

## Grit blasted

tapered wedge design corundum  
blasting 가 , (retrieval study)  
(biologic fixation), :  
Primary fixation : Press-fit (Shrink fit)  
(primary mechanical Press-fit<sup>2)</sup>  
stability<sup>3)</sup>. , size가  
tapered wedge  
“ fit and stress relax-  
fill” , ation  
porous coating shear stress가  
(bone ingrowth) <sup>2,6)</sup> wedge  
reaming rasping  
double curve  
tapered  
tapered wedge <sup>25,26)</sup> press-fit  
“ press fit ” press-fit fixation  
corundum blasting (subsidence)  
bone ongrowth <sup>2,25,26)</sup> <sup>2,12,24)</sup>

:

Secondary fixation : Biologic fixation (cementless spotorno, Centerpulse)  
 Zweymuller stem<sup>26)</sup> (SL-plus stem, Endoprothetik) (Fig. 1). CLS stem<sup>25)</sup> - (Ti-6Al-7Nb) conical rib  
 (osseointegration)  
 metaphysis press-fit . Zweymuller stem<sup>26)</sup> double taper rectangular shape metaphysiodiaphysis press-fit ,  
 150 μm 1) corundum blasting alumina powder media nozzle (Ra) 3~7 μm bead sintering plasma spray 가 12,14) 13) 10 2~3% 0% Garcia 11) 11 0%, 0%, Grubl 0%, 0%, Delaunay 7) 7 , 0% . CLS stem 1.8% , Robin  
 Tapered wedge blasted stem Schreiner 24) 9 , 2.7%



Fig. 1. Examples of grit blasted cementless stem, Zweymuller stem(left) and CLS stem(right).

<sup>22)</sup>, Schramn <sup>23)</sup>, Lee <sup>18)</sup>, Min <sup>19)</sup>  
 0% Osteolysis Gruen 1 7  
 가

apposition blasted stem 31% polished(15%), fibermetal(17%)

<sup>11-13, 23, 24)</sup> press-fit fixation secondary bone apposition sec-

Tapered grit blasted wedge

coating porous 18~30%  
<sup>5, 8, 10, 17)</sup> proximal coating

distal grit blasting Mallory-Head stem<sup>21)</sup> 6%, APR- stem 가  
 4.8% <sup>20)</sup> , grit 가  
 blasting CLS Zweymuller stem  
<sup>6, 11, 13, 16, 22-24)</sup> 0~3%

1 ~ 1.6%<sup>6, 11, 12, 24)</sup>

5 mm 가  
 1 ~ 17%<sup>3, 16, 23)</sup>  
 cerclage wire

(Retrieval study)  
 (Animal study)

(retrieval study)

Kevin<sup>16)</sup> 7 Zweymuller stem  
 28%가 (bone apposition)  
 Engh <sup>9)</sup> AML stem  
 35%, Jasty <sup>15)</sup> H-G stem 24%  
 , Coathup <sup>4)</sup> porous coating  
 HA coating, grit-blasting  
 HA coating 가  
 bone apposition , porous coating grit blasting 가  
 Goldberg <sup>12)</sup>  
 polished smooth stem, blasted stem, fibermetal stem 가 bone

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