

<Thermal Bonding >

3. Thermal Bonding

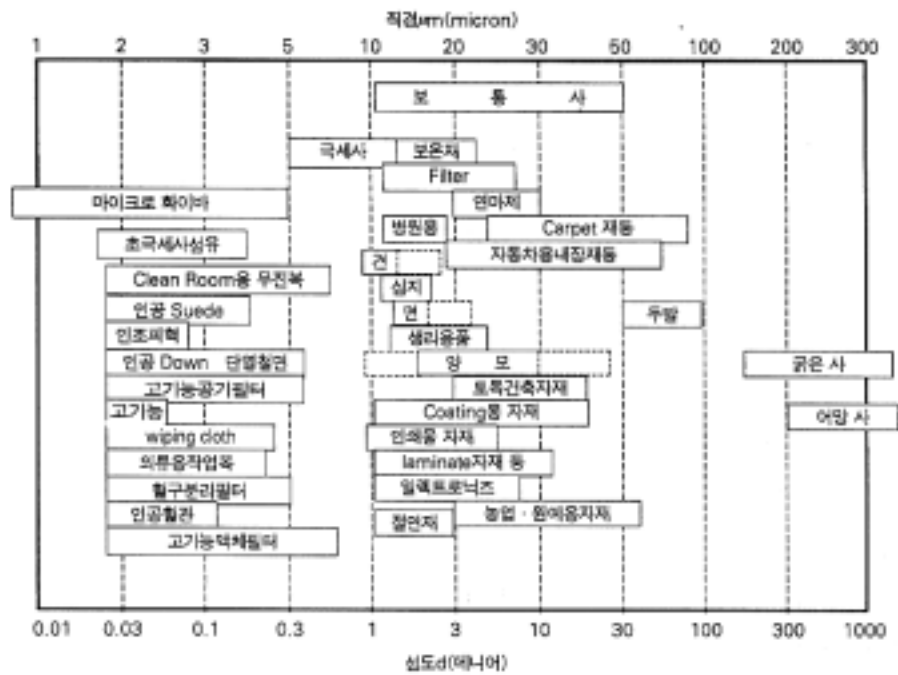
Thermal Bonding 가 가
가 .
.

Thermo Bond , 가
, 가 .
가 2 .

< 2>

	Polyethylene (P.E.)	Polypropylene (P.P.)	6-nylon	66-nylon	Polyester (PET)
()	100~115	140~160	180	220~235	238~240
()	125~135	165~173	215~220	250~260	255~260
(g/cm ²)	0.95	0.91	1.14	1.14	1.38
(g/d)	5.0~9.0	4.5~7.5	4.5~7.8	5.0~5.6	4.7~5.6
(%)	8~35	30~60	25~60	25~38	20~50
Young Ratio(g/mm)	300~800	160~450	80~300	350~520	310~870

, , , Thermo Bonding
가 . ,



< 23> ()

, , young 2

, (),

, , 3

4 .

< 3>

Kapok	1.47~1.52	Acetate	1.30~1.33
	1.4	Nylon	1.15
	1.25~1.35	Amilan	1.14

	1.15	Vynylon	1.30
(生絲)	1.30~1.37	Vinyon	1.34
(練絲)	1.25~1.36	P.C.	1.43
	1.46~1.52	Orlon	1.18
	1.28~1.48	Terylene	1.38
Ramie	1.48~1.52	Salan	1.70
	1.44~1.48	Tetron	1.38
	1.32~1.45	Vonnel	1.17
	1.64	Pylen	0.90
	1.52~1.55		2.1~2.8
Bemberg	1.52~1.53	Glass	2.6

< 4>

	(%)	(%)
Rayon	12.0~14.0	11.0
Cupra	10.5~14.0	11.0
Acetate	6.0~7.0	6.5
Nylon	3.5~5.0	4.5
Triacetate	3.0~4.0	3.5
Vynylon	2.5~5.0	5.0
Acryl	1.2~2.0	2.0
Acryl	0.6~1.0	2.0
Polyurethan	0.4~1.3	1.0
Polyester	0.4~0.5	0.1
Polypropylene	0	0
Polyethylene	0	0
Poly vinyl	0	0
vinyliden	0	0

4. Thermal Bond

Hot melt Resin mechanism . 가 ,

가 .

가 , .
가 가 ,
maker side

user side가
point .

5.

5-1 가

가 , .
가 . 24 Emboss calender
가 . 25
(EMS-

Grilon PET) calender Roll
Smooth × Smooth Roll 30 .

