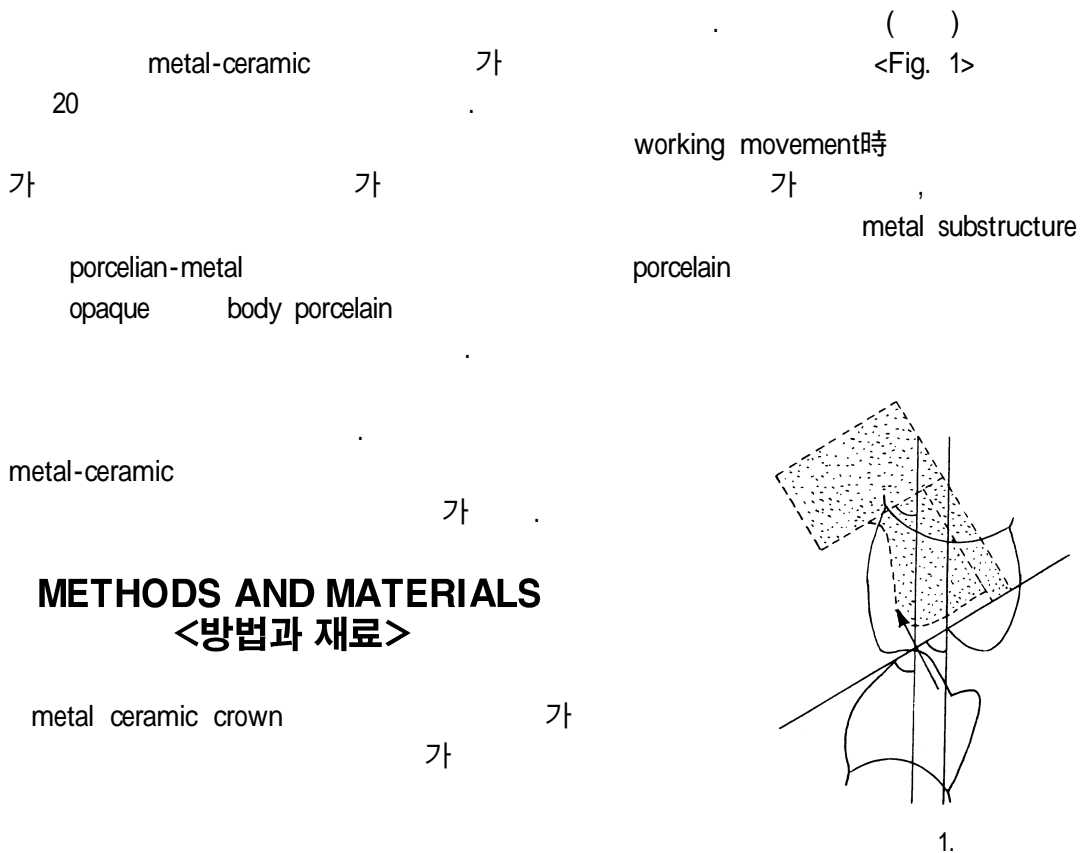


METAL CERAMIC 보철물의 파절에 미치는 design과 technique에 대한 실험적 연구

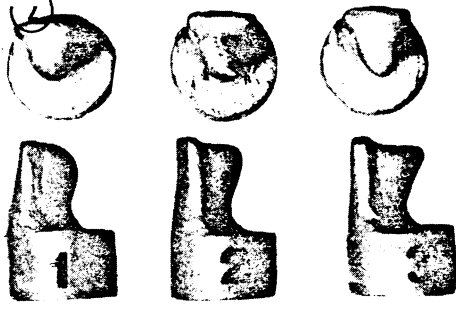
高大 齒技工科 二學年

Design and technique variables affecting fracture resistance of metal ceramic restoration

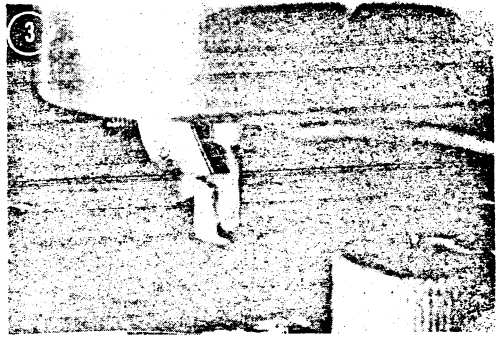


1,300 1 wax-pattern casting ceramic gold
 wax pattern 3 ceramco O alloy
 cusp Tip

<Fig. 2>



2.

