

AN STUDY ON THE DIMENSIONAL CHANGE OF PLASTER TO TIME WITH IMPRESSION MATERIALS

신구전문대학 치기공과

Abstract

AN STUDY ON THE DIMENSIONALCHANGE OF PLASTER TO TIME WITH IMPRESSION MATERIALS

Chio, seog sun

*Dept. of Dental Labolatory Technology,
Sin Gu Junior College*

The purpose of this investigation was to determined the dimensional change of plaster to time with impression materials.

This study was carried out through the literature & experiment, using 4sorts of the Impression Materials(Alginate, Impression Agar, Silicone Rubber, Polysulfide Rybber)and 5 treatments(1hr, 11/2 hrs, 2hur, 3hur, 6hur).

The results of this experiment were as follows :

1. Main effect of Impression Meterials & tretments was statistically significant.($P<0.01$)
2. The effect of 2-way interaction of Impression materials & Treatments was also statistically significant.($P<0.01$)
3. Though this study was the difference of degree according to the materials.

All Impression Materials were tended to be constained according to over the time

목 차

1. 서 론

- . 實驗 材料 方法
- 1. 實驗材料
- 2. 實驗方法
- . 實驗方法
- . 考 察
- . 結 論

1756 pfaff가 Wax
platter
가
가
Working Model
Model

Model 가
 , 가
 plaster pouring
 Model
 Dimensional Change Impression Material schwarty
 JR(1951), Zuckermann GR(1974), Fusayama T. (1957)
 Impression Material
 plaster Dimensional change
 4 Impression Material(Alginate, Impression
 Agar, Silicone Rubber Polysulfide Rubber)
 plaster

2. 實驗方法
 Impression Material Plaster
 Dimensional Change (1cm x 3cm) stone
 指示事項
 Mixer(Whip Mix Corp.) 1cm pipe
 Mixing, pouring
 112
 , Impression Material 受容
 Tray Arturo. J.Mendez , Rim
 Lock Tray形式 plate(1.5M) 가
 3 x 29 x 3cm
 Tray 試驗用 impression Material

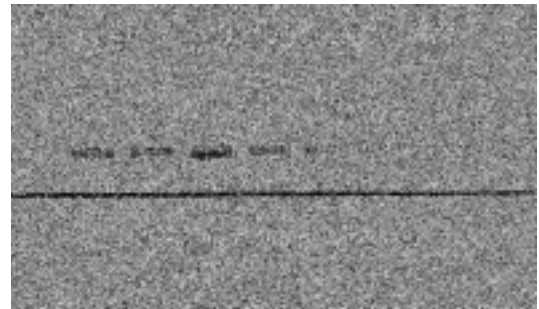
II. 實驗材料 및 方法

1. 實驗材料

Impression Material 가
 4가

- A. Alginate(PALGAT, ESPE社)
 - B. Impression Agar(Cohere TM608, GimGi-PAK社)
 - C. Silicone Rubber(Optosil -Xantopren, Bayer Dent社)
 - D. Polysulfide Rubber(Permalastic, Kerr社)
- Plaster(Dental Caster, Yoshino Gypsum Sales社) 防止 Wire(0.9m)

7 (1.5M) 接着
 plaster pouring
 (3/4 hr, 1hr, 1 1/2hr, 2hrs,
 3hrs, 6hrs, 24hrs) 1/20MM caliper(Mitatoyo,
 Japen) 測定 (1, 2).



1, 2.

1.

treatment		X ₁	X ₂	X ₃	X ₄	X ₅
Material	N	4	4	4	4	4
Alginate	M	3.000	2.9875	2.9775	2.9600	2.9475
	SD	0.000	0.0050	0.0119	0.0091	0.0104
Imp · Agar	M	2.9997	2.9922	2.9825	2.9712	2.9525
	SD	0.0005	0.0061	0.0029	0.0048	0.0065
Silicone Rubber	M	3.000	3.000	2.9975	2.9912	2.9837
	SD	0.000	0.000	0.0050	0.0085	0.0111
Polysulfide Rubber	M	3.000	2.9975	2.9900	2.9825	2.9730
	SD	0.000	0.0029	0.0041	0.0104	0.0124

X₁=1hr X₂=1½hrs X₃=2hrs X₄=3hrs X₅=6hrs

III. 實驗方法

1 Compression Material

Impression Material plaster plaster
 Dimensional change dimensional change Dimension change가 統計 有意 가
 < 1> 析(Two-way ANOVA) 材料(4) × 時間(5) 二元變量分
 < 2>

2.

Source of variation	SS	DF	MS	F
Main effect Material	0.005	3	0.002	32.820**
time	0.013	4	0.003	67.270**
2way Interactions material × time	0.002	12	0.000	3.758**
Explained	0.020	19	0.001	21.718**
Residual	0.003	60	0.000	
Total	0.023	79	0.000	

鸞 P<0.05 鸞 P<0.01

2 가 1
 plaster dimensional change 1/2hrs 2 hrs, 2hrs 3hrs P<0.05
 가 P<0.01 Impression agar 1hrs 2hrs, 1hrs 3hrs,
 가 P<0.01 1hrs 6hrs, 1 1/2hrs 3hrs, 1 1/2hrs 6hrs, 1%
 가 (t -way interaction) 가 2hrs
 (P<0.01) 3hrs 5% 가
 shaffe Rubber Sheffe Silicone
 < 3> Polysulfied Rubber 1hrs
 3hrs, 1hrs 6hrs, 1 1/2hrs 6hrs 5%
 3hrs P<0.01 가

3. Shaffe

Material	Treatment	X ₁ :X ₂	X ₁ :X ₃	X ₁ :X ₄	X ₁ :X ₅	X ₂ :X ₃
Alginate		0.781	3.531*	8**	13.781**	0.5
Imp. Agar		1.406	7.396**	20.306**	55.696**	2.352
Silicone		0.000	0.063	0.774	2.657	0.063
Polysulfide		0.031	0.500	1.531	3.645*	0.281
Material	Treatment	X ₂ :X ₄	X ₂ :X ₅	X ₃ :X ₄	X ₃ :X ₅	X ₄ :X ₅
Alginate		3.781*	8**	1.531	4.5*	0.781
Imp. Agar		11.025**	39.402**	3.192	22.5**	8.7**
Silicone		0.774	2.657	0.400	1.904	0.563
Polysulfide		1.125	3.061*	0.281	1.445	0.451

* P<0.05 ** P<0.01

IV. 考察

가
(4) × (5) (Two-way ANOVA)
Scheffe
, sawyer et al. Alginate Impression agar, Rubber Base Impression material
Yech et al. Silicone materials
가
Alginate, Impression Agar
Rubber Base Material
Impression Material
가
100%
가
Rubber Base Material
가
가
Final setting 45 ~ 1

4 Impression Material
plaster 가

V. 結論

Impression Material plaster
Dimensional Change 印象材 4
鍾 (Alginate, Impression Agar, Silicone Rubber, Polysulfide Rubber) (3/4hr, 1hr, 11/2hrs, 2hrs, 3hrs, 6hrs, 24hrs) 7 變
化가 3/4hr 가 24hrs 5
plaster 式片 變化 測定, 分析
1. Alginate, Impression Rubber Materials
2. Reverible, Irreversible Hydrocolloid Materials
3. 가 Sillcone
Alginate , 가
Rubber
4. Silicone Rubber 3 Impression
Materials 有意差가
(P<0.01, P<0.05).