Calender 가 . 가
26 가 ,

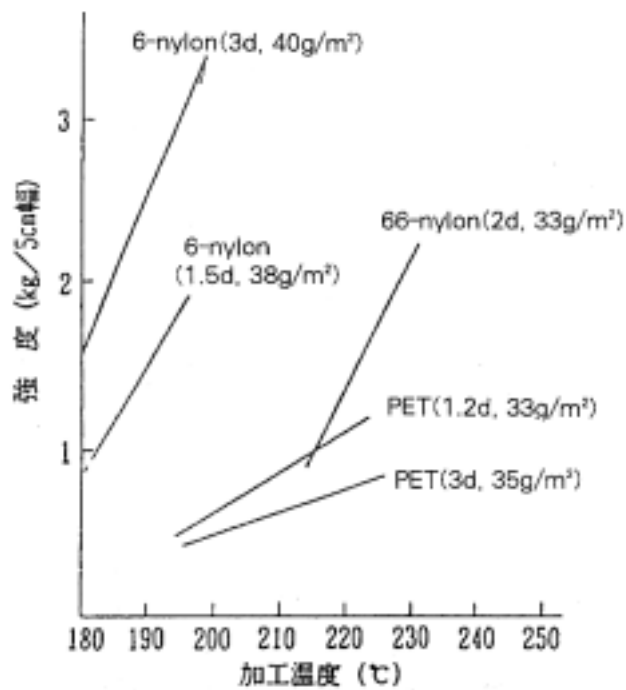
가 melt Film , Emboss
Roll ,

27 가 ,

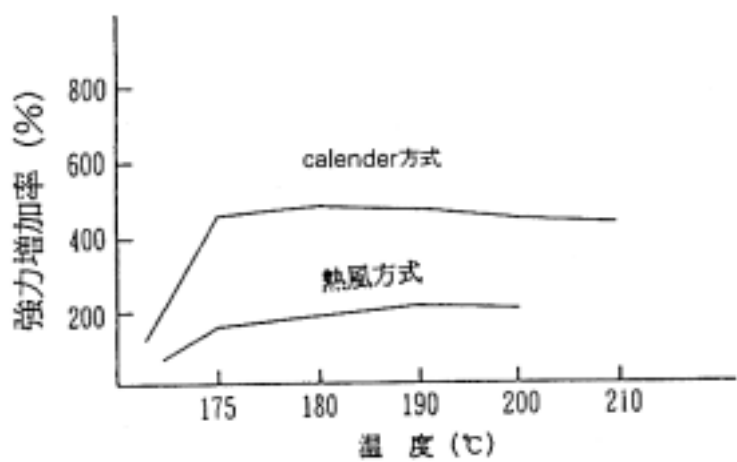
: =1:1 Plastic

Roll . ()

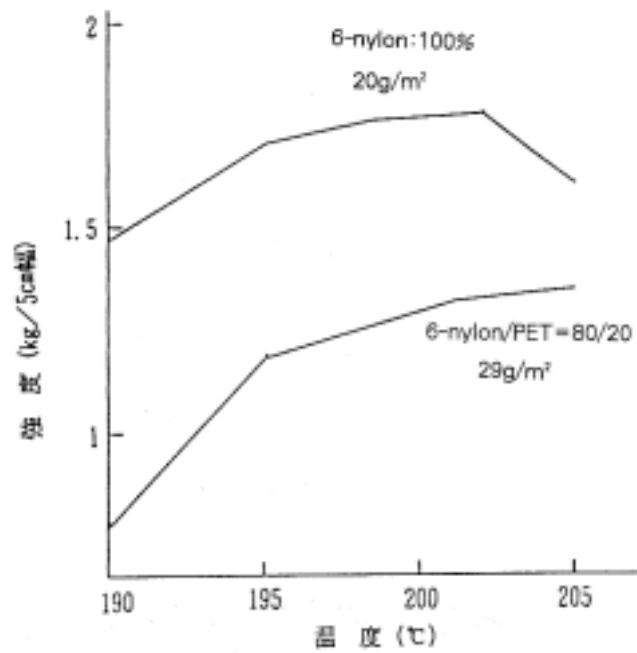
Emboss calender , emboss Roll, 가 Smooth Roll Smooth Roll



