



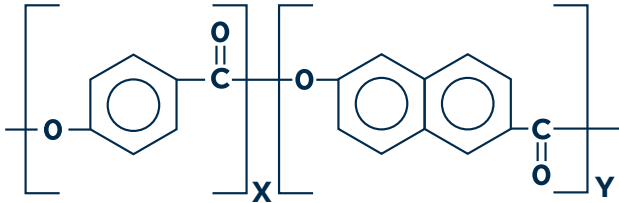
Vectran®

**Staple fiber using
liquid crystal
polymer technology**

kuraray

About Vectran®

Pound for pound, Vectran® LCP fiber is five times stronger than steel and ten times stronger than aluminum.



Mechanical properties of Vectran® filament yarn (average)

	HT			UM		
	GPa	g/denier	ksi	GPa	g/denier	ksi
Break strength	3.2	25.9	465	3	24.4	440
Initial modulus	75	600	10,760	103	838	15,020
Elongation at break, %	3.4			2.8		

Filament LCP fiber can be converted to staple fiber. Common lengths are 38mm and 51mm.

Why Vectran® Staple Fiber

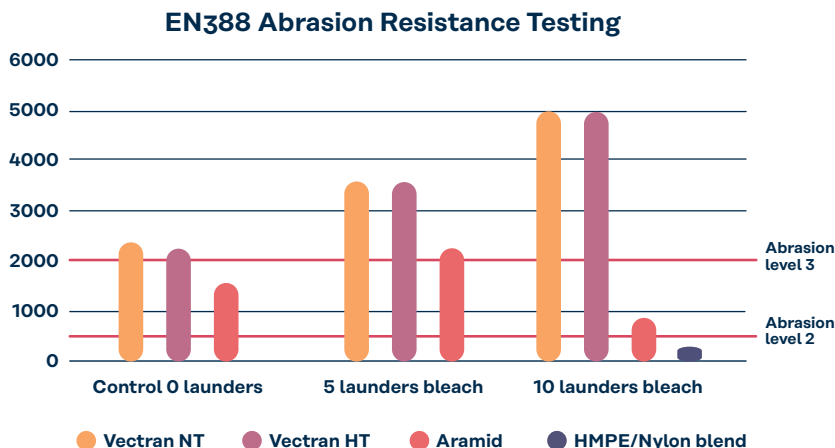
Cotton-like feel

- ➔ Better adhesion to coatings
- ➔ Range of size/counts
- ➔ Blending facilitates:
 - Contribution of Vectran® fiber properties
 - Cost effectiveness
 - Variety of coloration options



Abrasion resistance testing

(Before and after bleach launder cycles)

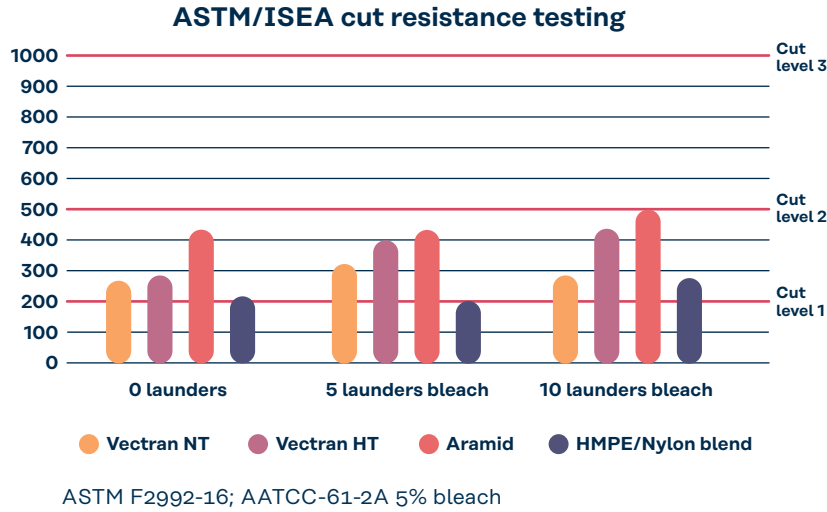


EN388- P400 grit; AATCC TM61- 2A- 5% bleach
Abrasion Level 1 = 100 cycles

- ➔ Vectran® NT and Vectran® HT staple fibers exhibit significantly higher abrasion resistance before and after bleach launder cycles compared to aramid staple fiber, or to a blend of HMPE/Nylon staple fiber.
- ➔ Vectran® NT and Vectran® HT staple fibers show improvement in abrasion resistance performance from 0 to 10 bleach launder cycles

