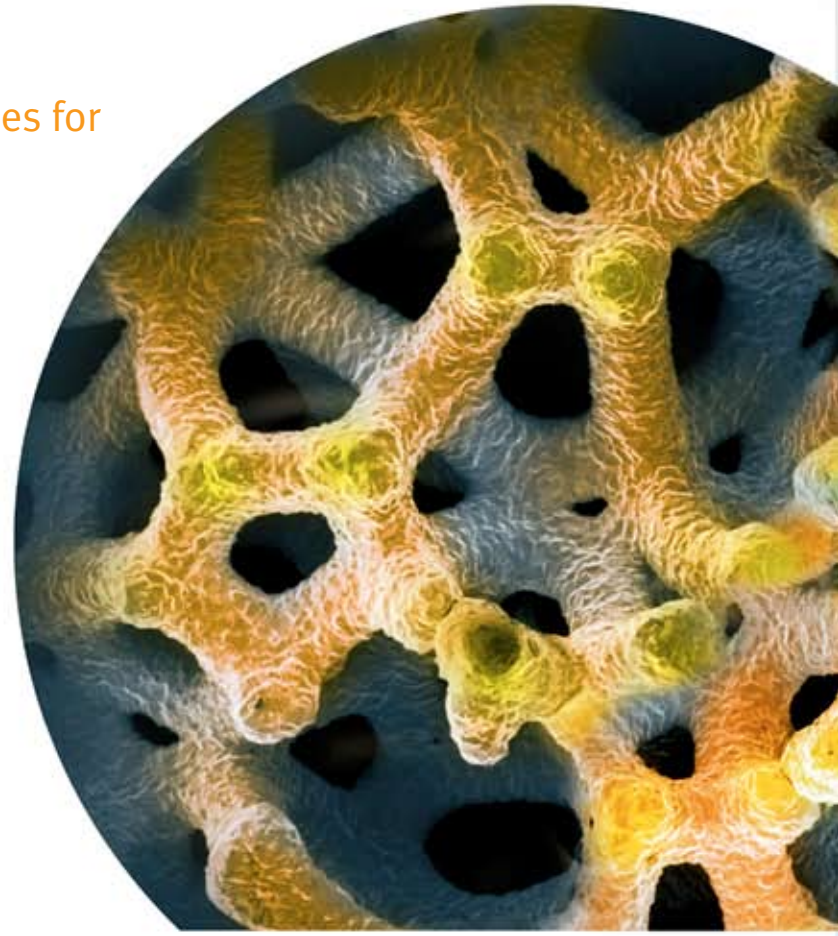
Trabecular Metal™ Primary Hip Prosthesis

The Best Thing Next To Bone™

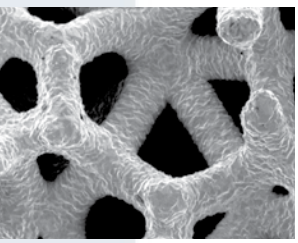
zimmer
Confidence in your hands™

TRABECULAR METAL TECHNOLOGY

Trabecular Metal™ material provides for a high-friction bone interface for excellent scratch fit and initial implant stability. In addition, its highly porous, strut configuration enables extensive in-growth and strong long-term fixation.[1]

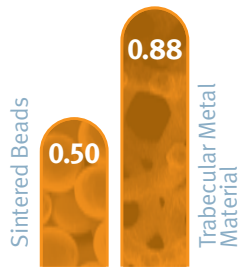


the best thing next to bone

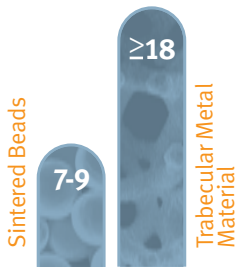


Compared to Sintered Beads

Trabecular Metal material addresses the need for initial and long-term implant stability. Its coefficient of friction against cancellous bone is substantially higher than sintered beads.[2] This facilitates direct bone apposition,[3,4] creating a scratch fit that maximizes initial stability at implantation. Moreover, it has a higher bone interface shear strength than sintered beads (MPa).[1,5]



Coefficient of Friction against Cancellous Bone



Shear Strength Comparison

Bone Ingrowth

Micrograph shows the majority of Trabecular Metal *material void spaces filled with bone at 8 weeks after surgery. (The* Trabecular Metal *material appears white on the image.)*

