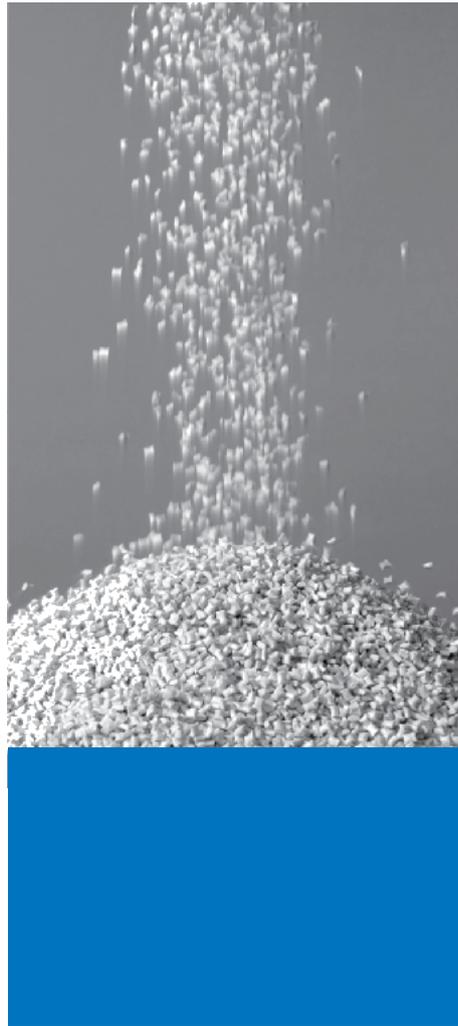


액정 폴리머
Liquid Crystal Polymer (LCP)

LAPEROS®

성형기술



폴리플라스틱스주식회사

LAPEROS[®] LCP

1	.....	2
2.	.....	2
3.	().....	3
4.	.....	3
5.	.....	5
5.1	.....	5
5.2	(Runner).....	5
5.3	(Gate).....	6
5.4 가	(Air Vent).....	6
6. 가	.....	6
6.1	.....	6
6.2	.....	7
6.3	.....	8
7.	.....	9
7.1	.....	9
7.2	.....	9
7.3 가	.....	9
7.4	.....	10
7.5 가	,	10
8.	.....	11

LAPEROS®

가

가

.

1

LAPEROS® LCP

가

가
 LAPEROS 가
 가 (, 가
) 가
 LAPEROS

(Pellet)

LAPEROS

2.

LAPEROS® LCP

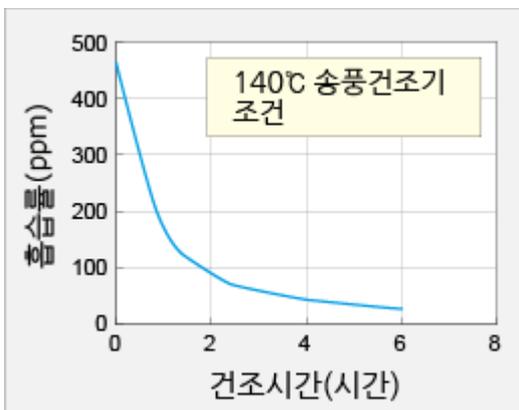
A 23 , 50%RH

0.03%(300ppm)

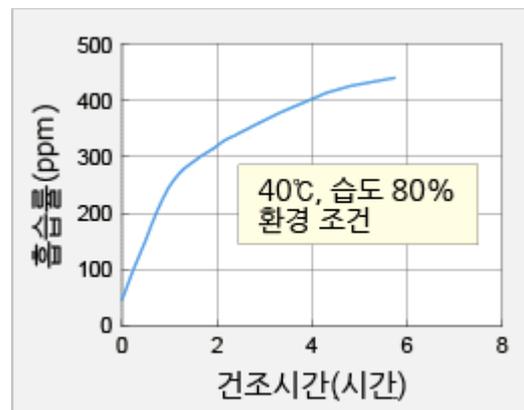
140 4 (24 가) ,
 (Hopper Dryer)

(Short Pass)가

가



2-1 E130i



2-2 E130i

3. ()

LAPEROS® LCP

3-1 100% 5
75%~90%

3-1. 5 (:%)

	E130i	E473i
	82	75
	83	82
	105	107
	86	79
	93	86
(Charpy)	86	80

* 100%

가 25%
25%
1 93.8%
가
(Re-pellet)

4.