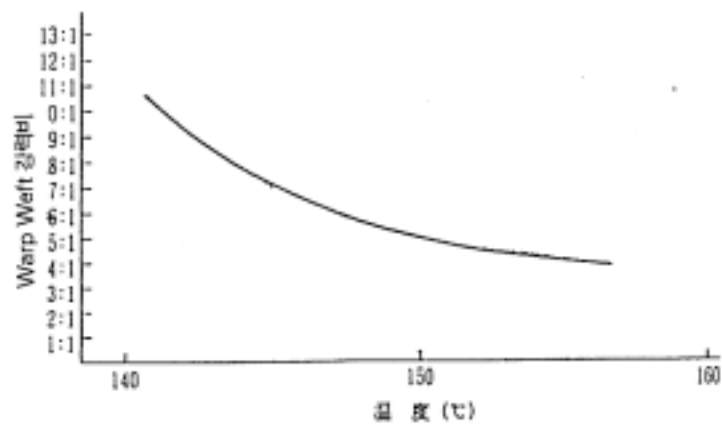
< 24> 가



< 25> Calender 가



< 26>



< 27> 가 Warp, Weft

5-2 가

Calender가

2

.

28 가

(Emboss type).

type

Nylon, Polyester

가 가

가

.

type polyethylene, polypropylene

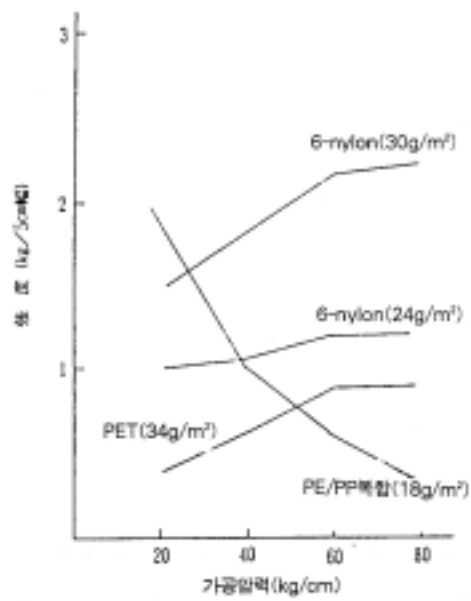
가

. Emboss Roll Emboss

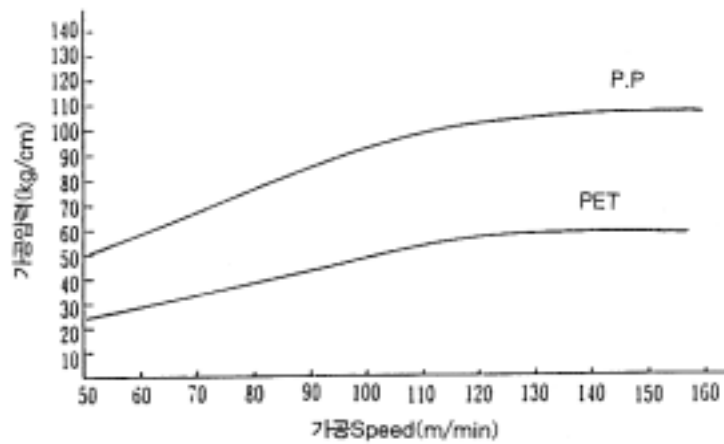
() . Roll 가

speed . P.P, PET

Spinbau test 29 .



< 28> 가



< 29>: 가 speed

5-3 가 Speed

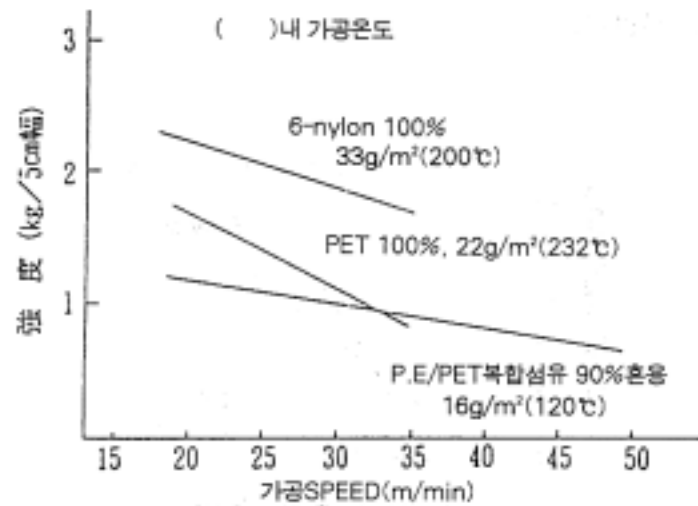
가 Speed 가 . 30

Emboss calender speed .

