

원심력을 이용한 국부의치 주조에 관한 실험적 연구

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I. 서론

20
Taggart가 1907

W.H

Multi-vest investment<U.S.A>
國產 casting wax(gauge wax)
Jelenko會社 Furnace
Duplicating flask
Chromium-cobalt alloy

가

B. 실험방법

(Casting)

mold

1. Refractory cast

Reversible hydrocolloid impression material
duplicating flask(wills late-model flask)
Multi-vest investment
refractory cast

가

(W/P Ratio 0.14)

mold

가

2. Refractory cast

Initial drying trimming refractory cast
195 oven 80

가

bees waxing
oven 100 refractory cast 100

3가 面, 卽,
Sprue

A)

B)

C)

A, B, C

3. Bees waxing

Rosin bees wax 290 300 Pan bees
wax bees wax
oven refractory cast 100
10 Bees waxing

II. 실험재료 및 실험방법

A. 실험재료

Reversible<Agar> hydrocolloid impression
material(duplicating)
Rosin bees wax

4. Wax pattern

Dr. Edward Kennedy classification
model Dr. Edward Kennedy class I Case,
class I case
Duplicating refractory cast가 cast

國產 casting

sprue線

wax waxing-up.
 Class I case, wax up.
 Palatal plate 22 gauge sheet wax 1個
 Direct retainer 14 gauge half round wax
 Indirect rainer 12 gauge round wax
 Minor connector 14 gauge half round wax
 Saddle retention Form 18(14) gauge round half wax
 finishing line 14 gauge half round wax
 Class I case, wax-up
 Secondary lingual bar 6.(12) gauge Pear(half) form wax
 Direct retainer 14 gauge half round wax
 Indirect Retainer 12 gauge round wax
 Minor connector 14 gauge half round wax
 Saddle retention form 18(14) gauge round(half) wax
 Finishing line 14 gauge half round wax

palatal plate sprue 1個 ㄏ
 palatal plate sprue 1個
 sprue 2個(Left: direct retainer) Occlusal rest 1個, Right : Saddle tissue stop 1個 ————— ㄥ
 major connector finishing line 1個 ————— ㄥ
 major connector ㄥ 2個
 Saddle tissue stop 1個 ——— ㄷ
 ㄏ, ㄥ, ㄥ, ㄷ, ㄷ tjs wax-up cast 10個 40個 準備
 20個 : ㄏ 10個 ㄥ 10個
 20個 : ㄥ 10個 ㄷ 10個

Wax-Pattern
 < , 가 wax wax- pattern gauge wax
 外 가 wax >

6. Investing

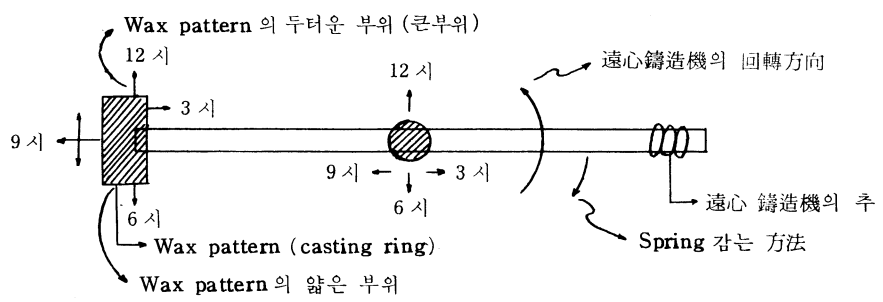
二次 investing 選擇 . 一次 investing wetting agent
 wax pattern 一次
 invseting , 二次 investing .
 investing 一次 investment
 refractory cast
 W/P ratio .(W/P ratio 0.14)

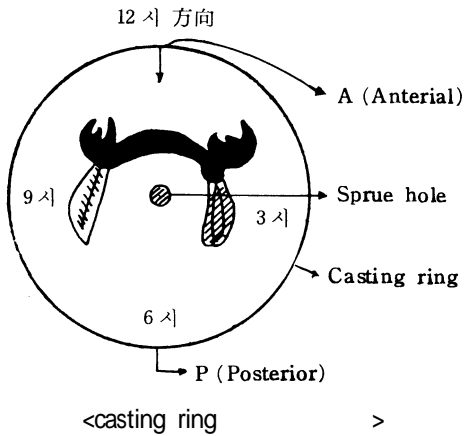
5. Spruing

單一注入線 總義齒 上顎
 局部義齒床 適用
 主注入線 8 gauge 圓形
 分校 數個 支注入線 18 gauge
 class I case 注入線 6
 multiple sprue線 8 gauge wax
 gauge round wax 支注入線 13gauge wax 1