LAPEROS® LCP

LAPEROS

380

1 (shot) 가 (Unit)

50~75%

LAPEROS

가

가

가

가

(Drooling)

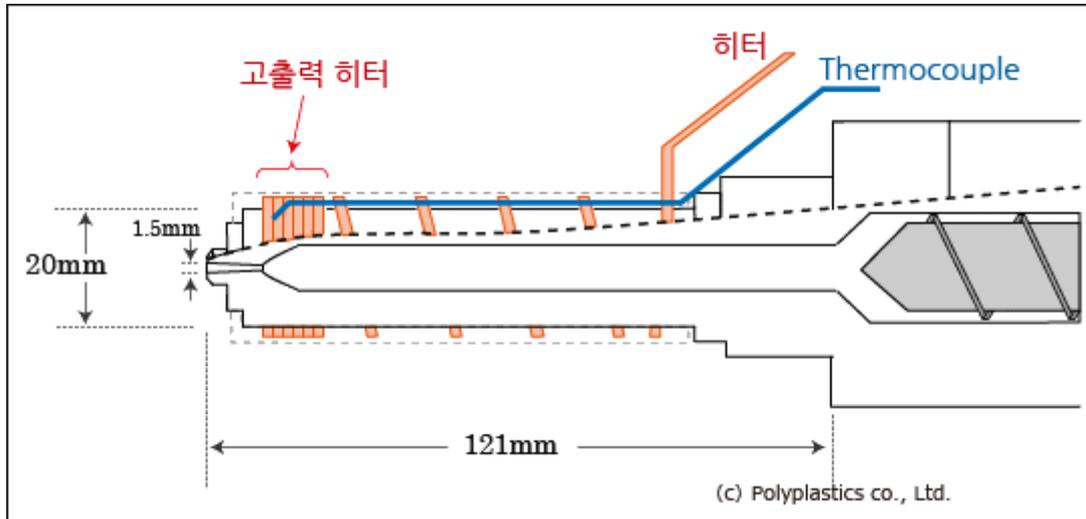
(Drooling)

(Cold Slug)가

4.1

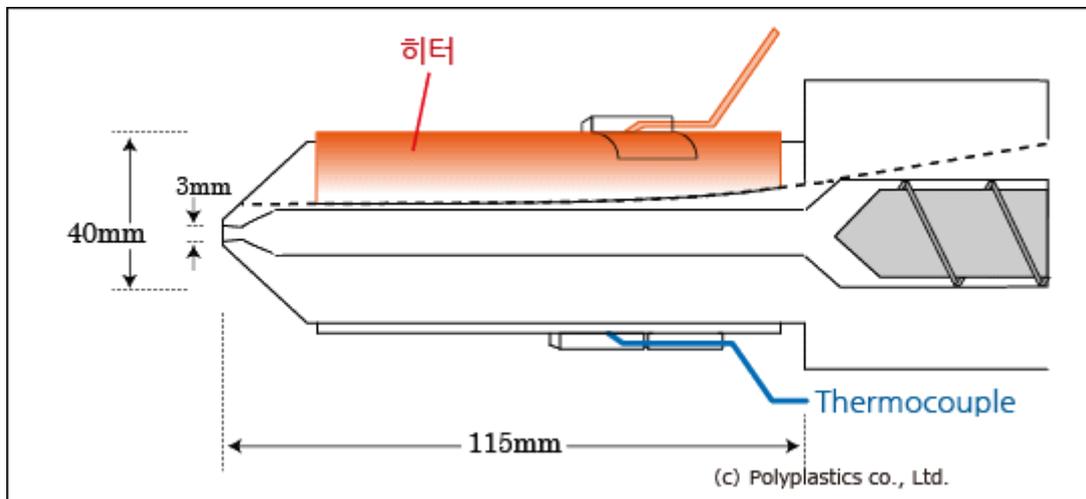
LCP

LAPEROS 가 (High Cycle)
 가 가 가
 • 가
 •
 • (Long Feed)



4-1 LCP

[(1~2mm), 가 ,
 (Thermocouple)]



4-2

5.