Soft Tissue Ingrowth

The high-volume porosity and interconnected cellular structure of Trabecular Metal *material supports rapid, vascularized tissue ingrowth. (The* Trabecular Metal *material appears black on the image.)*

Stable Biological Fixation

The cellular structure of *Trabecular Metal* material resembles that of cancellous bone. Its solid but highly porous three-dimensional architecture (80% porosity) is conducive to bone formation, and its interconnected pores enable rapid and extensive tissue infiltration to facilitate strong attachment and long-term implant stability.[1]

Biocompatibility of Tantalum

Trabecular Metal material is made of tantalum, one of the most inert elemental metal biomaterials available. This material is not only biocompatible, but has a modulus of elasticity that is close to that of cancellous bone.[1]

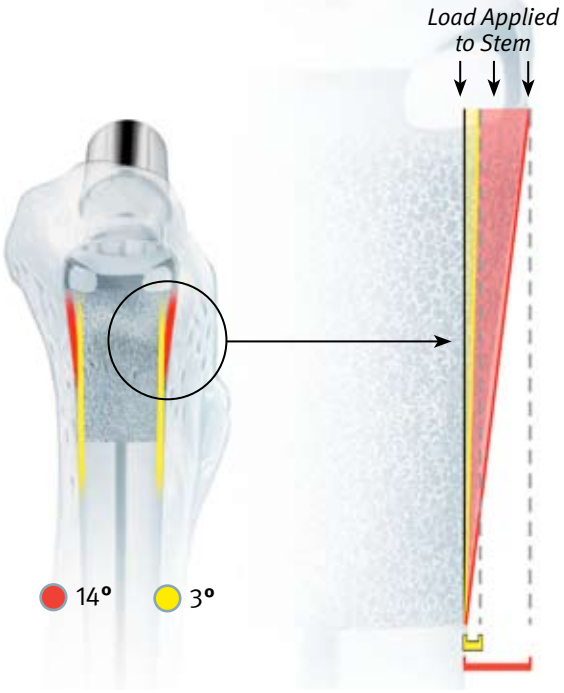
Tivanium® Ti-6Al-4V Alloy Substrate

Tivanium Alloy provides excellent biocompatibility and strength without excessive stiffness.

Diffusion Bonding Provides Secure Interface

A proprietary diffusion bonding process provides a secure metallurgical bond between the *Trabecular Metal* material and the *Tivanium* substrate.

14° Proximal Taper



Forces are distributed to a greater area across the proximal bone with a 14° taper.

1 **Efficient Proximal Load Transfer**

The 14° proximal A/P taper (7° per side) optimizes proximal load transfer by distributing more compressive forces in the proximal region of the femur to minimize stress shielding.[6,7]

2 **Resistance to Subsidence**

The proximal geometry of the stem, coupled with the scratch fit and ingrowth characteristics of the *Trabecular Metal* material enhances stability, helps resist stem subsidence, and, in turn, reduces femoral hoop stress.[1,6,7]

