

Yarn Specification

Yarn Type	LOT	Linear density	Fila. No.	O.P.U	Elongation at break	Breaking tenacity		Breaking strength		Modulus		
		Denier	Fila	%	%	MPa	g/d	N	kgf	GPa	g/d	
AF 1000	200D	A021	203±10	134	2.0	2.8±0.5	2923±254	23.0±2.0	45±3.9	4.6±0.4	102±19	800±150
	300D	A031	304±15	134	1.0	3.0±0.5	2923±254	23.0±2.0	69±5.9	7.0±0.6	97±9	760±70
	400D	A041	405±20	267	1.0	3.2±0.5	2923±254	23.0±2.0	91±7.8	9.3±0.8	93±9	730±70
	840D	A081	850±40	665	1.0	3.4±0.5	2923±254	23.0±2.0	196±20	19.6±1.7	86±9	680±70
	1000D	A101	1010±50	665	1.0	3.5±0.5	2923±254	23.0±2.0	226±20	23.2±2.0	86±10	680±80
	1500D	A151	1520±60	1000	1.0	3.7±0.5	2923±254	23.0±2.0	333±29	35.0±3.0	70±7	550±50
	2250D	A221	2280±80	1000	1.0	3.8±0.5	2923±254	23.0±2.0	510±49	52.4±4.6	71±10	560±80
	3000D	A301	3040±100	2000	1.0	3.9±0.5	2923±254	23.0±2.0	686±59	70.0±6.0	74±11	580±90
AF 2000	400D	H041	405±20	267	1.0	3.5±0.5	3432±254	27.0±2.0	108±10	10.9±0.8	92±9	720±70
	840D	H081	850±40	665	1.0	3.5±0.5	3432±254	27.0±2.0	226±20	23.0±1.7	89±9	700±70
	1000D	H101	1010±50	665	1.0	3.6±0.5	3432±254	27.0±2.0	265±20	27.3±2.0	89±9	700±70
	1500D	H151	1520±60	1000	1.0	3.7±0.5	3432±254	27.0±2.0	402±20	41.0±3.0	89±9	700±70
AF 3000	1420D	M141	1440±60	1000	0.9	2.7±0.5	2796±254	22.0±2.0	314±29	32±3	114±10	900±80
	2840D	M281	2880±90	2000	0.9	2.7±0.5	2796±254	22.0±2.0	627±59	64±6	108±10	850±80
	5680D	M561	5760±170	4000	0.9	2.8±0.5	2733±254	21.5±2.0	1196±128	122±13	104±10	820±80

O.P.U : Oil Pick Up

Property	Unit	
Flammability (LOI)	%	29
Hot air shirinkage (15 min. at 190°C)	%	0.1
Heat resistance (residual strength after 48 h at 200°C)	%	90
Decomposition temperature	°C	> 450
Coefficient of thermal expansion (linear)	%10 ⁻⁶ /K	-3.5
Density	g/cm ³	1.44

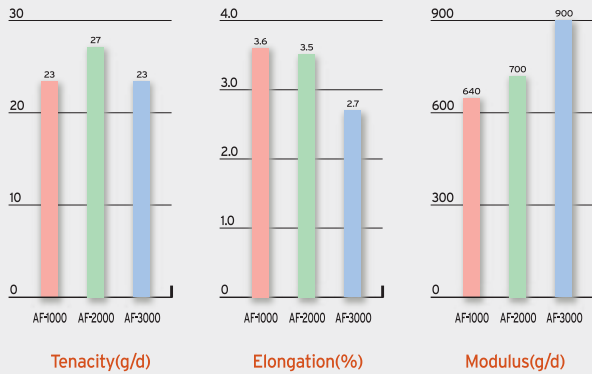
> ISO 9001:2015, IATF 16949:2016, ISO 14001:2015 Certified.

> ALKEX® is a Hyosung registered trademark.

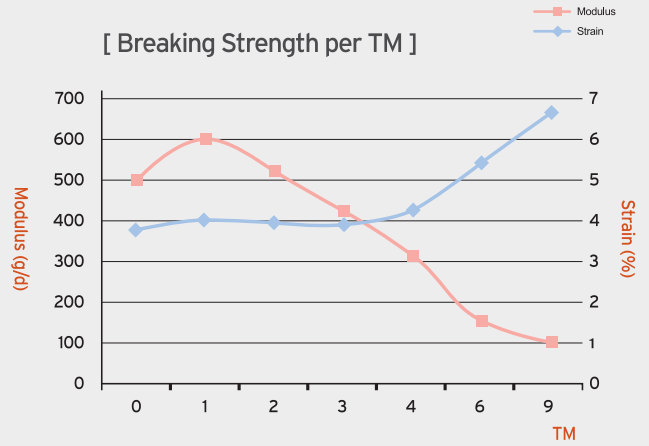


Physical Properties

[Yarn Performance]