, LAPEROS® LCP

(Anisotropy)

LAPEROS

(Cavity)

(Thickness)가

가

가

(Weld Line)

LAPEROS

가

5.1

LAPEROS

가

가

5-1

A130

	1000	2000	3000
HPM31 (SKD11)			
STAVAX			

* HPM31

(日立金属工具鋼株式会社)

STAVAX UDDEHOLM

5.2 (Runner)

가

가

2~5mm 가

(Multi-Cavity)

(Sprue) 가

(Jetting)

()

가

+0.5mm

(Taper) 0.5~1°

LAPEROS

가

가

가

5.3 (Gate)

LAPEROS

가

LAPEROS

(Anisotropy)

LAPEROS

가

5.4 가 (Air Vent)

LAPEROS

가 가

가

LAPEROS 가

1/100~2/100mm

가 가

가

가 가

가

6. 가

6.1

LAPEROS® LCP

가 0.2mm, 0.3mm

6-1, 6-2

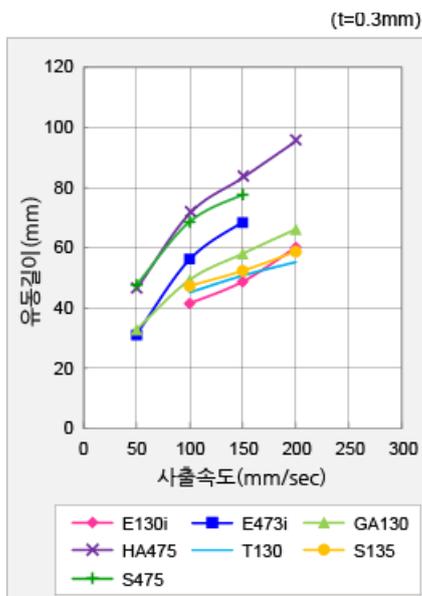
가

6-2

0.2mm

(Thickness)

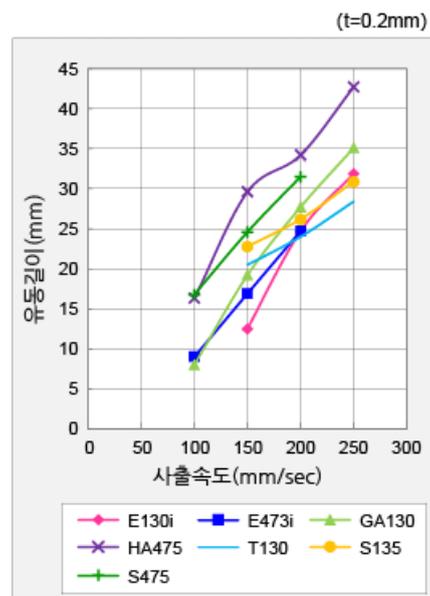
30mm



실린더 온도 :
 E130i : 350℃ E473i : 350℃ GA130 : 370℃
 HA475 : 370℃ T130 : 380℃ S135 : 370℃
 S475 : 370℃

금형온도 : 80℃

6-1 LAPEROS® LCP



실린더 온도 :
 E130i : 350℃ E473i : 350℃ GA130 : 370℃
 HA475 : 370℃ T130 : 380℃ S135 : 370℃
 S475 : 370℃

금형온도 : 80℃

6-2 LAPEROS® LCP

6.2

LAPEROS® LCP

6-1

6-3~6-10

6-1

6-3~6-10

가

가

가

6-1

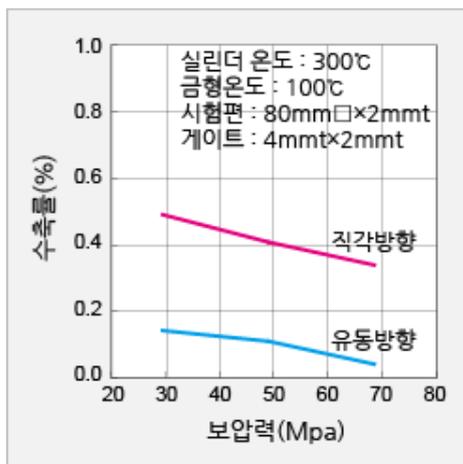
(: %)

