



**MOBILON**  
**ECO-FRIENDLY SPANDEX**

**NISSHINBO**

# Introduction of MOBILON®

## **MOBILON: The Sustainable Spandex Revolution**

### **Cutting-Edge Production:**

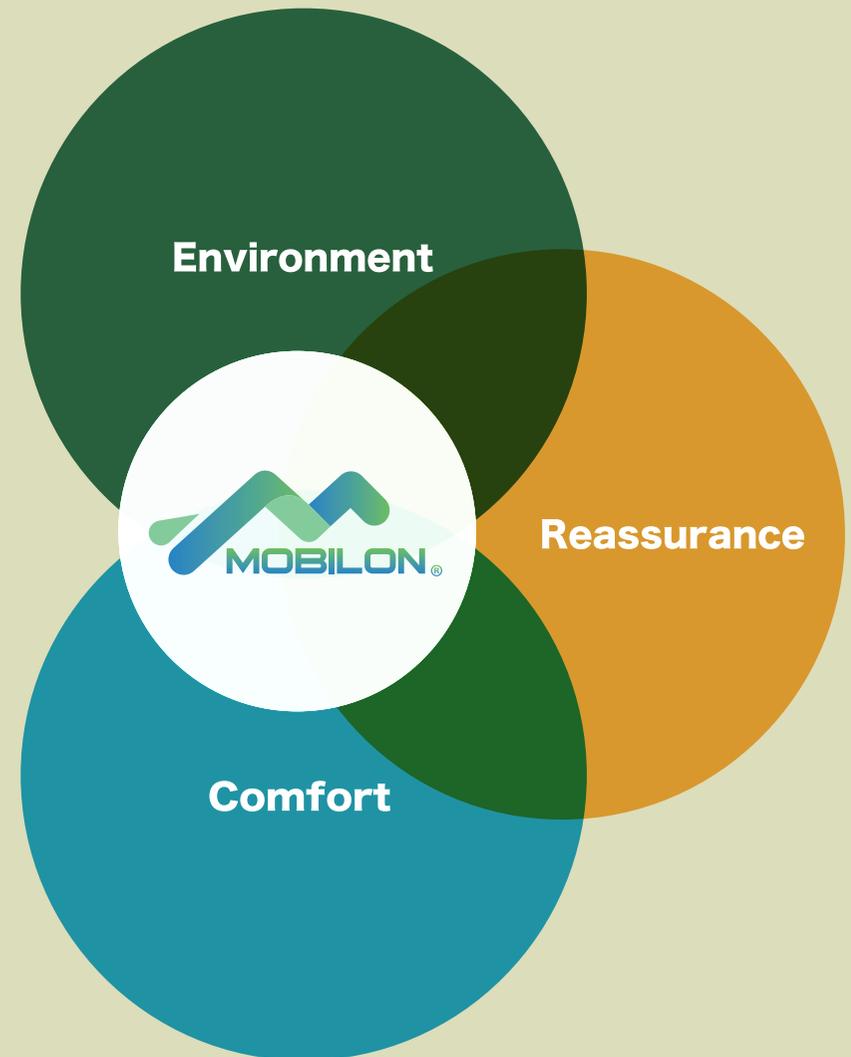
MOBILON is crafted through a unique melt-spinning process, a rare and advanced method that sets it apart globally from traditional spandex production techniques like dry-spinning.

### **Eco-Friendly:**

MOBILON reduces CO2 emissions and eliminates harmful solvents. It offers sustainable options like recycled and plant-based spandex.

### **Unmatched Performance:**

Soft, comfortable, and durable—MOBILON delivers superior fit and lasting performance for legwear, innerwear, and sportswear.





