



Tsunooga® is industrial fiber material which has excellent strength and modulus.

Tsunooga® surpasses para-aramid fibers in lightness and cut resistance and offers more than twice cut resistance than nylon and polyester fibers.  
(evaluated using the EN388 coup test method)

And low specific weight 0.97g/cm<sup>3</sup>. Moreover, Tsunooga® provides outstanding resistance to weather and chemicals.

## Molecular Structure

Tsunooga® is made from high molecular weight polyethylene processed under ideal spinning conditions.



**'Tsunooga®'**  
Regular molecular structure  
(High orientation)



**Polyethylene**  
Irregular molecular structure  
(Low orientation)

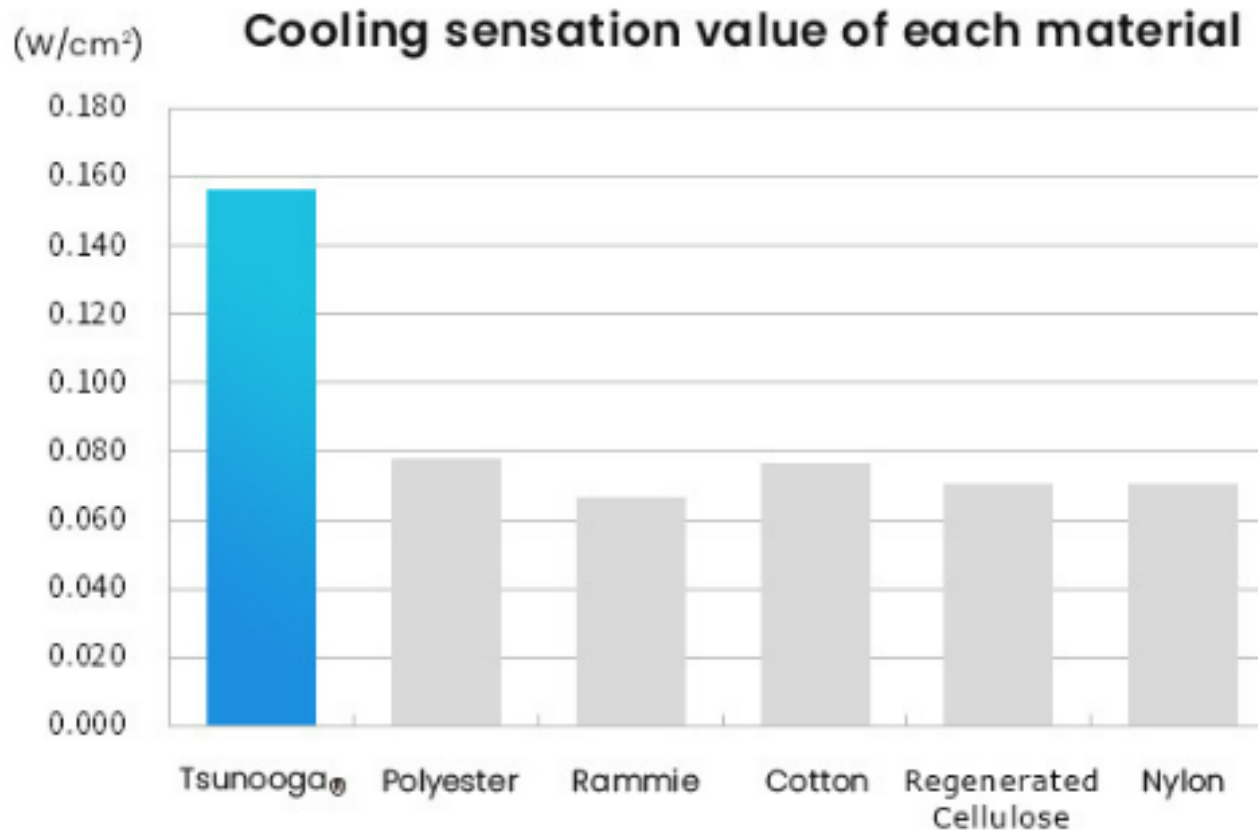
## Cut Resistance



"Tsunooga®" is a high-strength, high-molecular-weight polyethylene fiber with excellent cut resistance. It has more cut resistance than para-aramid fiber and more than double that of polyester fiber and nylon fiber.

(evaluated using the EN388 coup test method)

## Cooling Sensation





※Graph shows q-max value  
※Test with each material 100% fabric  
※Tested by TOYOBO Research Center

"Tsunooga®" has a high specific heat and high thermal conductivity, so it has excellent ability to absorb and dissipate heat from the skin. By using it in the fabric, you can get a cool touch feeling.

## Basic Properties

	Strength		Modulus of Elasticity		Fracture Elongation	Density	Moisture percentage
	c N/dtex	GPa	c N/dtex	Gpa	%	g/cm <sup>3</sup>	%
<b>Tsunooga®</b>	Min 14	Min 1.4	Min 430	Min 43	6.0	0.97	0.0

## Product Lineup

Type	'Tsunooga®'	'Tsunooga®' spun-dyed
<b>Fineness / Number of filaments (cN/dtex)</b>	 <p>110dtex / 90 filaments 220dtex / 180 filaments 440dtex / 360 filaments</p>	 <p>440dtex / 360filaments Colors : black, brown, gray</p>