

Vectran™

Product
Overview





Vectran®

Vectran® is a high-performance multifilament yarn spun from Liquid Crystal Polymer (LCP) produced by Kuraray in Japan. Vectran® is currently the only melt spun LCP fiber in the world that is commercially available. The unique combination of characteristics of Vectran® fibers makes it superior to many other materials and enables it to perform under conditions in which other materials fail. Pound for pound Vectran® fiber is five times stronger than steel and ten times stronger than aluminum.

Type	Titer dtex	Filaments	Tenacity			Modulus		Elongation	
			cN/dtex	g/den	GPa	cN/dtex	g/den	GPa	at break %
HT110	110	20	21,6	24,5	3,0	528	600	75	3,0
HT220	220	40	21,6	24,5	3,0	528	600	75	3,0
HT440	444	80	21,6	24,5	3,0	528	600	75	3,0
HT830	837	150	21,6	24,5	3,0	528	600	75	3,0
HT1100	1109	200	21,6	24,5	3,0	528	600	75	3,0
HT1670	1725	300	21,6	24,5	3,0	528	600	75	3,0
HT1670 black	1703	200	14,2	16,1	2,0	528	600	75	2,0
UM1580	1580	200	23,4	26,5	3,2	770	790	108	2,7

Vectran® fiber is available with the following finish options: T-97, T-150 and T-117. Parameters to consider when selecting a finish include anti-stat, lubrication, and abrasion resistance properties. The following descriptions and guidelines are intended to aid in the selection of the optimum finish for a particular application.

- **T-97:** Type 97 finish is silicone-based oil, applied at a target level of 5.0 % by weight. This finish was developed to minimize fiber-to-fiber and fiber-to-metal abrasion. It is used for dynamic applications, primarily in the cordage and cable industry. T97 is non-conductive by design, and may cause the fiber to balloon and tangle due to static buildup. Static dissipation devices are recommended with all Vectran products, but especially when using T97.
- **T-150:** Type 150 finish is a textile processing finish designed to lubricate the Vectran fiber for weaving and knitting processes. This finish is also useful for other fiber processing steps such as rewinding, twisting and braiding. The finish is applied at a target of 0.5 weight % and is easily scoured off with mild soap and water.
- **T-117:** Type 117 finish is an olefinic finish with a waxy component. It is applied at a target of 1.5 % by weight for improved abrasion resistance without the use of silicone.

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