**1907**  
Establishment of  
Nisshinbo Co., Ltd.

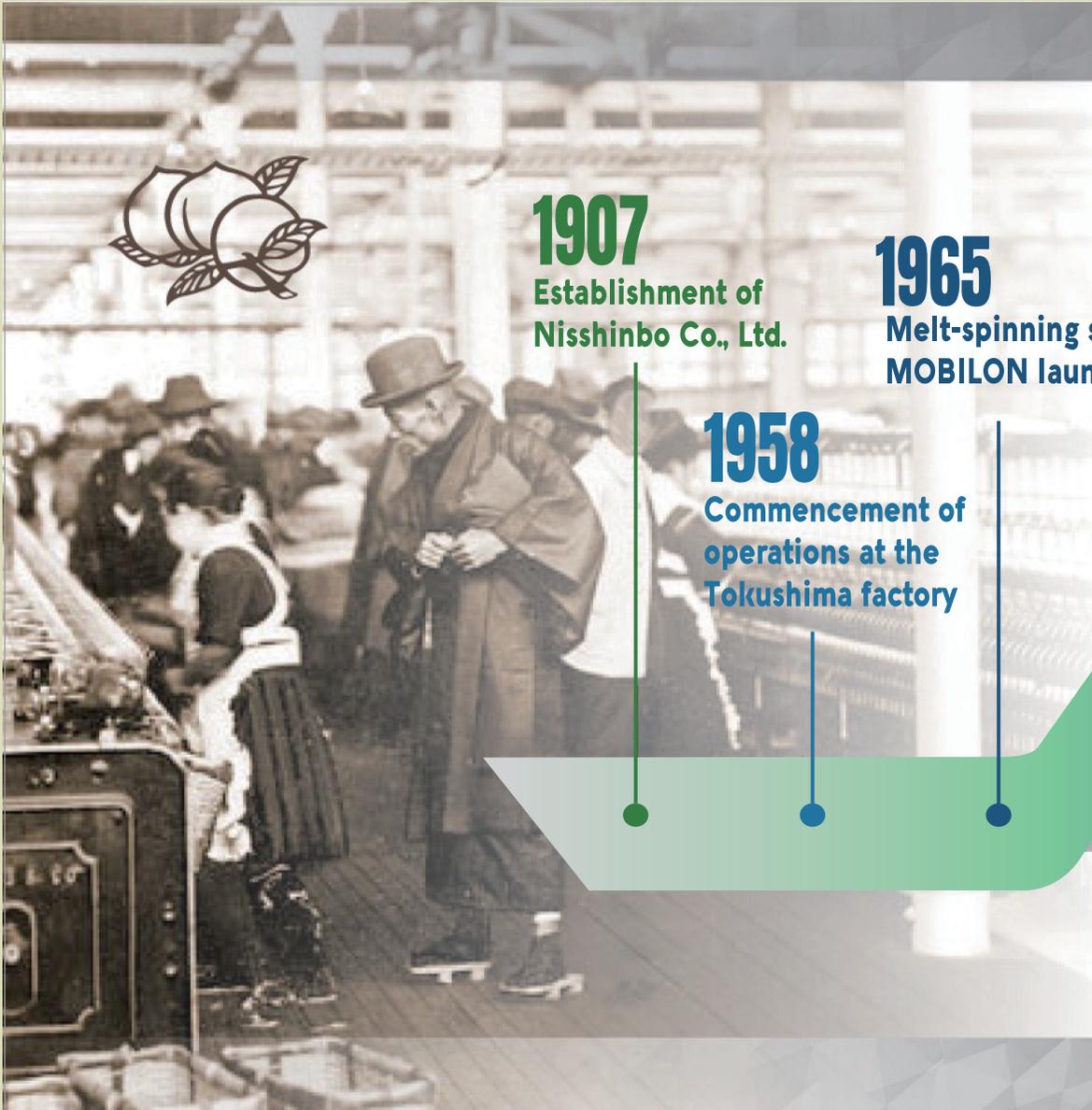
**1958**  
Commencement of  
operations at the  
Tokushima factory