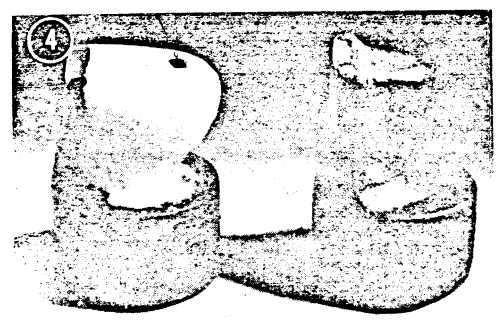


3.

loading stylus 1mm 가
 load cell
 sample Instron cross bar plate
 stylus가
 5mm
 sample

working contact 가

<Fig. 4>



4.

group metal
 aluminium oxide stone
 group silicon carbide stone
 sample
 group degass sample
 metal conditioner . <Table. 1>
 sample
 porcelain

TESTING OF THE SAMPLE

Table. 1 44가
 sample instron
 loading .<Fig. 3>

0.05inch/min

가

RESULT <결과>

No. 1 metal die 가
metal conditioner

sample 140-
160pound

model
<Fig. 5> Table. 1

가 Table. 2

3가

sample metal
conditioner

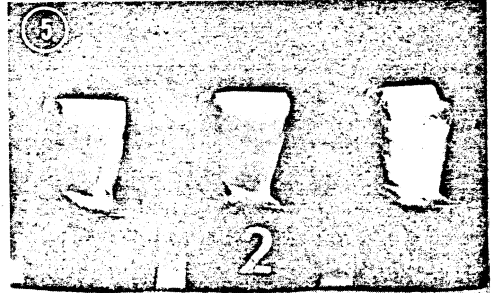
fine coarse stone(

) No. 1 die

metal coating

3가 <No. 1, 2, 3> metal die 中

No. 3 metal die 가



5.

Table. 1 Average fracture strength(in pounds)

No. of samples for each design	Design			Group description
	1	2	3	
5	347	359	249	Fine stone, no metal coating
5	401	356	328	Fine stone, metal coating
5	400			Coarse stone, metal coating
4	395			Coarse stone, no metal coating
3		153		Fine stone, nonoxidized
2		150		Rejected samples

Table 2. Analysis of variance

Source of variability	df	SS	MS	F	P value
Problem 1. Three designs with and without metal coating- 30 observations					
Factor A (coated or uncoated)	1	14083	14083	5.09	0.025 < p < 0.05
Factor B (three designs)	2	41145	20573	7.43	p < 0.05
A-B interaction	2	8832	4416	1.59	p > 0.10*
Error	24	66440	2768		
Total	29	130500			
Problem 2. Design No. 1 with two surface roughnesses, coated or uncoated - 19 observations					
Factor A (coated or uncoated)	1	4521	4521	2.13	p > 0.10*
Factor B (coarse or fine)	1	2298	2209	1.08	p > 0.10*
A-B interaction	1	2825	2825	1.33	p > 0.10*
Error	15	31850	2123		
Total	18	41874			

* Not significant.

1. metal coating agent
2. agent가 strength가
3. die metal coating agent
4. 가 metal coating 가 , No. 1, No. 2 . 24 karat gold metal coating sample
5. (aluminium oxide) (silicon carbide)
6. No. 1 die
7. degassing die porcelain

DISCUSSION<토론>

가

Kelly

ceramic sample 9rodml sample 가 metal 44 가
 degassing (, shiny Britecote)

metal

Design

substructure 2
 substructure
 substructure porcelain design
 supporting metal

fracture

tooth preparation metal design
 가 porcelain
 porcelain

METAL PREPARATION

Shell Nielsen metal ceramic 가
 2/3 가 1/3 vander wall
 s()
 metal roughness 가
 wetting()

PORCELAIN CONTAMINATION

1. porcelain crown
2. coarse silicon carbide metal porcelain
3. coating agent
4. porcelain

METAL COATING AND OXIDE LAYER

- metal coating agent 가
1. 3가 <No.1, No. 2, No. 3> sample metal coating agent
 2. sample metal coating agent 가
- metal coating agent

metal porcelain
 , metal
 degassing
CONCLUSIONS
 metal-ceramic
 metal coating agent
 metal preparation type.
 metal 374 44
 metal ceramic
 1. metal
 2. metal
 3. metal conditioning agent
 4. metal coating agent
 5. metal design
 metal design

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