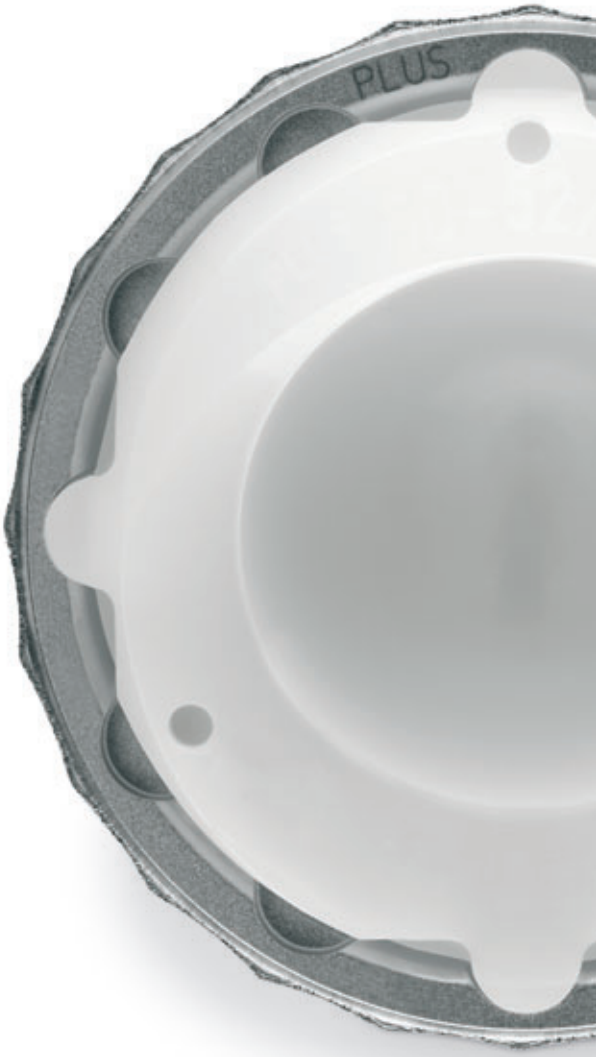
There are three zones with the following biomechanical functions:

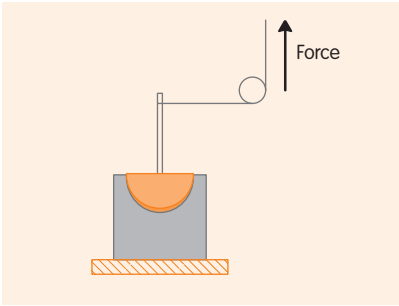
Radius 1: Primary anchoring zone ①
Specific oversize which provides ultimate protection against tilting.

Radius 2: Transition zone ②
Successive tension degradation in the direction of the pole, to avoid tension peaks.

Radius 3: Pole zone ③
Defined cavity between socket pole and base of the acetabulum prevents stress in the central region.





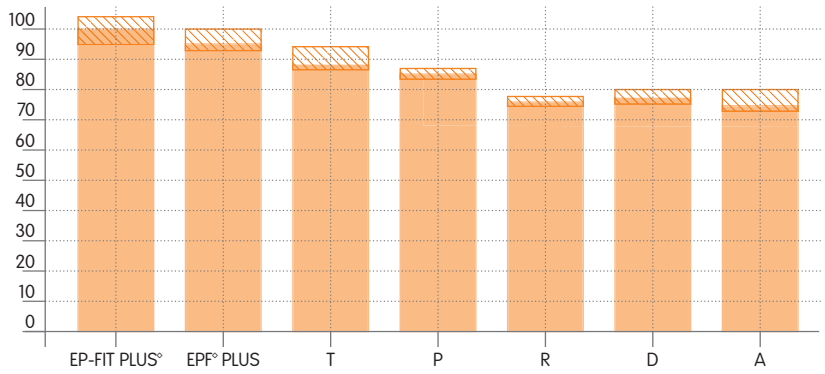


Lever-out test

- Highly stable anchoring through large contact area between bone and implant.
- Optimal bone relief through avoidance of implant-bone contact in the pole area.
- Use of prestress to generate excellent primary stability.*
- Additional ribs to improve the rotational stability of the implant.