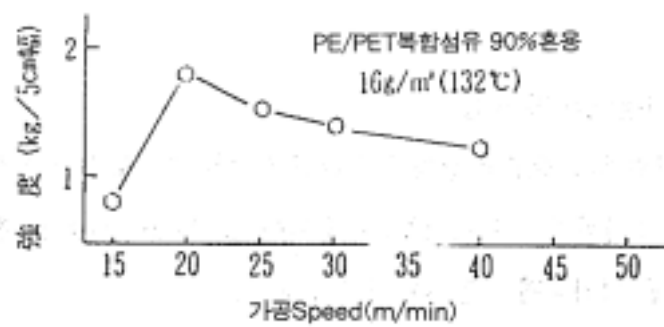
, 31 가 .

, Web, ,

가 3 speed



< 30> 가 speed

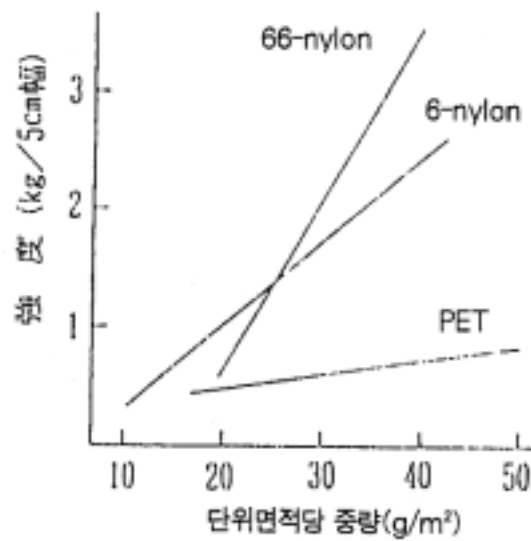


< 31> 가 speed

5-4 Web

32 Web .
 , web 가 .
 가 speed 30m/min, 70kg/cm 가 가
 web melt , 가
 . ,

33 Spinbau P.P. test .



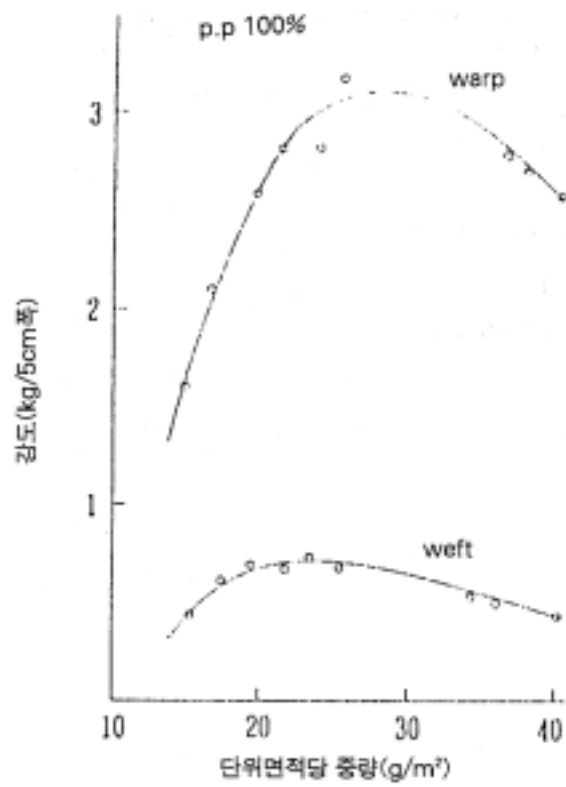
< 32 >

5-5 Emboss Pattern

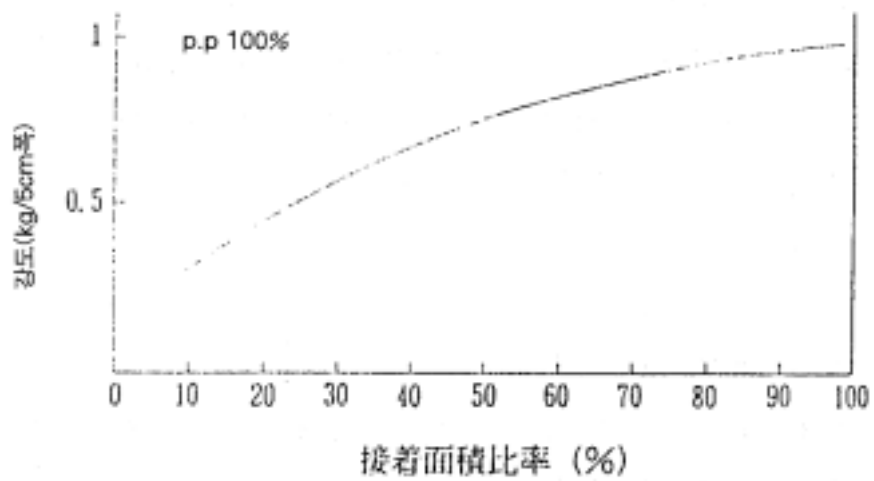
34 .

