

(I)

가, V
-
,
-
.
가 1888 J. B. Dunlop
가,
(aramid
fiber)
가
(mechanical keying)
가,
가 -
-
,
diphenylmethane diisocyanate, tolylene diisocyanate, triphenylmethane triisocyanate
polycyanate 가,
RFL(Resorcinol-Formaldehyde-Latex)
.

. RFL

, 가
.
가 - -
, 가
. 가 가 ,
- (Resorcinol-Formaldehyde)
가 . 1935 du Pont
Charch Maney
, 1951 J. Mighton - -
(styrene-Butadiene-vinylpyridine) 가
.
RFL nylon6, 66, ,
,
.
RF 가 . RF
.
,
가 .

. RFL

RFL

1

3가



< 1 > RFL

A

B

Resol

C

Novolak

B

(resorcinol)

(formaldehyde)

가

가

(hexamethylene tetramine)

가 A .

C RF ,

. RF R/F=1:0.8

가

가 . 가 가

.

,

가 2~3% .

A B

C

가 .

. -

가

3가

.

RF

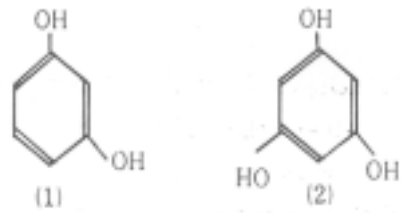
RF

1. RF

가

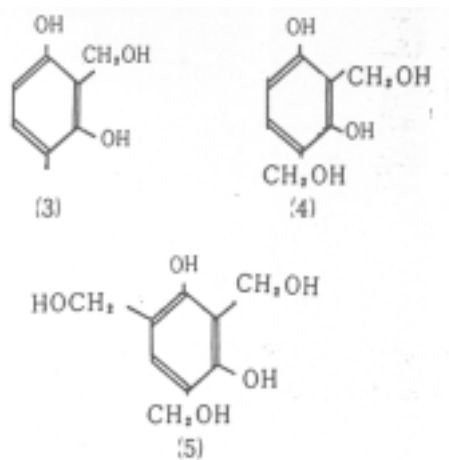
1.3

. 가 2, 4, 6 가
가 pH가
가 . (1)
, (2)
(phloroglucinol) 가 .



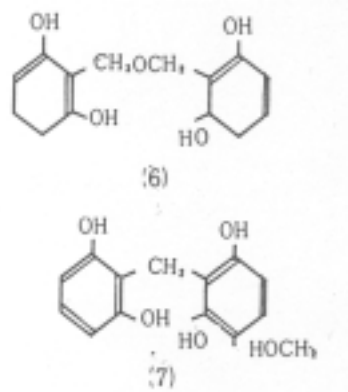
(3), (4)
(5) , , (mono-, di-,
trimethylolated resorcinol)

. 1:2
(dimethylol) .



(6)

(7)



Doyle

RFL

4~5

가

가

. RF

가

.

가

가

.

2.

RF

RFL

.

가

.

.

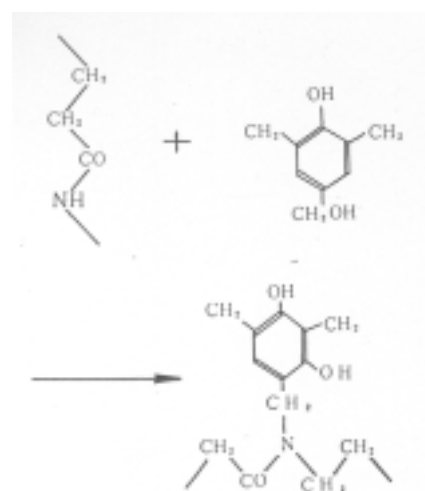
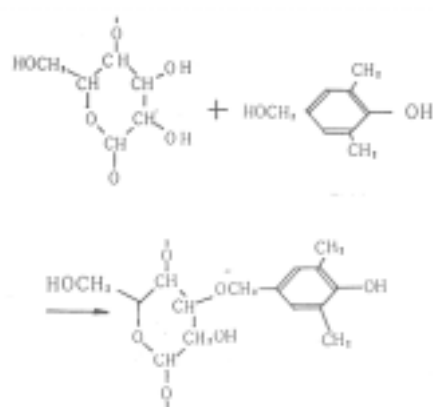
,

가

Moult RF

가

가



3.

Dlugosz

가

.

가

가

-

-

(styrene-

butadiene-vinylpyridine)

가 MMA

가

.

가

.

-

가 diene

,

가

.

가

.

Van der Meer

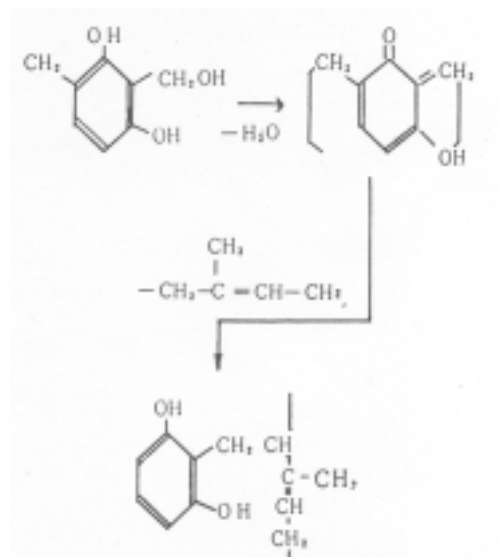
(methylene quinone)

가

(benzenoid)

.

.



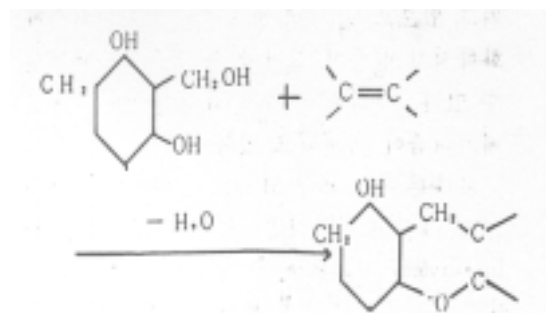
가

가

Greth

2

(chroman)



가

가

가

가