3 **Additional Proximal Loading and Eased Stem Insertion**

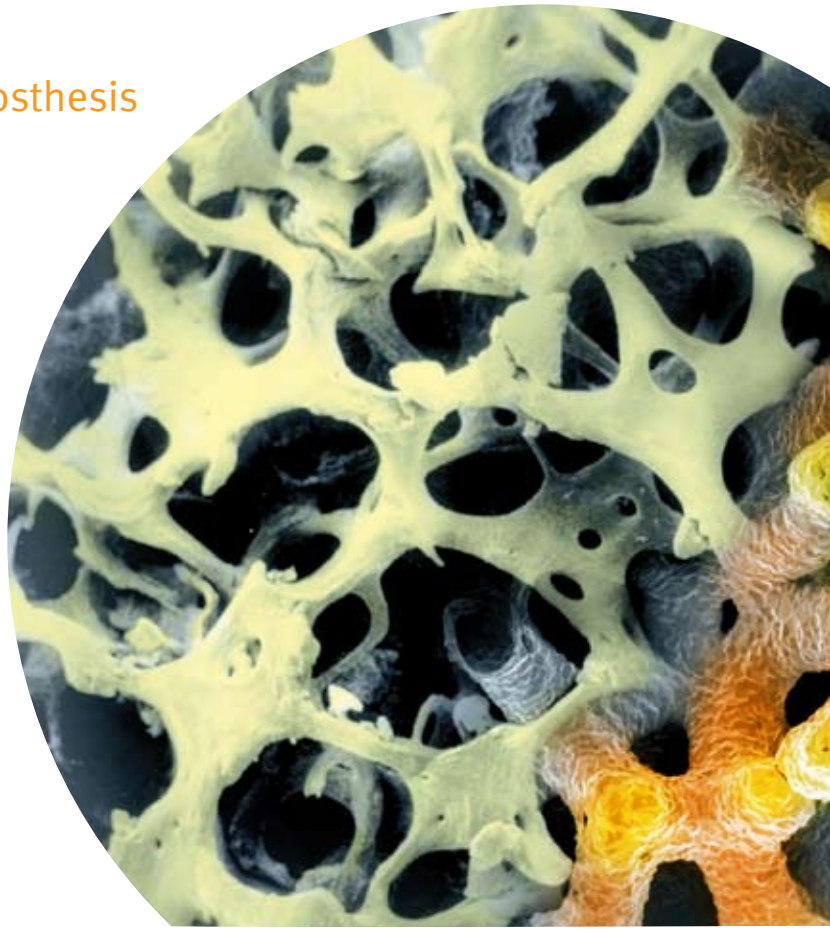
The smooth distal 3° taper helps to encourage proximal loading and prevents impingement during stem insertion.

Wide Range of Patient Anatomies

The *Trabecular Metal* Primary Hip Prosthesis is proportionally sized to meet a wider range of patient anatomies.

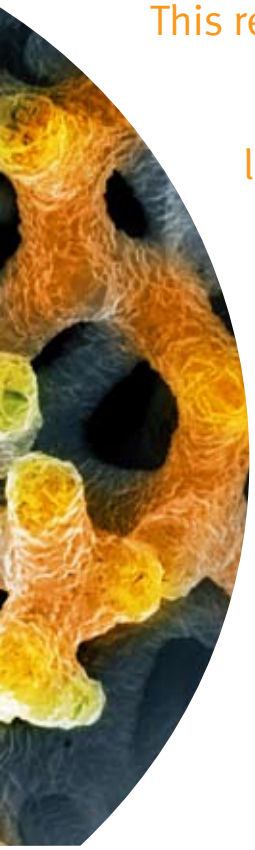
STABILITY PROVIDES

The *Trabecular Metal* Primary Hip Prosthesis brings the distinctive properties and clinically proven benefits of *Trabecular Metal* Technology to a bone conserving and proximal loading stem design.



bone ingrowth provides

CONFIDENCE



This results in an optimal combination of initial stability, enhanced, long-term biological fixation and efficient proximal load transfer.[1,7]

The features and benefits of the *Trabecular Metal* Primary Hip Prosthesis proves that collaborative relationships and innovative solutions benefiting surgeons and patients alike is truly "*confidence in your hands*".

STABILITY

23.5° Neck Resection Angle

Trapezoidal stem cross-section provides optimized fit within the proximal femur.

Acetabular Options

Zimmer provides a complete line of acetabular options with the proven stability and fixation benefits of *Trabecular Metal* material.

- *23.5° Neck Resection*
- *40° Neck Resection*

Increased Rotational Stability

The 23.5° neck resection angle helps retain proximal bone, which increases surface area contact with the *Trabecular Metal* material. This increases initial and rotational stability, as well as long-term biological fixation.[6,7]

4 Optimized Soft Tissue Balance

Standard and Extended offsets are offered to facilitate optimal anatomic soft tissue restoration. Extended offsets are achieved through a parallel neck shift of 5mm without changing neck angle so leg length will not be affected.

5 Full Range of Femoral Head Options

A 12/14 neck taper accommodates a complete selection of metal and ceramic femoral heads.

6 Improved Range of Motion

A reduced neck geometry below the 12/14 taper helps increase range of motion.

