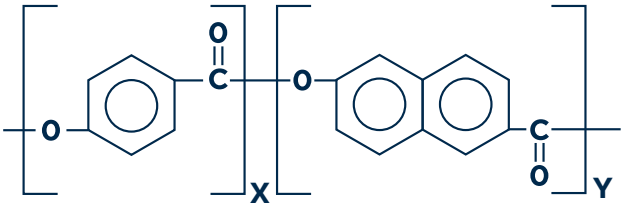
Vectran®

Staple fiber using liquid crystal polymer technology

kuraray

About Vectran®

Vectran® LCP fibers deliver a combination of excellent cut and abrasion resistance with tensile strength.



Mechanical properties of Vectran® filament yarn (average)

	HT			NT		
	GPa	g/ denier	ksi	GPa	g/ denier	ksi
Break strength	3.2	25.9	465	1.1	9	160
Initial modulus	75	600	10,760	52	421	7,542
Elongation at break, %	3.4			2.0		

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

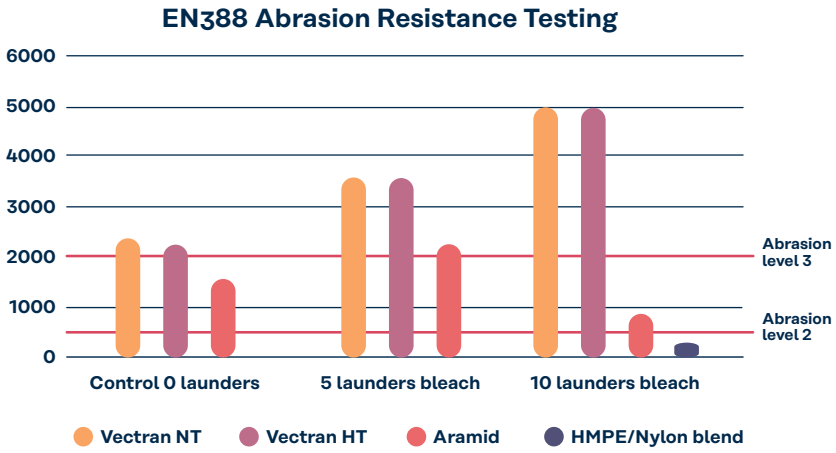
Why Vectran® Staple Fiber

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

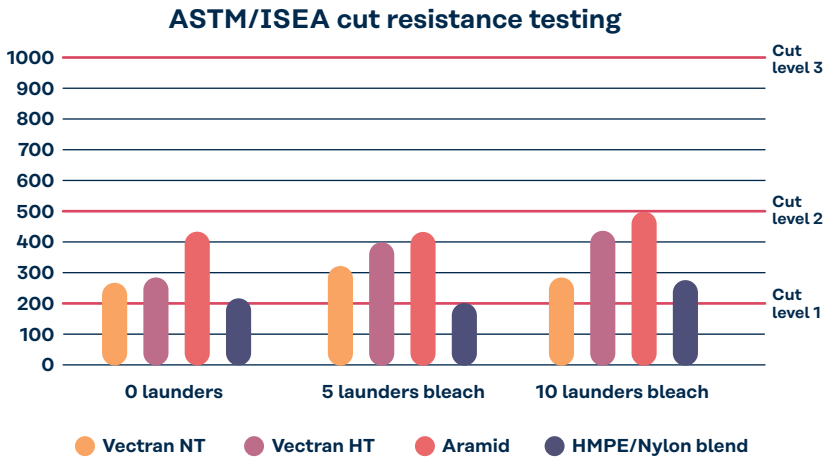
(Before and after bleach launder cycles)



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)

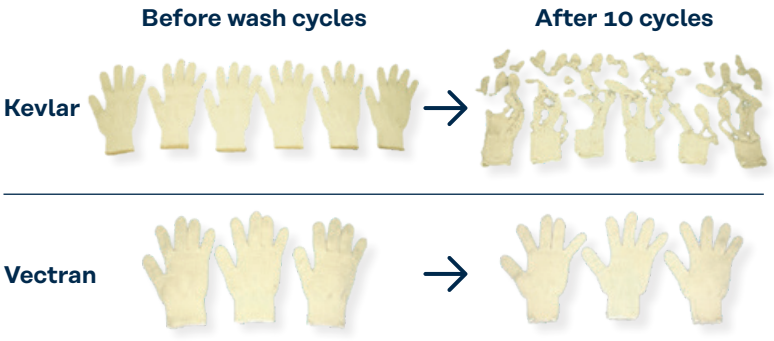


ASTM F2992-16; AATCC-61-2A 5% bleach

- 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

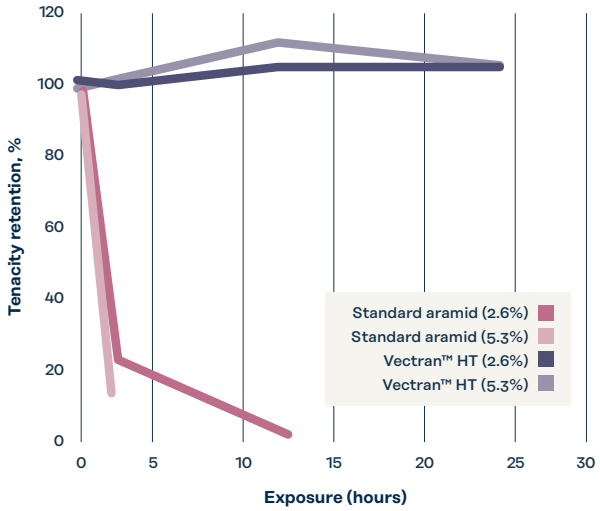
Chemical resistance

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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