Emboss Pattern

point , size, 34, 5 .



< 33 >



< 34 >

< 5>

Calender	type Smooth roll/smooth roll	大	剛	小	,
	type Emboss Roll/Smooth Roll	中	中~剛	中	Emboss pattern
	Band type	小	軟	大	
	Drum type	中	軟	中~大	
		小~中	中	小~中	pattern(pattern Roll) 가
		中	軟	中~大	가

5-6

Thermal Bond

2

6

. 가 ,

, , . maker

.

35 Bonding , 36 Nylon

100% Nylon PET .

37 maker가 4 PET 가

Spinbau Test .

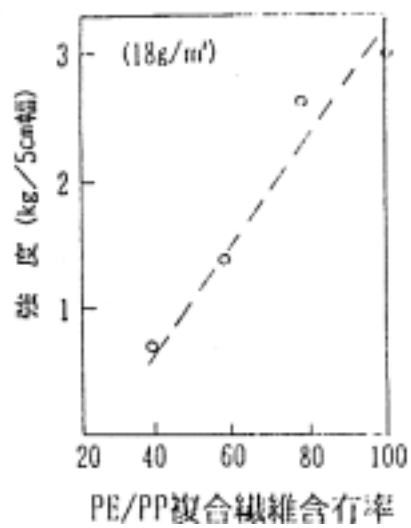
6. Thermal Bond

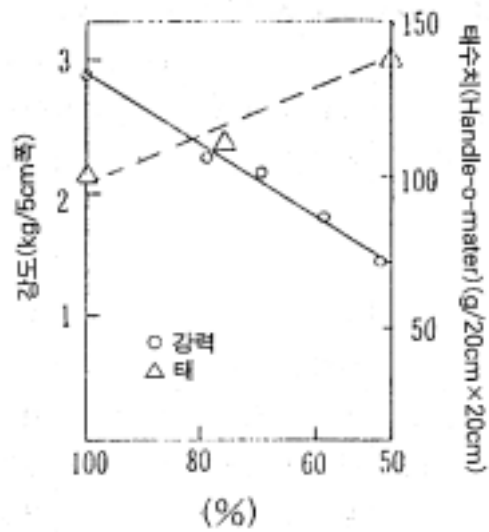
Thermal Bond

, 가 .

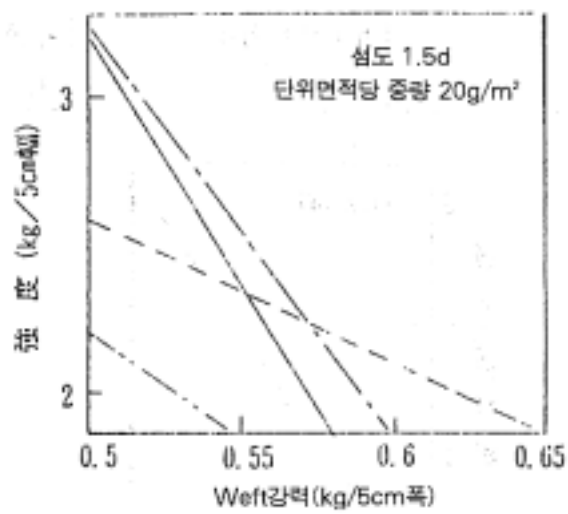
< 6> Thermal Bond

			Chemical bond type
	, , , pap()	Soft()	Dryness
			,
	Floppy disk, Jacket, Filter ,	, , ,	, , seal
	Wiping cloth chemical warmer	. seal .	. Drape .
		Soft	, DC . 가 .





< 36> 6-nylon



< 37> PET maker

6-1 Medical

surface Fabric . Daiaper Surface Fabrics, sanitary Napkins
Daiaper

가 . , ,

6-2

P.P가 PET 가 가 .
(Fiber fil(type) etc)
가 (, , Dani)
.

6-3

가 Floppy disk jacket
soft
clearing 가 가 vinyl
filter
, Heat seal filter .
, , ,
PET .

6-4

, 가
Chemical Bond
Soft 가
가 ,
, , , ,

.

7.

thermo bond

가 maker

가

, 가 calender maker, oven
maker 가 calender , Conveyer , Drum , Air
through oven

.

가

Durable type

Needle punch

, ,

가 ,

가 .