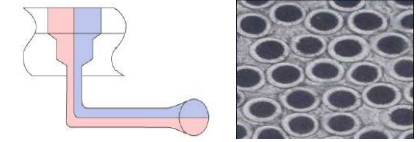


Bicomponent staple fiber

KAF, Inc.

1. Product code of bico fiber



Class. of polymer			Class. of characteristic			
Kolon	Sheath polymer	Core polymer	Spin finish	Denier range	Opacity	Centricity / Crimping
K	O	O	O	O	O	O
K	E (PE)	T (PET)	1 (Hydrophilic for ADL)	2	F (Full dull)	- (Concentric / M-crimp)
		P (PP)	2 (Hydrophobic)	5	M (Medium dull)	E (Eccentric / M-crimp)
			3 (Durable hydrophilic)	6	S (Semi dull)	
					B (Bright)	

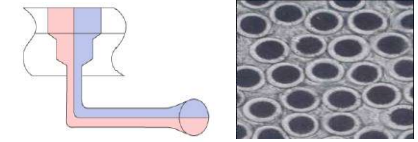
※ Refer

- M-crimp : Mechanical crimping











※ Product code examples

Polymer	Fiber Spec'				Product code
	Spin finish	Denier	Opacity	Centricity/Crimping	
PE/PP	Durable hydrophilic	1.5De'	FD	Concentric/M-crimp	KEP-31F
	Durable hydrophilic	2.0De'	FD	Concentric/M-crimp	KEP-32F
	Hydrophobic	2.0De'	FD	Concentric/M-crimp	KEP-22F
	Durable hydrophilic	2.0De'	BR	Concentric/M-crimp	KEP-32B
	Hydrophilic for ADL	5.0De'	BR	Eccentric/M-crimp	HP-150HB
PE/PET	Durable hydrophilic	2.0De'	FD	Concentric/M-crimp	KET-32F
	Durable hydrophilic	2.3De'	FD	Eccentric/M-crimp	KET-32FE
	Hydrophobic	2.0De'	FD	Concentric/M-crimp	KET-22F

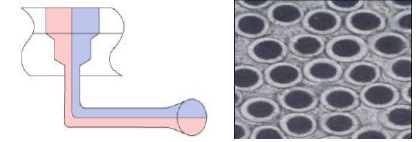
2. Product Characteristic











● KEP (PE/PP)

Product	Specifications					Characteristic	Applications
	Profile	Polymer	Titer (Denier)	Opacity	Crimp No. (ea/cm) / Crimp shape		
KEP-2 series	Centric 	PE/PP	1.5 2.0	BR SD FD	6.5 ~ 9.0 	* Bonding, Bulkiness, Softness * Good cardability * Hydrophobic	Back sheet Side gather Waist band
KEP-3 series	Centric 	PE/PP	1.5 2.0	BR SD FD	6.5 ~ 9.0 	* Bonding, Bulkiness, Softness * Low rewet (Dryness) * Durable Hydrophilic	Topsheet
KEP-16B (HP-160)	Centric 	PE/PP	6.0	BR	5.0 ~ 6.0 	* Good cardability * Durable Hydrophilic	ADL
HP-150HB	Eccentric 	PE/PP	5.0	BR	5.0 ~ 6.0 	* Higher bulkiness * Low heat shrinkage * Durable Hydrophilic	ADL
HP-1150	Centric 	PE/PP	5.0	BR	5.0 ~ 6.0 	* Coarse denier * Structural Layer of KF94 (N95) Masks	Mask

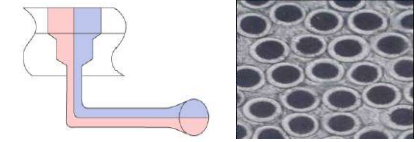
2. Product Characteristic



● KET (PE/PET)

Product	Specifications					Characteristic	Applications
	Profile	Polymer	Titer (Denier)	Opacity	Crimp No. (ea/cm) / Crimp shape		
KET-2 series	Centric 	PE/PET	2.0	SD FD	6.5 ~ 9.0 	* Bonding, Bulkiness, Softness * Good cardability * Hydrophobic	Back sheet Side gather Waist band
KET-3 series	Centric 	PE/PET	2.0	SD FD	6.5 ~ 9.0 	* Bonding, Bulkiness, Softness * Low rewet (Dryness) * Durable Hydrophilic	Topsheet
KET-32FE	Eccentric 	PE/PET	2.3	FD	5.0 ~ 6.0 	* Higher bulkiness * Low heat shrinkage * Durable Hydrophilic	Topsheet
KET-15SE	Eccentric 	PE/PET	5.5	SD	5.0 ~ 6.0 	* Higher bulkiness * Low heat shrinkage * Durable Hydrophilic	ADL