**1965**  
Melt-spinning spandex  
MOBILON launched

**2022**  
For innerwear: biomass  
MOBILON <RB> launched

**2003**  
For innerwear: Heat-Fusible MOBILON<R> launched

**eco-friendly**



# The Characteristics of MOBILON

**MOBILON** offers superior characteristics compared to conventional spandex, especially in terms of **environmental consideration and functionality**

Characteristic	Conventional Spandex (Dry-Spinning)	<b>MOBILON</b> <sup>®</sup> (Melt-Spinning)
Environmental Perspective	Using organic solvent	Organic solvent free
	Recycled without heat fusion	Recycled without heat fusion
	Biomass without heat fusion	Biomass without heat fusion
Fitting	Intense compression	Gentle compression
Heat fusion Capability	Poor	High
Low-Temperature Setting Property	Poor	High
Dimensional Stability	Poor	High
Anti-Slip Effect	Poor	High

# Organic Solvent Free

MOBILON is produced using the melt spinning method, eliminating the need for organic solvents like DMAc. This process reduces CO<sub>2</sub> emissions by removing the need to heat and evaporate solvents during production.



# Using Recycled Material

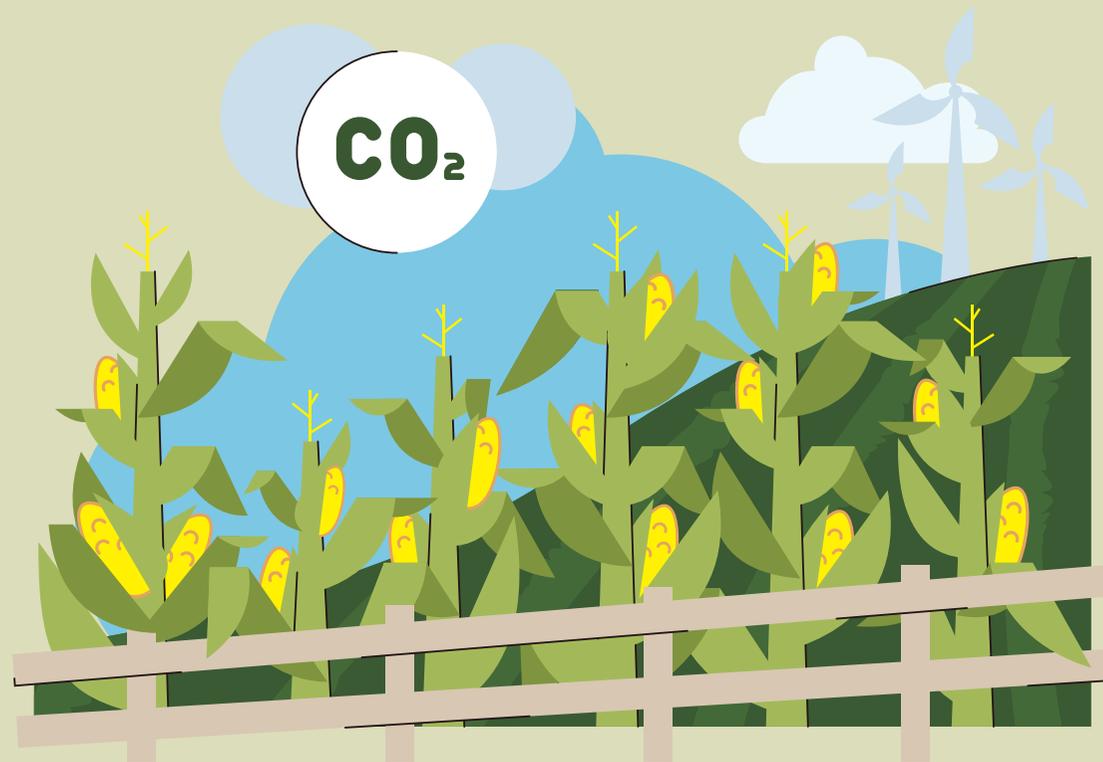
We are committed to reducing environmental impact by collecting and recycling manufacturing waste, melting it down for reuse. The product is also heat fusible for added versatility.