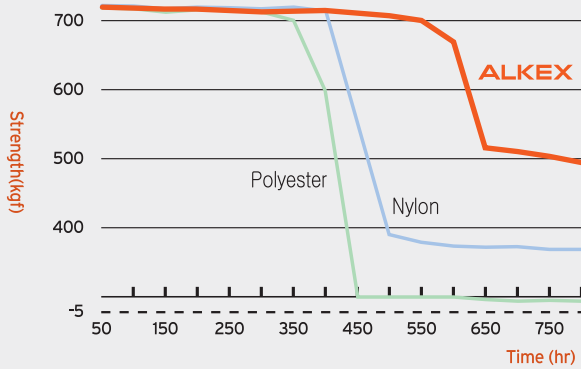
[Breaking Strength per TM]



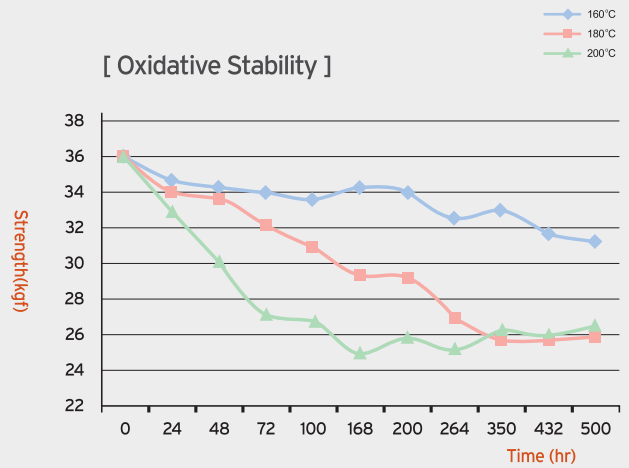
* TM = Twist Multiplier $TM = \frac{tpm \times \sqrt{De}}{2874}$

Thermal Properties

[TGA (Thermogravimetric Analysis)]



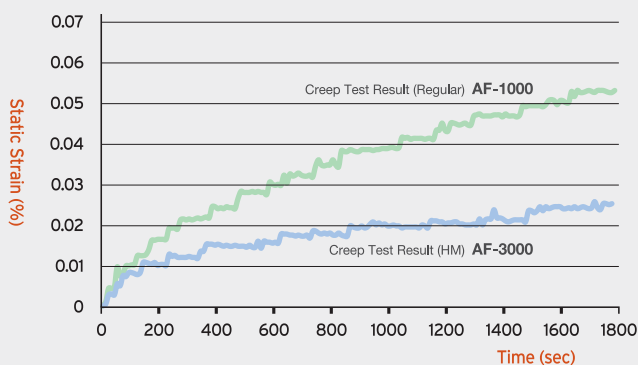
[Oxidative Stability]



* Standard Denier = AF-1000, 1500d

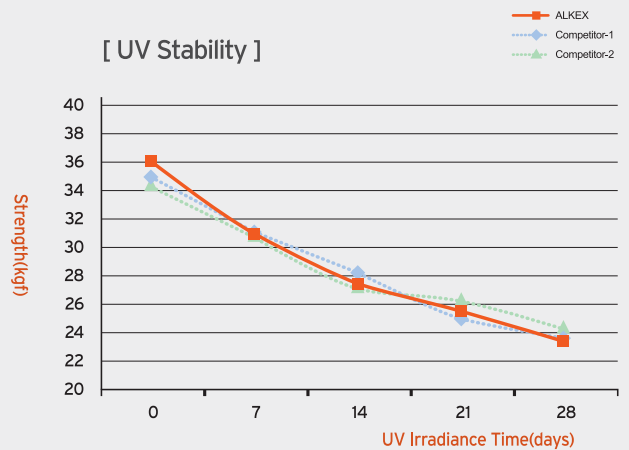
Others

[Creep Test Result]



* 1 gpd (8.83cN/tex) load at 75F(24°C). Growth measured at 30 seconds. Creep is the length change between 30 seconds and 30 minutes.

[UV Stability]



* UV stability of each yarns were obtained with a "Weather-O-meter" equipped with a xenon arc. (Standard Test Method : ISO 105 B02) Chamber Temperature : 42°C / Humidity : 30% / Irradiance : 1.10 W/m²