3. KET-15SE

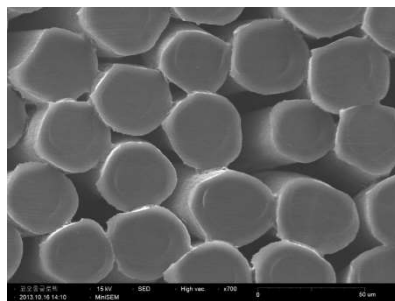


- Specification : PE/PET Eccentric 5.5De'×51mm (Semi-dull)
- Applications : ADL for hygienic products
- Feature and benefits
 - ✓ Higher bulkiness and higher resiliency than normal bico fibers
 - ✓ Customer can make the same bulkiness nonwovens with more light weight
 - ✓ Very fast liquid acquisition and distribution (Come from higher porus structure)
 - ✓ Good processability (Less powder, good cardability)

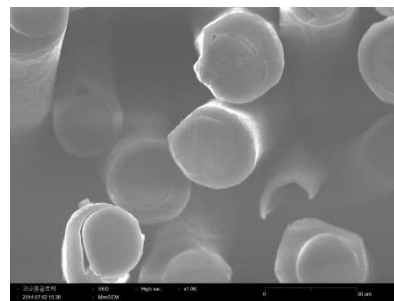


※ Comparison of cross-section

[KET-15SE]

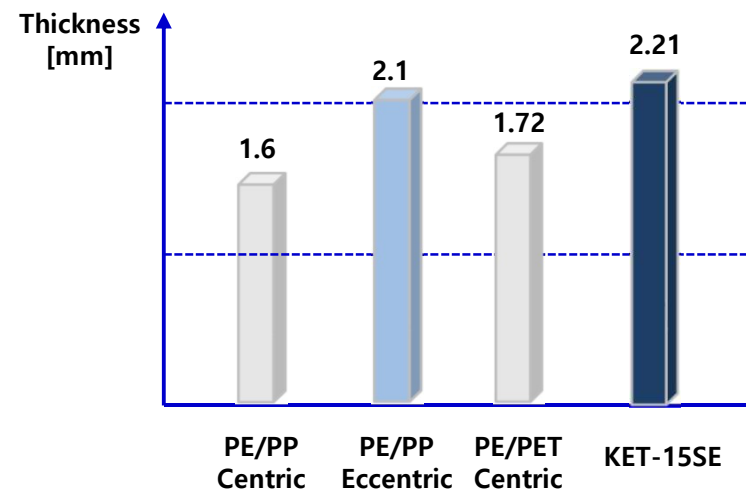


[Other company]