**MOBILON uses more than 20% of waste generated during manufacturing as raw material.**

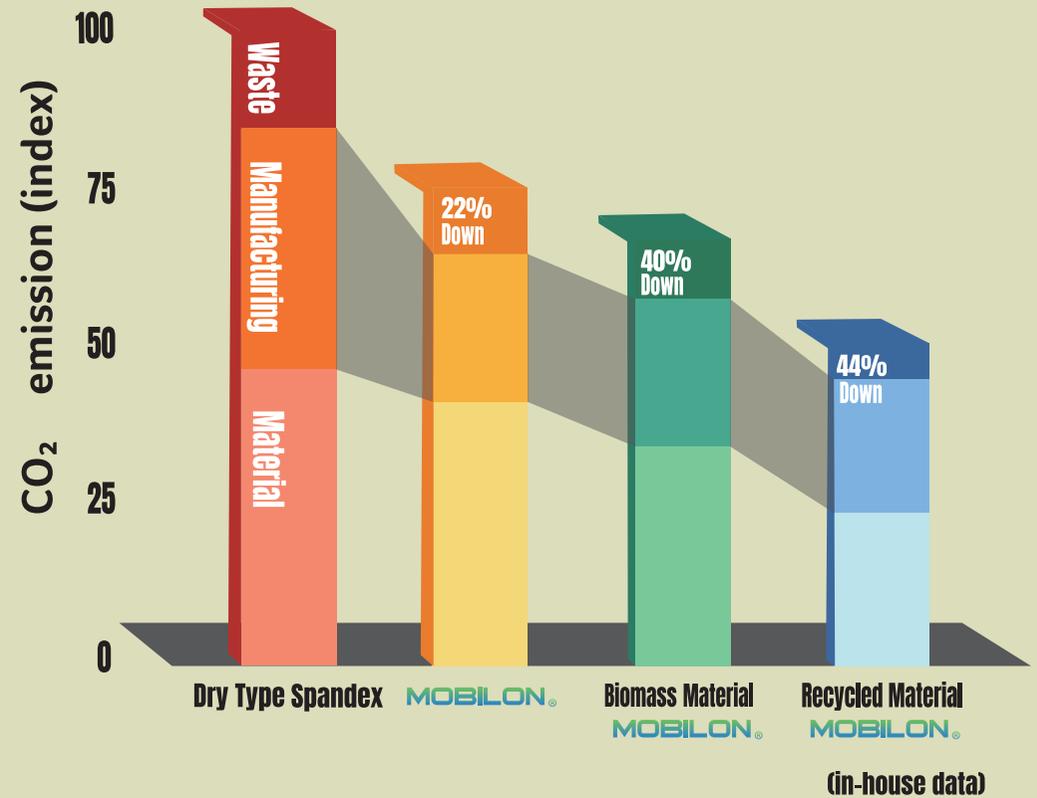
# Using Biomass Material

We're reducing environmental impact by using heat-fusible, plant-based biomass materials instead of traditional petroleum-derived raw materials.