		A130	E130i	E473i	GA130	HA475	T130	S135	S475
	%	0.01	0.02	0.03	0.01	0.02	0.07	0.08	0.10
	%	0.45	0.54	0.39	0.42	0.31	0.51	0.52	0.39

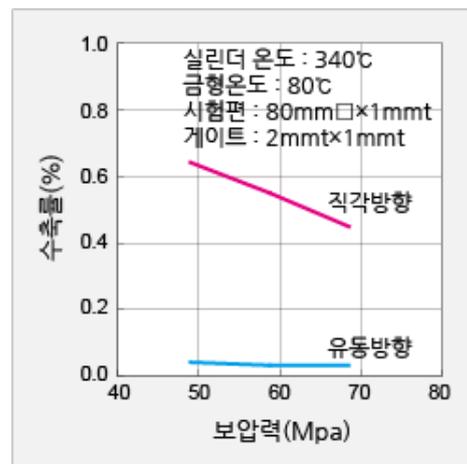
* 80mm×80mm×1mmt

2mmt×1mmt,

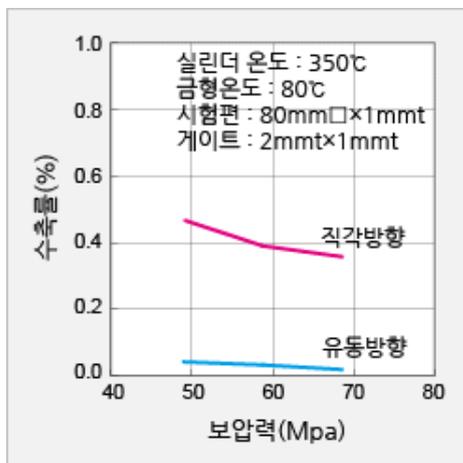
60MPa



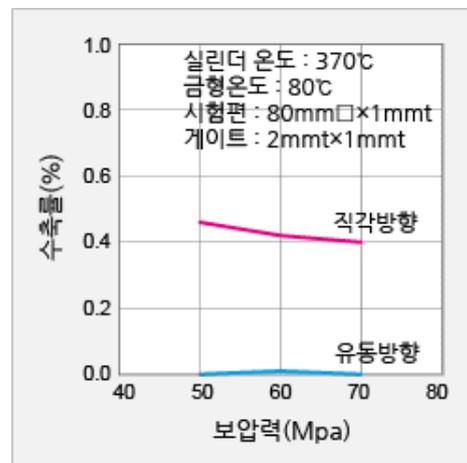
6-3 A130



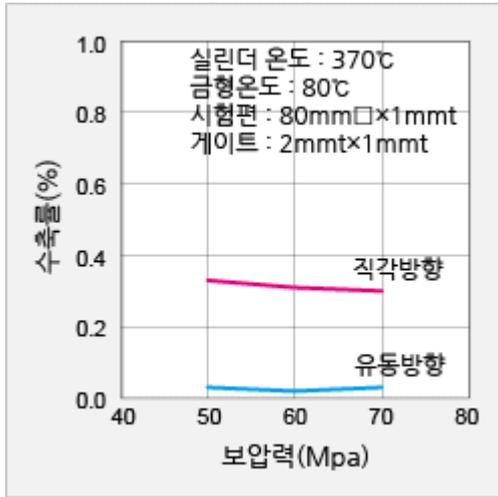
6-4. E130i



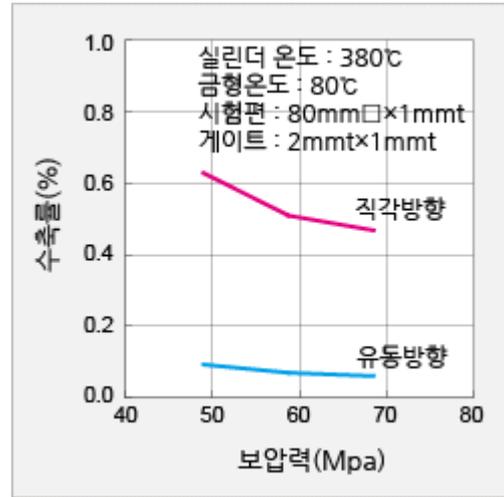
6-5. E473i



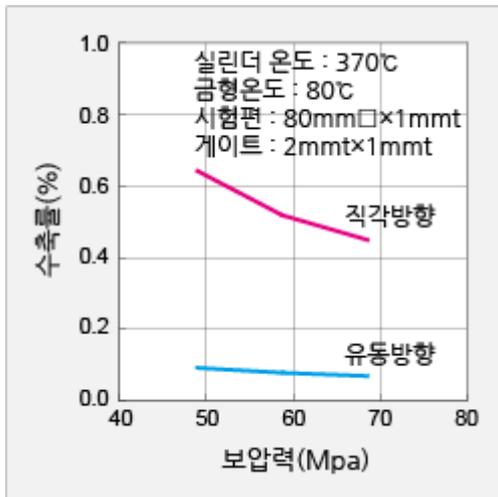
6-6. GA130



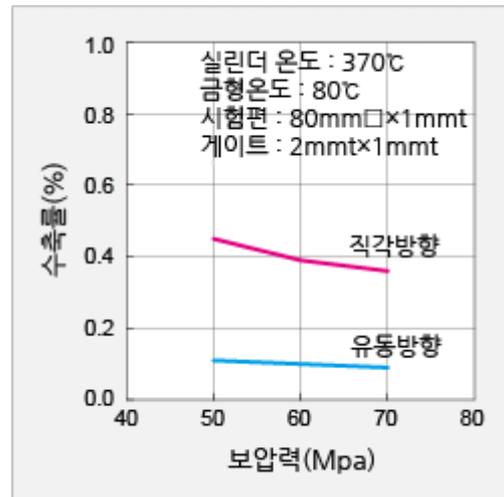
6-7 HA475



6-8 T130



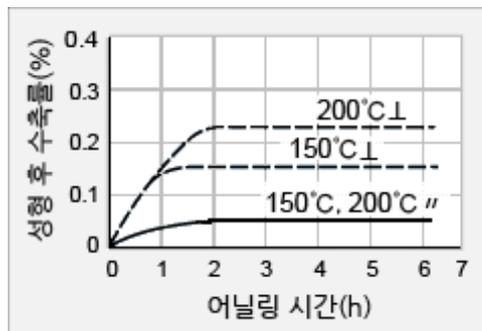
6-9 S135



6-10 S475

6.3

150 200 A130 (Annealing)
6-8 . 2



시험편 : 80×80×2mmt
게이트:1번의 중심쪽에 사이드게이트
방 향 : 유동방향, ⊥ 직각방향

6-8 A130

7.

7.1

7-1
10~20 (Drooling)
10~20

	가
	가 가 가 가

() E130i

(NH) 350 - 350 - 350 - 350 ()

(NH) 350 - 350 - 360 - 370 ()

7-1

			(Front)		(Middle)				
A	290	320	290	320	280	300	270	310	80
B	290	320	290	320	280	300	270	310	