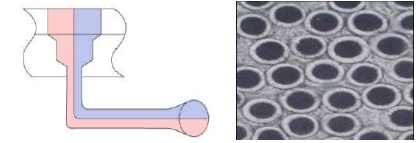


※ Comparison of NWF thickness

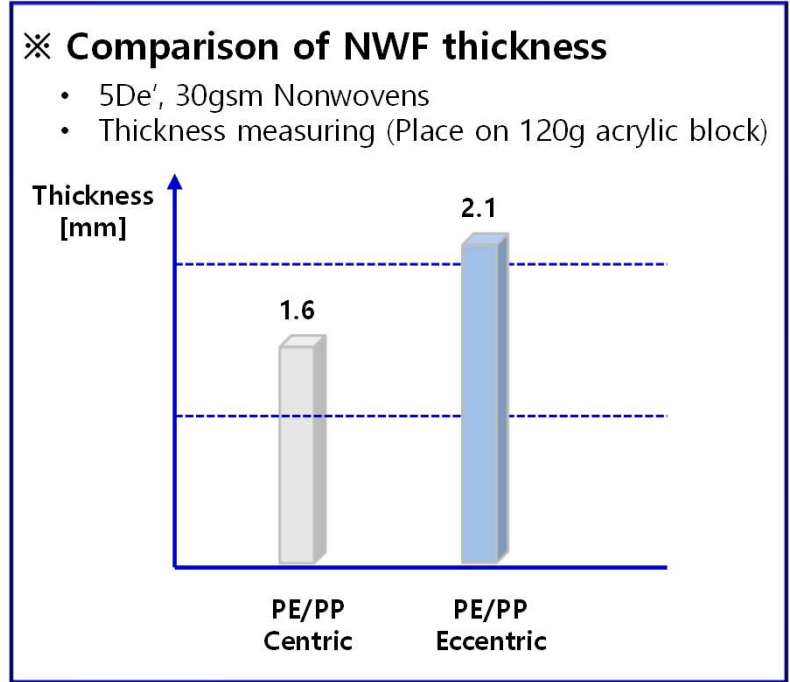
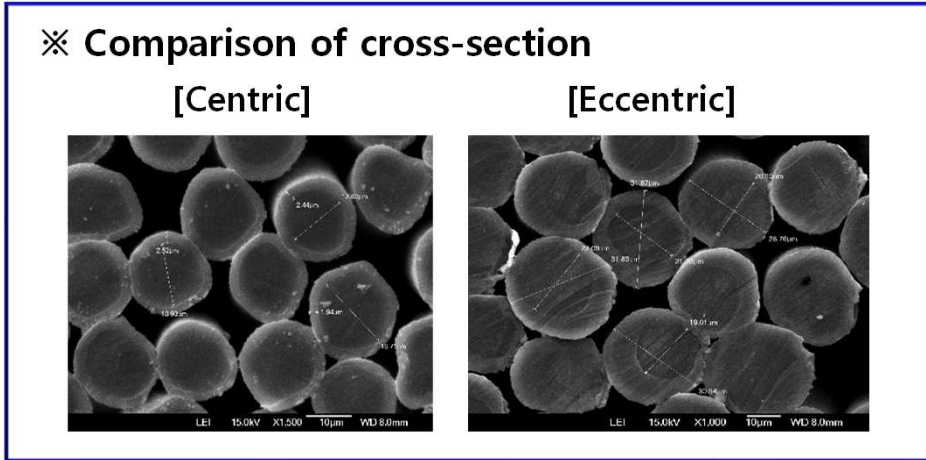
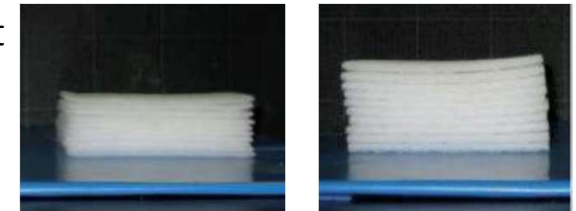
- 5De', 30gsm Nonwovens
- Thickness measuring (Place on 120g acrylic block)



4. HP-150HB

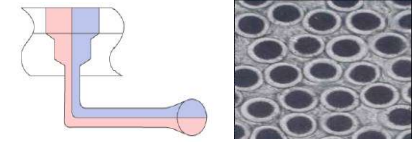


- **Specification : PE/PP Eccentric 5.0De'×51mm (Bright)**
- **Applications : ADL** (acquisition and distribution layers) **or SAP Layer** for hygiene products
- **Feature and benefits**
 - ✓ Higher bulkiness and higher resilience than normal bico fibers
 - ✓ Can make the same bulkiness NWF with more light weight
 - ✓ Very fast liquid acquisition and distribution
 - ✓ Good processability (Less powder, good cardability)



Denier (De')	Tenacity (g/De')	Elongation (%)	Spin finish (%)	Crimp NO (ea/cm)	Length (mm)
5.0	3.9	110	0.25	5.0	51

5. Products Safety



- CPTC (Customer Product Testing Co.)**

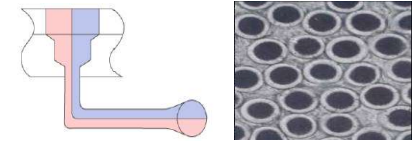
Test	Test article	Experiment Ref' No.
Repeated Insult Patch Test (Protocol No. CP-01.01S)	PE/PP Bico. staple fiber (Hydrophilic, KEP Series)	C13-2176-01
	PE/PET Bico. staple fiber (Hydrophilic, KET Series)	C13-2176-02
21day Cumulative Irritation Test	Hydrophobic, KEP-2 & KET-2 Series	Pass

- Kimberly-Clark Safety Clearance**

Test article	Experiment Ref' No.
KEP-3 Series	C2008-1758
KET-3 Series	"
KEP-2 & KET-2 Series	C2014-0612 / C2014-0613

- Food contact approval (21 CFR 177.1850 : Textryls DI Water Extractives)**

6. Applications



Baby Diapers



- Top sheet
- Outer cover
- Absorbent core
- Core wrap
- Side panels

Adult Incontinence Products



- Top sheet
- Outer cover
- Absorbent core
- Core wrap
- Side panels

Feminine Hygiene



- Top sheet
- Absorbent core
- Side panels