# CO<sub>2</sub> Emission Reduction Effect

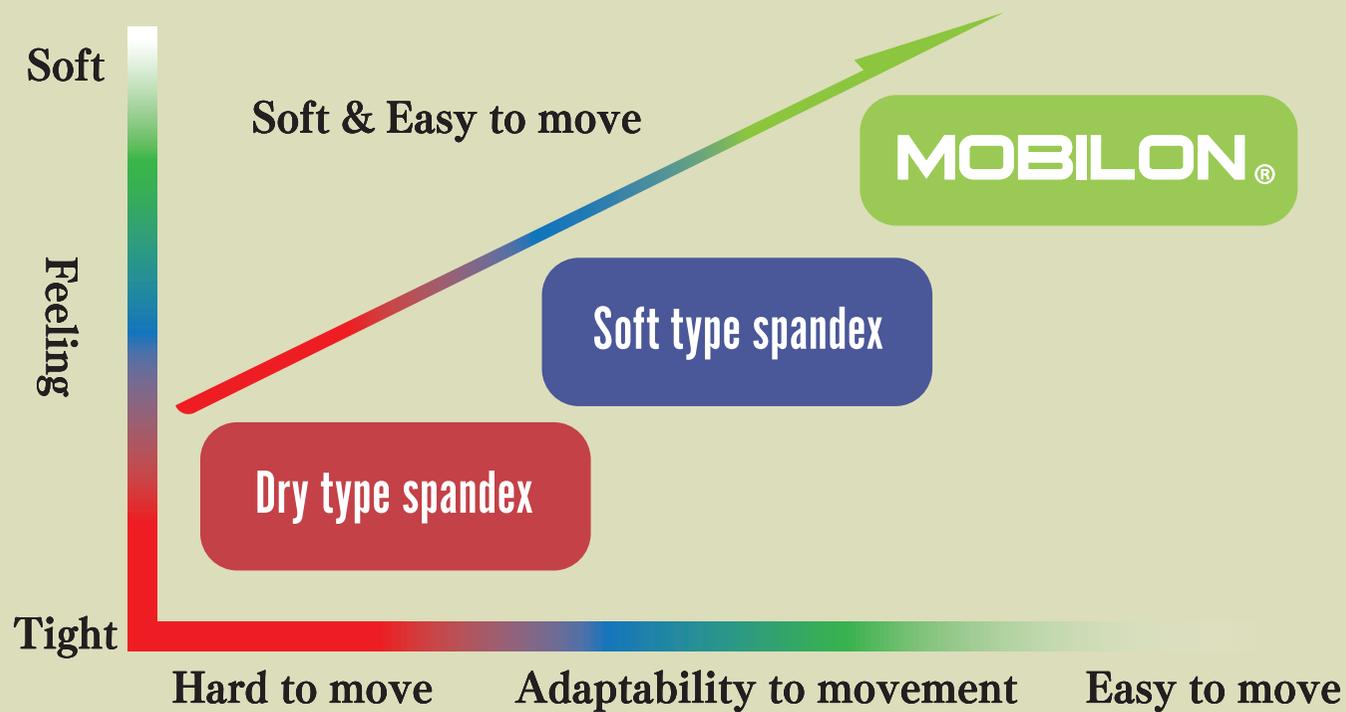
MOBILON is an eco-friendly spandex made without organic solvents, significantly reducing CO<sub>2</sub> emissions compared to the dry spinning method.



# Stress-Free

Fabrics made with MOBILON offer a soft, comfortable fit that moves with you, staying comfortable even after extended wear—perfect for innerwear and fitness apparel