Cut resistance testing

(Before and after bleach launder cycles)

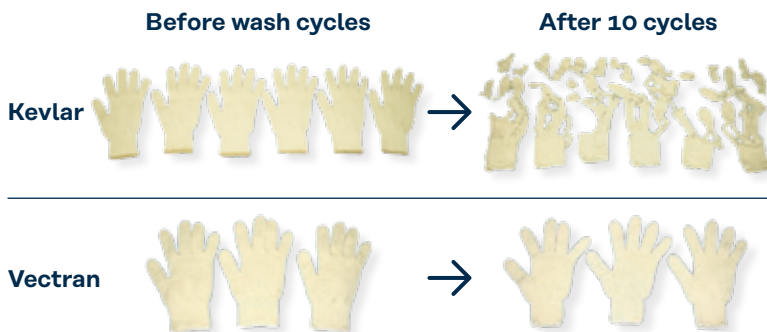


- ➔ Vectran® NT and Vectran® HT staple fibers offer an equivalent level of cut resistance before and after laundry with bleach compared to aramid staple fiber, or to a blend of HMPE/Nylon staple fiber



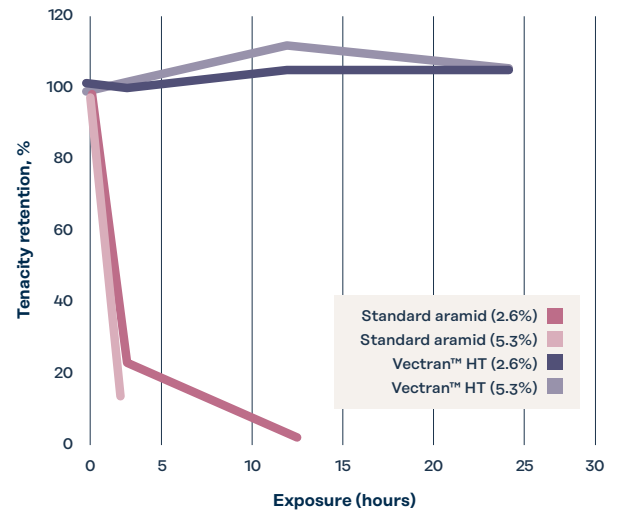
Chemical resistance

Vectran® fiber is resistant to organic solvents, some acids of >90% concentration, and bases of <30% concentration. Chemical resistance is important in protective apparel use, garment care and upkeep. The superior bleach resistance of Vectran®, shown here at two concentrations, plus low shrinkage and stain resistance, can greatly simplify use and care of protective fabrics.



*Washing conditions: Washing at 80°C deg. x 30min + Sodium hypochlorite + drying at 80°C deg. x 30 min 10 cycles

Bleach resistance – Vectran® vs. aramid



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Kuraray America

460-E Greenway Industrial Drive
Fort Mill, SC 29708
USA

Main: +1-803-396-7350

Direct: +1-803-396-7352

→ Sales@VectranFiber.com

→ www.kuraray.us.com

Kuraray Co., LTD

Umeda Hankyu Building Office Tower
8-1, Kakudacho, Kita-ku Osaka 530-8611
Japan

Tel: +81-6-7635-1213

Fax: +81-6-7635-1233

→ www.kuraray.co.jp

Kuraray Europe GMBH

Philipp-Reis-Straße 4
65795 Hattersheim am Main
Germany

Direct: +49 69 305 35 861

→ IndustrialFibers@kuraray.com

→ www.kuraray.eu

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