

3D
가

2. 본론

2.1

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(가)가

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가

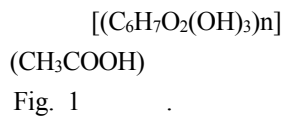


Fig. 1

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ass Transition)

85°C

(GI

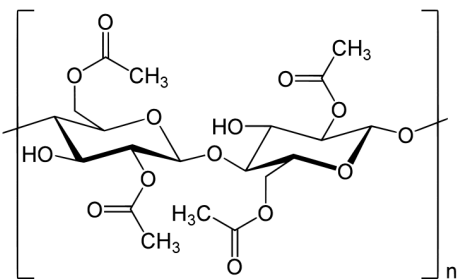


Fig. 1 Chemical structure Of Cellulose.⁸

3D

PROJET HD3500(3D systems Inc.) (Mold) Uret hane acrylate oligomers(20-40%), Ethoxylated bisph enol A diacrylate(15-35%), Tripropylenegly col diacrylate(1.5-3%)

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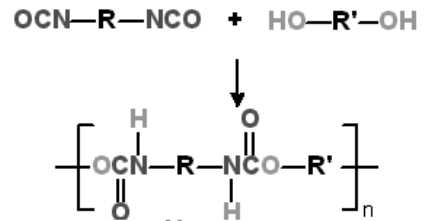


Fig. 2 Chemical structure Poly-Urethane.⁹

Poly-urethane 200°C
1.1 (Support) Hydroxilated w
ax가 60 - 100% 가 55-65°C

Fig. 3

(CATIA™)

3D (MJP

3D
(UV)

(hemispherical)

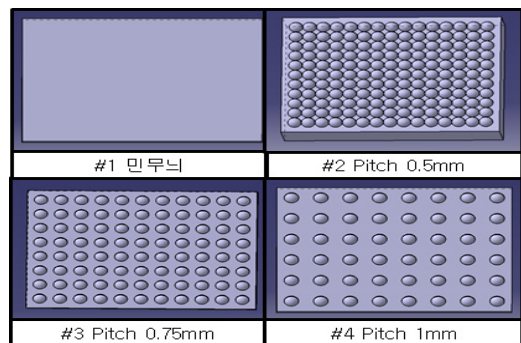
(Gaussian beam) 가

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pitch

pitch
pitch 0.5mm, 0.75mm 1mm



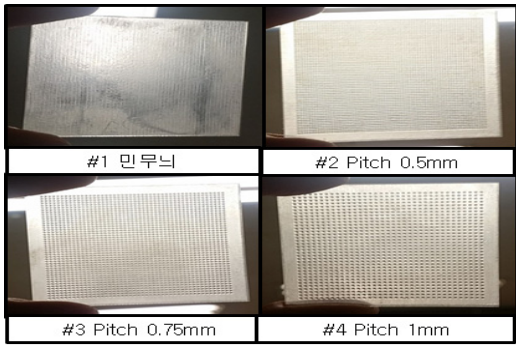


Fig. 3 3D modeling and fabricated sample.

2.2

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3D

(Fig. 4).

photo diode

2 Kubelka-Munk
가

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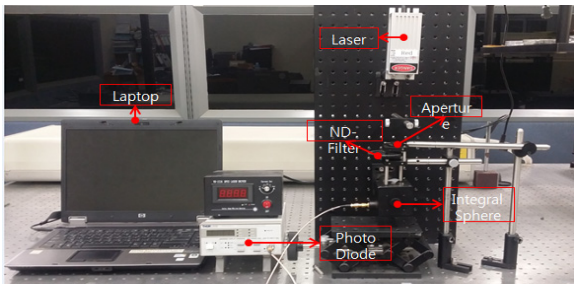


Fig. 4 Laser Scattering Setup.

red(635nm), green (532nm), blue(457nm), Ø27, 0.75-5mm 3D (HD-Layer 32µm, U HD-layer 29µm)

Kubelka-Munk, Richard-Mudgett, Burger

$(\mu_a + \mu_s)$, Richard-Mudgett
22 flux Kubelka-Munk

$$\frac{K}{S} \approx \frac{2}{(3a_0 - a_1)/4} \frac{\mu_a}{\mu_s} \quad (1)$$

K S Kubelka, a_0 a_1 , μ_a μ_s 가

가 (2)

$$F(R_\infty) = \frac{K}{S} = \frac{(1 - R_\infty)^2}{2R_\infty} \quad (2)$$

808nm/980nm

CNC

PC

980nm

60 W,

CW

0.4mm가

(Fig. 5).

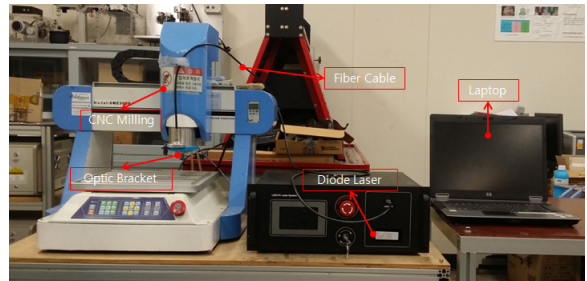


Fig. 5 Experimental setup.

4

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$$3.5\text{kgf} \times 4 = 14\text{kgf} \text{ 가}$$

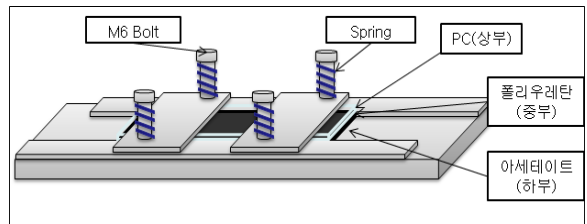


Fig. 6 Mounting jig.

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