7. Burn out

Jeleko furance slow burn out
 procedure 0 500 1 , 500
 1300 1 30 1300 heat
 soaking casting .(1300 .)





spring casting machine

metal

狀態

가 mold cavity

casting ring

investing

III. 실험성적 및 총괄

8. casting()

Edward Kennedy class I case ㄱ, ㄴ, ㄷ, ㄹ

1, 2

.(1

鑄造成績報告,

2

1

casting ring, refractory

ㄱ, ㄷ

9.8

cast , refractory cast , bees waxing , wax pattern , investing , burn out

. Class I case 複雜 sprue線

metal frame-work

ㄴ, ㄹ

가

, ㄱ, ㄷ

ㄴ, ㄹ 2 成

centrifugal casting machine

績

sprue

ㄱ, ㄷ sprue

centrifugal casting

ㄴ, ㄹ

가

meachine

sprue

casting ring 位置, 方向表示

sprue

wax pattern

Crown, inlay

wax pattern 12

가

sprue wire

3

9

“

”

1.

실패부위	M.C	D.R	ID.R	S. d	mi. Co	O. R	실패	성공	계	비고
주입선종류										
上顎	ㄱ	/	/	0.2	/	/	0.2	9.8	10	우수
	ㄴ	0.2	0.1	/	/	/	0.3	9.7	10	준우수
下顎	ㄷ	/	/	0.2	/	/	0.2	9.8	10	우수
	ㄹ	0.2	0.05	/	/	/	0.25	9.75	10	준우수

() M.C : Major connector
ID.R : Indirect retainer
miCo : Minor connector

D.R : Direct retainer
S.d : Saddle retention form
O.R : Occlusal rest

2.

실패부위 주입신의 종류		M. C	D. R	IR. R	S.d and mice	O. R	실 패	성 공	계	비 고
上 顎	ㄱ	1	0.25	/	0.7	0.05	2	8	10	
	ㄴ	0.9	0.2	/	0.5	0.1	1.7	8.3	10	
下 顎	ㄷ	1	0.2	/	0.7	/	1.9	8.1	10	
	ㄹ	0.8	0.4	/	0.5	0.1	1.8	8.2	10	

sprue線 關係

ㄱ, ㄷ ㄴ, ㄹ

sprue線

가 가

가

ㄱ, ㄹ

가 가

connector or direct retainer

retention 가

zero

sprue

gas 脫出口가

ㄱ, ㄷ saddle

rosm base가

ㄴ, ㄹ

sprue :

ㄱ, ㄷ ㄴ, ㄹ

가

造體

major connector, direct retainer,

major connector(saddle retention form 包含)

occlusal rest

sprue線

sprue線

가

IV. 결론

A,

가

B.

(1)

C.

Sprue線

遠心的

가

D.

sprue線

metal

frame work가 finishing

가

E.

참고 문헌

- Lund, M. R., and Nixon, C. T. : Evaluating Gold Inlay Casting Technics, Univ. of Michigan, Thesis, 1954.
- Applegate, O. C. : The Removable Partial Denture in the General Practices of Tommow, J. Pros. Den. 8 : 609-622, 1958.
- Greves, L. T., and Liebfritz, W. A. : Mechanical Properties of Chromium-Cobalt Alloys Used for Casting Partial denture (abst.), J. D. Res. 33 : 695, 1954.
- McCraeken, W. L. : Partial Denture Construction, 2nd, Ed. c. v. Mosby Co, 1964.
- Miller, E. L. : Removable Partial Prosthodontics, Willians and Wilkine Co. 1972.
- Swenson and TeRKLA : Partial Denture 2nd Ed. The c. v. Mosby Company 1980.
- 이병태 : 치과보철기공학 4 판발행, 치과세계사 1980.
- 金仁哲 : 局部義齒學 齒科世界社 1980.
- 金光男 : 局部義齒學 서울大學校 齒科大學 補綴學教室 1978.