* Demonstrated by lever-out test experiments

Comparison Lever-out test



Implant type

...and safe, long-term osteointegration resulting in excellent secondary stability.



The components are coated with high grade, open-pored pure titanium applied by vacuum plasma spray.

Titanium plasma coating

Thickness*: 220 µm

Roughness ratio (Rt): 210–240 µm

Open-pore layer with 20 to 40 % porosity

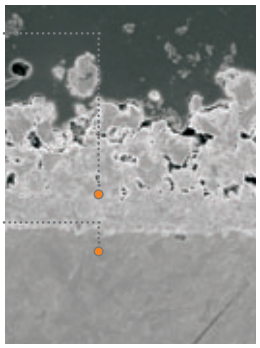
Titanium base layer

Thickness: 50 µm

Base material

Pure titanium ISO 5832-2

* Average coating thickness according to ASTM F 1854



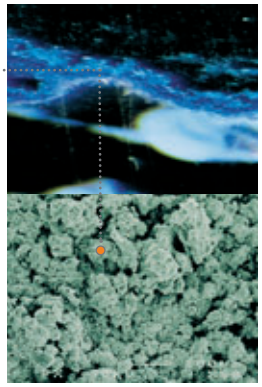
100 × 100 µm

The hydroxyapatite layer is applied to the open-pored titanium plasma coating in the same process step. The result: excellent adhesion.

Hydroxyapatite (HA) on titanium plasma

Thickness of coating: 50 µm

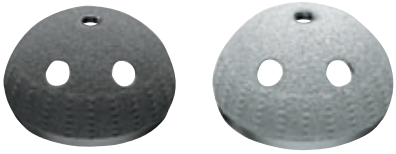
The high roughness ratio (Rt) of 150–240 µm is maintained.



Product Portfolio

High flexibility for the surgeon thanks to an advanced and fully developed product portfolio.





Shells

without screw hole

2 screw holes





Inserts

PE-/REXPOL® Standard

PE-/REXPOL Hooded







Ball heads

CoCr Standard
(S, M, L, XL)

BIOLOX® forte
(S, M, L)

BIOLOX® delta
(S, M, L, XL)

Shells

Design	ø size in mm (graduated in 2 mm increments)	Ti plasma	HA
Without screw hole	40 – 62	x	x
2 screw holes	40 – 54	x	x
3 screw holes	56 – 68	x	x
6 screw holes/multihole	56 – 68	x	



3 screw holes



6 screw holes/multihole



BIOLOX® forte Standard



BIOLOX® delta



PLUSMET° Standard



BIOLOX® OPTION
(S, M, L, XL)



PLUSMET
(S, M, L, XL)

Inserts

Ballhead ø / size in mm

Design	22	28	32	36
PE Insert Standard	40 – 44/46/48/50	46/48/50 – 52/54 – 56/58 – 68	50 – 52/54 – 56/58 – 68	
PE Insert Hooded		46/48/50 – 52/54 – 56/58 – 68	50 – 52/54 – 56/58 – 68	
REXPOL° Insert Standard		46/48/50 – 52/54 – 56/58 – 68	50 – 52/54 – 56/58 – 68	54 – 56/58 – 68
REXPOL Insert Hooded		46/48/50 – 52/54 – 56/58 – 68	50 – 52/54 – 56/58 – 68	
Insert BIOLOX® forte		46/48/50 – 52/54 – 56/58 – 68	46/48/50 – 52/54 – 56/58 – 68	50 – 52/54 – 56/58 – 68
Insert BIOLOX® delta			46/48/50 – 52/54 – 56/58 – 68	50 – 52/54 – 56/58 – 68
PLUSMET Insert		46/48/50 – 52/54 – 56/58 – 68		

BIOLOX® forte, BIOLOX® delta and BIOLOX® OPTION are registered trademarks of CeramTec AG, Germany.

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