

# 주입선의 설치방법이 금속의 주조성에 미치는 영향에 관한 실험적 연구

고려보건전문대학 치기공과

*Abstract*

## **Sprue design and its effect on the castability of ceramometal nonprecious alloys**

Uoong Chul Kim

*Dept. of Dental Laboratory Technology.  
Junior College of Public Health and Medical  
Technology. Korea University, Seoul, Korea*

The Purpose of this study was to evaluate the effect of sprue designs and air vent on the relative castability of the nonprecious alloys, commonly used to make ceramometal restorations.

Samples of total 30 were constructed and divided into 6 groups according to two variables, sprue design and air vent. The total number of completely cast squares was counted, verified, and recorded.

The results obtained were as follows:

1. The runner bar or Rousseau designs yield better castability than reservoir design ( $P < 0.1$ )
2. When the air vent was attached, only the castability of reservoir design was significantly different from runner bar or Rousseau designs.

## 1. 서론

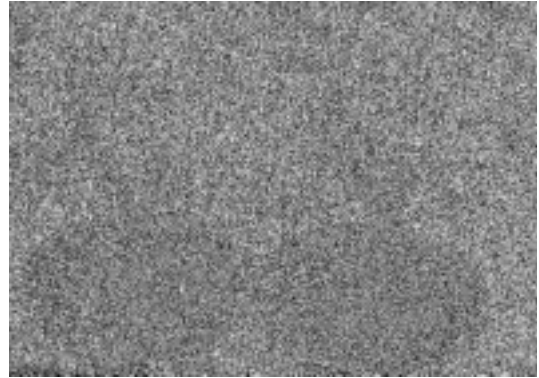
가

nikel-chromium

가  
가

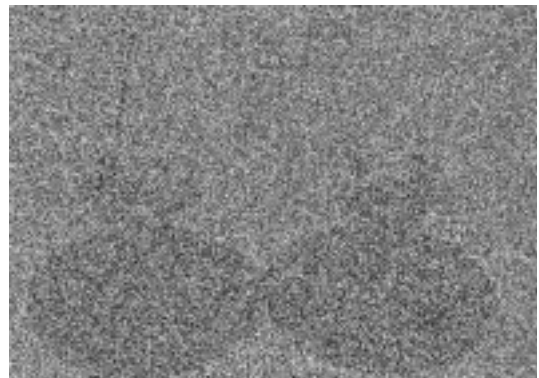
reservoir, runner bar Rousseau  
runner bar  
thermal zone  
curved runner bar  
Rousseau  
gas  
가  
가  
가

1mm  
reservoir( 5.18mm)  
가 5  
18gaguge  
round sprue wax  
( 1)



1. Reservoir ( )

10 runner bar  
2  
( 10gauge round sprue wax, runner bar( 6mm)  
6gauge round sprue wax, 20mm)  
runner bar 2  
( 6gauge round sprue wax) V 가  
가 5 reservoir  
( 2)



2. Runner bar ( )

## II. 실험재료 및 방법

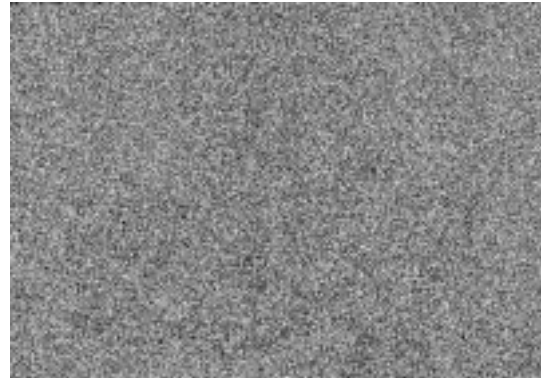
(가 20mm, 20mm,  
0.37mm) 30  
10 reservoir  
( 10gauge round sprue wax) V

10 Rousseau  
 2  
 ( 10gauge round sprue wax,  
 8mm) , Rousseau runner bar(  
 6gauge round sprue wax)  
 bar Rousseau가  
 70.  
 가 5 가  
 가 ( 3)

bar  
 50μm aluminum oxide snadblasting  
 .( 4)



3. Rousseau



4. 가

5  
 가

( Biovest, , 169  
 Dentsply International Inc., U.S.A)

6 ~ 8mm가  
 . Reservoir Runner bar  
 (Asbestos  
 ribbon, Oshima Trading Co., Japan)  
 ring Rousseau  
 baseplate wax wax ring 1

### III. 실험결과

1 Rousseau 가 Rousseau 169.0  
 wax ring runner bar  
 ring 가 168.0 , reservoir  
 1,800 ring 900 20 138.8 가  
 40

Rexillium  
 5.02 ± 0.50gm  
 Propane gas Duncan  
 ( 2),  
 7

가  
reservoir  
.(P<0.1)

Duncan  
( 3),  
reservoir  
.(P<0.1)

1.

(unit : number of squares completely cast)

주입선의 설치방법	통 기 공 부 여	
	무	유
Reservoir 법	107	169
	166	169
	166	153
	169	161
	86	168
산술평균(표준오차)	138.8 (17.6)	164.0 (3.1)
Runner bar 법	142	167
	169	168
	166	167
	169	169
	169	169
산술평균(표준오차)	163.0 (5.3)	168.0 (0.4)
Rousseau 법	169	169
	169	169
	169	169
	169	169
	169	169
산술평균(표준오차)	169.0 (0.0)	169.0 (0.0)

#### IV. 총괄 및 고안

가  
가  
가  
가

2.  
(Duncan )

통 기 공 부 여	
무*	유*
Reservoir 법 (138.8)	Reservoir 법(164.0)
Runner bar 법 (163.0)	Runner bar 법(168.0)
Rousseau 법 (169.0)	Rousseau 법 (169.0)

\*■는 통계학적으로 유의성이 없는 범위를 나타냄  
( $\alpha=0.1$ )

3.

(Duncan )

산술평균*	표준오차	주입선의 설치방법	
		통기공 부 여	
169.0	0.0	Rousseau 법	유
169.0	0.0	Rousseau 법	무
168.0	0.4	Runner bar 법	유
164.0	3.1	Reservoir 법	유
163.0	5.3	Runner bar 법	무
138.8	17.6	Reservoir 법	무

\*■는 통계학적으로 유의성이 없는 범위를 나타냄  
( $\alpha=0.1$ )

가  
reservoir runner bar  
Rousseau  
Runner bar reservoir

Eissmann, Mazulewicz McLean  
runner bar

가  
가  
가  
reservoir runner bar  
Rousseau reservoir  
Rousseau

curved runner bar

Rousseau

reservoir

1. reservoir

runner bar

Rousseau

가

2. reservoir

가

runner bar

Rousseau

reservoir

### 참고문헌

Rousseau

runner bar

1. Moffa, J.P.: Physical and mechanical properties of gold and base metal alloys; Proceedings, Alternatives gold alloys in dentistry, DHEW publications, No(NIH) 77-1277: 81-93, 1977.

가

reservoir

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gas가

가

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가

runner bar

reservoir

Rousseau

가

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reservoir

Rousseau wax ring

가

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가

가

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### V. 결론

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30

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