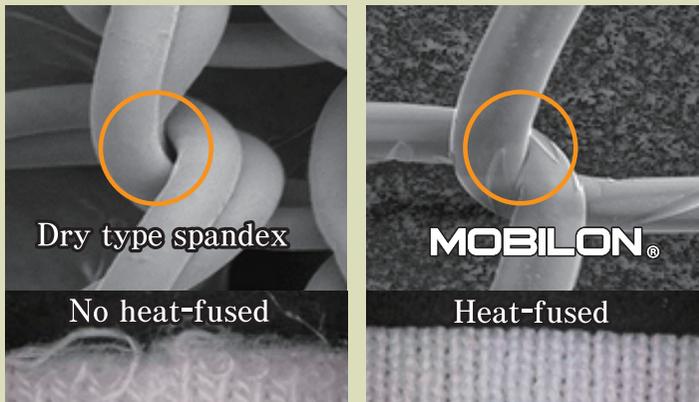
Fig1. Stress image when wearing



# Heat-fusibility

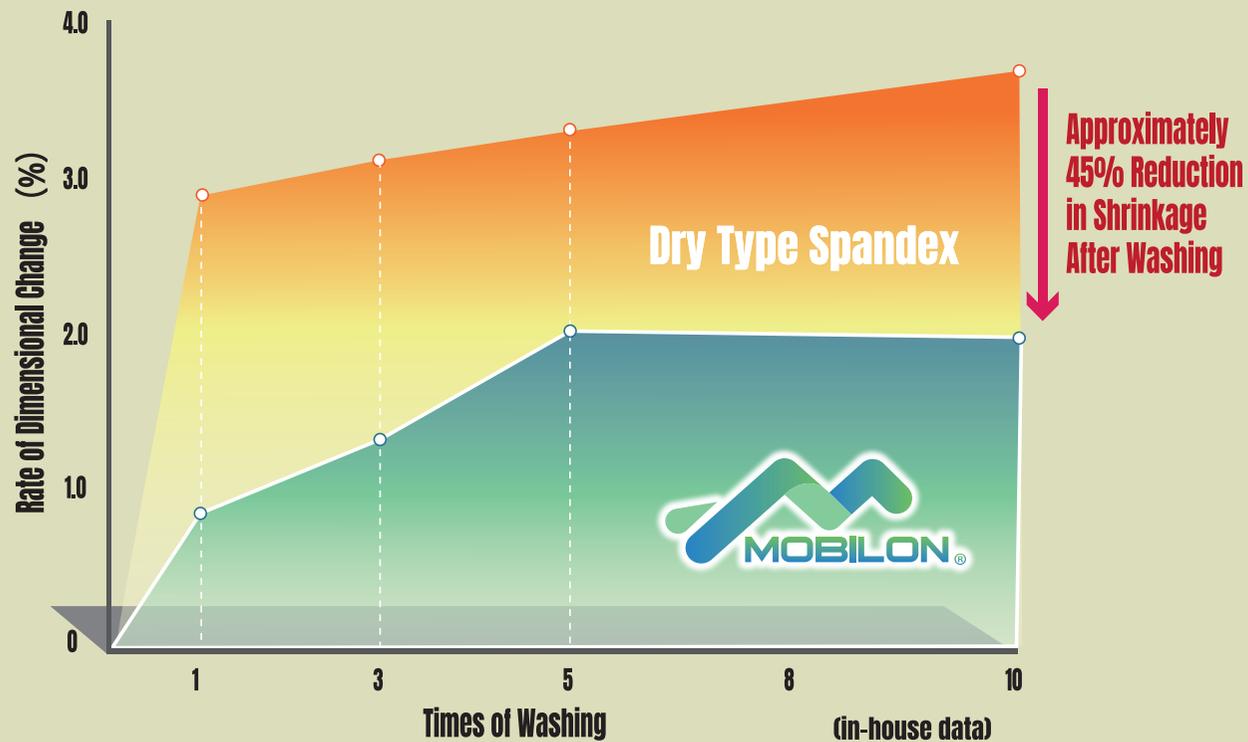
Designed for free-cut fabric, our spandex provides smooth heat fusion that prevents fraying or unraveling---no stitching required.