C	330	350	330	350	320	340	310	350	
D	310	330	310	330	300	330	300	340	
E i	340	365	340	365	340	360	330	370	
GA/HA	350	370	360	380	330	350	315	335	
S	355	370	355	370	350	380	350	390	
T	370	380	370	380	370	390	360	400	

7.2

LAPEROS® LCP

50~120

50

(Surface Roughness)

가

7.3 가

100rpm

가

0MPa~2MPa

7.4

LAPEROS 가 가
45MPa . LAPEROS 15MPa
가

7.5 가 ,

(1)

(Purging) LAPEROS , LAPEROS
LAPEROS 가 (가
)
LAPEROS LAPEROS

(2)

가 LAPEROS LAPEROS
LAPEROS LAPEROS
가
가
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LAPEROS LAPEROS
LAPEROS® LAPEROS LAPEROS
가 LAPEROS

(3)

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)
LAPEROS 가 LAPEROS LAPEROS
가

(4)
LAPEROS 가

가

8.

LAPEROS® LCP

LAPEROS

가

가

가

350 , Ei

370 , GA, HA, T, S

A, B, C, D

385

30

50

가

-10

()

•

• 가

가

•

•가

•

•

'SDS'

•

•

LAPEROS®

가

가

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Fax: +82-2-2183-2273

<http://korea.polyplastics.com/>