Zimmer® Minimally Invasive Solutions™ Compatible Instrumentation

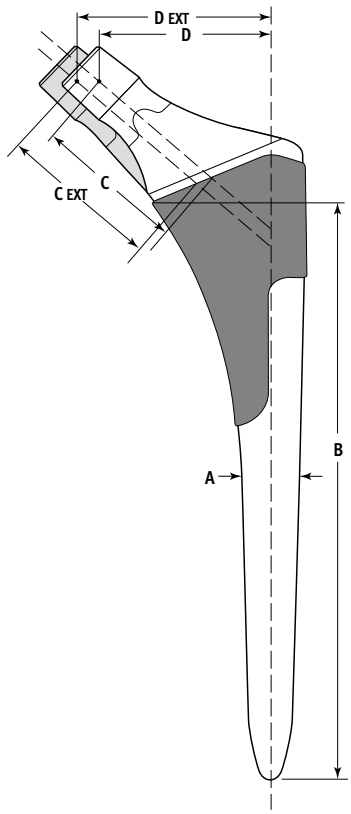
Instrumentation is compatible with a variety of approaches and surgical techniques, including both minimally invasive and standard open procedures.

MIS™ minimally invasive solutions

Trabecular Metal Primary Hip Prosthesis

Prod. No. STD	A Stem Size (mm)	B Stem Length (mm)	C Neck Length (mm) When Head/Neck Component Selected is: -3.5	+0	+3.5	+7.0	+10.5	D Stem Offset (mm) When Head/Neck Component Selected is: -3.5	+0	+3.5	+7.0	+10.5
00-7864-009-00	9	100	24.3	27.8	31.3	34.8	38.3	28.4	31.0	33.6	36.2	38.9
00-7864-010-00	10	106	25.3	28.8	32.3	35.8	39.3	29.9	32.5	35.1	37.7	40.4
00-7864-011-00	11	117	28.4	31.9	35.4	38.9	42.4	32.9	35.5	38.1	40.7	43.4
00-7864-012-00	12	128	31.4	34.9	38.4	41.9	45.4	35.9	38.5	41.1	43.7	46.4
00-7864-013-00	13	138	32.4	35.9	39.4	42.9	46.4	37.4	40.0	42.6	45.2	47.9
00-7864-014-00	14	149	33.4	36.9	40.4	43.9	47.4	38.9	41.5	44.1	46.7	49.4
00-7864-015-00	15	160	34.4	37.9	41.4	44.9	48.4	40.4	43.0	45.6	48.2	50.9
00-7864-016-00	16	171	35.6	39.1	42.6	46.1	49.6	41.9	44.5	47.1	49.7	52.4
00-7864-017-00	17	172	36.5	40.0	43.5	47.0	50.5	43.4	46.0	48.6	51.2	53.9
00-7864-018-00	18	172	37.4	40.9	44.4	47.9	51.4	44.9	47.5	50.1	52.7	55.4

Prod. No. EXT	A Stem Size (mm)	B Stem Length (mm)	C EXT Neck Length (mm) When Head/Neck Component Selected is: -3.5	+0	+3.5	+7.0	+10.5	D EXT Stem Offset (mm) When Head/Neck Component Selected is: -3.5	+0	+3.5	+7.0	+10.5
00-7864-011-20	11	117	30.6	34.1	37.6	41.1	44.6	37.9	40.5	43.1	45.7	48.4
00-7864-012-20	12	128	33.6	37.1	40.6	44.1	47.6	40.9	43.5	46.1	48.7	51.4
00-7864-013-20	13	138	34.6	38.1	41.6	45.1	48.6	42.4	45.0	47.6	50.2	52.9
00-7864-014-20	14	149	35.6	39.1	42.6	46.1	49.6	43.9	46.5	49.1	51.7	54.4
00-7864-015-20	15	160	36.6	40.1	43.6	47.1	50.6	45.4	48.0	50.6	53.2	55.9
00-7864-016-20	16	171	37.8	41.3	44.8	48.3	51.8	46.9	49.5	52.1	54.7	57.4
00-7864-017-20	17	172	38.6	42.1	45.6	49.1	52.6	48.4	51.0	53.6	56.2	58.9
00-7864-018-20	18	172	39.7	43.2	46.7	50.2	53.7	49.9	52.5	55.1	57.7	60.4



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