Fig 1. Part of heat-fusing for spandex



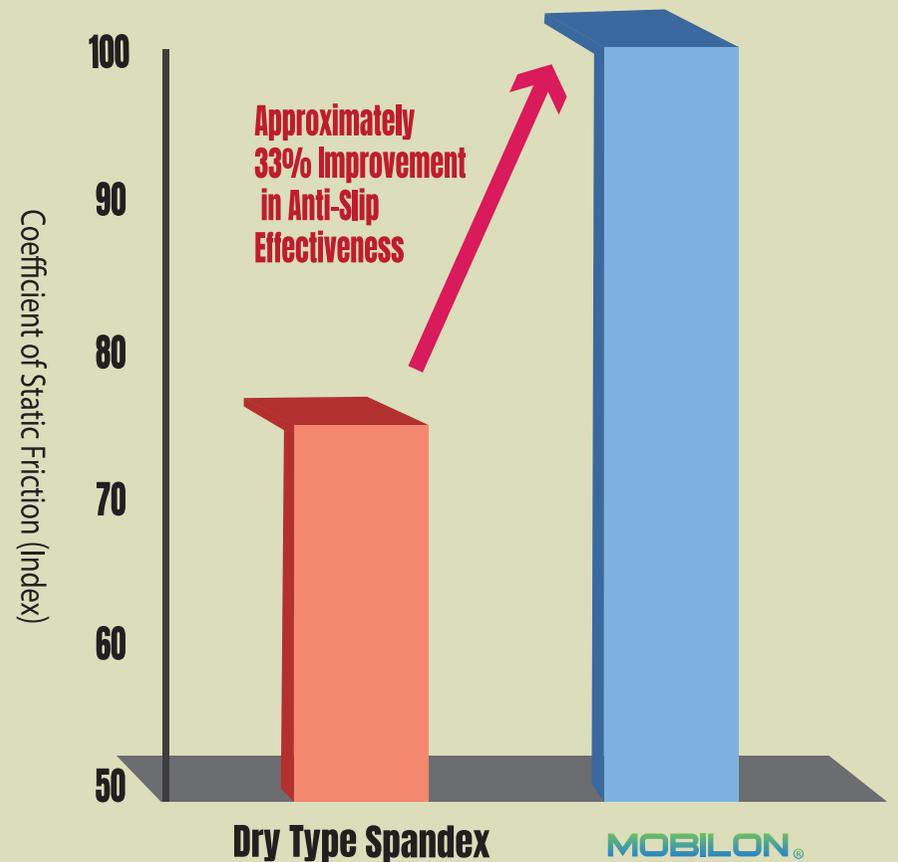
# Dimensional Stability

MOBILON offers superior heat-set properties compared to conventional spandex, with fabrics maintaining their shape and experiencing minimal dimensional change after washing.



# Anti-Slip Effect

MOBILON' s high-fineness yarn creates a unique shape and cross-section, offering enhanced friction against both skin and fabric surfaces for an anti-slip effect that keeps your garments in place.



(in-house data)

# R-type Product Line Expansion

Type	R	R-L	R-LL	ER	RB
Performance	Heat Fusion	Low-Temperature Heat Fusion	Ultra-Low-Temperature Heat Fusion	Recycle+ Heat Fusion	Biomass+ Heat Fusion
Fusion Conditions (Dry Heat)	175°C ×60sec	150°C ×60sec	130°C ×60sec	175°C ×60sec	175°C ×60sec
Gloss	Clear	Clear	Clear	Clear	Clear
Alkali Resistance	○	○	○	○	○
Fiber Diameter (dtex)	22	○	○	—	○
	33	○	○	○	○
	44	○	○	—	○
	78	○	○	—	—
	110	—	—	○	—
	156	○	○	—	—
	233	—	○	—	—

# Certification

Biomass Mobilon has obtained certification from a third-party organization,



## OEKO-TEX®STANDARD 100

Certification that textile products and related items do not contain harmful substances such as specific aromatic amines. It has passed the highest safety standard, the "Class I Standard" (for products such as clothing for infants and young children).



## ISO14001

A standard that specifies the requirements for an environmental management system. It includes the essential elements that must be followed when establishing an environmental management system in accordance with ISO standards.

## Global Recycled Standard

An international voluntary standard that verifies the inclusion of recycled materials and demonstrates compliance with social, environmental, and legal requirements at each stage, from the supply source to the final product. MOBILON uses more than 20% of waste generated during manufacturing as raw material.



## Biomass Pla

An environmental certification issued by the Japan Biomass Plastics Association. The certification requires that the product contains at least 25% biomass materials, and that none of the materials used in its composition contain harmful substances as specified by the association.



## OK biobased

An environmental certification issued by TÜV Austria. It is divided into four levels based on the percentage of biomass materials contained in the product. The certification requires that the product contains at least 20% biomass materials.

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