

# NATULON™ Series



### **NATULON™** Variations

While the demand for recycled materials is increasing, there are different types of NATULON $^{\text{\tiny M}}$ . The NATULON $^{\text{\tiny M}}$  product line is designed for customers who want to increase the amount of recycled material in their products.

PRODUCT	FEATURES	RECYCLED MATERIAL	RECYCLED PARTS
NATULON®	The NATULON® zipper is made from recycled materials such as PET bottles.	PET bottles	Tape
NATULON Plus®	The NATULON Plus® zipper features the highest ratio of recycled material zipper chain by utilizing both recycled tape and elements.	Tape: PET bottles Elements: PET bottles, Scrap metal	Tape, elements
NATULON® Ocean Sourced™	The NATULON® Ocean Sourced™ zipper is made from ocean bound plastic, helping address one of the primary sources of ocean plastics.	Ocean bound plastic	Tape
NATULON® Fiber Sourced™	The NATULON® Fiber Sourced™ zipper is made from recycled discarded clothing and textile waste. These waste materials are chemically recycled and remade into new materials.	Waste fibers	Tape
SOFIX® NATULON™	SOFIX® NATULON™ is an innovative product that incorporates plastic snap parts injected onto tape made from recycled materials such as PET bottles.		Таре
NATULON™ Plastic Hardware	Pre-consumer and post-consumer recycled materials for most plastic hardware.	Discarded mechanical parts and automotive parts	Whole part* *Excluding metal parts



### **NATULON®**



The NATULON® zipper, which is one of YKK's core products, features a tape made entirely from 100% recycled materials\*. The yarn used in the tape is made from 100% post-consumer recycled materials, primarily sourced from PET bottles.

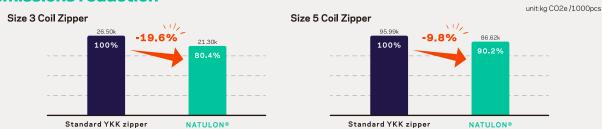
 $^*$ Except for some special products. For details, please contact your local YKK sales representative.

### how do discarded PET bottles get turned into NATULON® zippers?



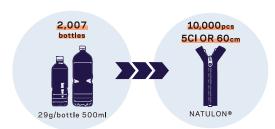
#### **GHG** emissions reduction

PET bottles



Compared to standard zippers of the same size, NATULON® zippers help to reduce the total GHG emissions from raw material procurement to product manufacturing and shipment. For example, a No. 3 Closed-End 20cm coil zipper has been shown to emit approximately 19.6% less GHG compared to a standard YKK coil zipper. In addition, the No.5 Open-End 60cm coil zipper has been shown to achieve approximately 9.8% less GHG emissions compared to the standard YKK coil zipper.\*

#### equivalent in PET bottles



\*For further details about calculation data, please contact a YKK representative

NATULON® zippers can lead to the recycling of PET bottles. For example, 10,000 zippers of 60 cm length are the equivalent of 2,007 recycled PET bottles (29g/bottle).

ZIPPER TYPE	SIZE	ELEMENT	TAPE"	RECYCLED MATERIAL RATIO <sup>2</sup> (CHAIN)
Coil	5	PET	Recycled PET	Approx.48%
Racquet Coil	5	PET	Recycled PET	Approx.50%
VISLON®	5	POM	Recycled PET	Approx.39%
Metal	5	Copper Alloy	Recycled PET	Approx.18%
YZiP®	3	Copper Alloy	Recycled PET	Approx.19%

<sup>&</sup>quot;The yarn used in the tape is third party certified. The tape does not include core cord, sewing thread, and tightening yarn.

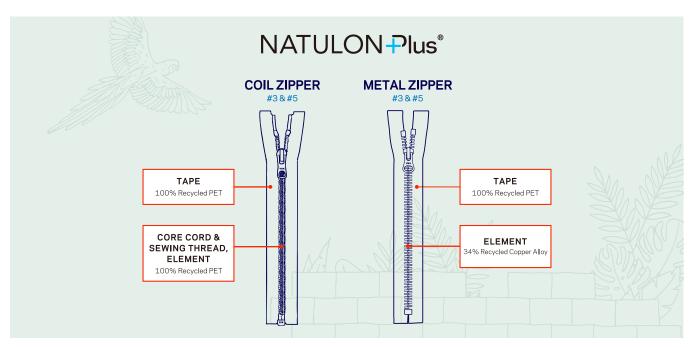
<sup>\*</sup>The reduction ratio was calculated internally at YKK based on the Lifetime Cycle Assessment (LCA) results of GHG emissions Global Warming Potential over 100 years (GWP100) verified by SGS.

<sup>&#</sup>x27;Calculated based on ISO14040/14044 (Cradle to Gate, GWP100, IPCC AR6).

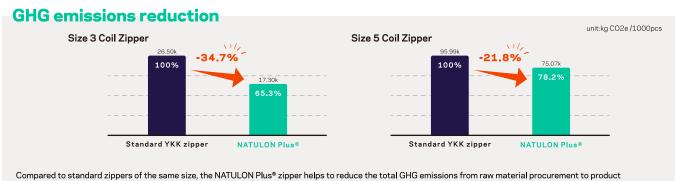
\*No. 3 coil zippers were evaluated using data from fiscal year 2022, and No. 5 coil zippers were evaluated using data from fiscal year 2021.

 $<sup>^{\</sup>star_2}$  Recycled material ratio is based on in-house calculations by weight.

### NATULON Plus®

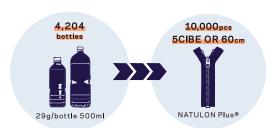


The NATULON Plus® zipper features a higher ratio of recycled material by utilizing both recycled tape and elements. The NATULON Plus® zipper has the highest level of recycled material offered by YKK. The material used in the coil zipper chain of the NATULON Plus® zipper is made from 100% post-consumer recycled materials. As for metal zippers, 100% of their tape and 34% of their elements are made of post-consumer recycled materials.



manufacturing and shipment. For example, a No. 3 Closed-End 20cm coil zipper has been shown to emit approximately 34.7% less GHG compared to a standard YKK coil zipper. In addition, the No. 5 Open-End 60cm coil zipper has been shown to achieve approximately 21.8% less GHG emissions compared to the standard YKK coil zipper.\*

#### equivalent in PET bottles



NATULON Plus® zippers can lead to the recycling of PET bottles. For example, 10,000 zippers of 60 cm length are the equivalent of 4,204 recycled PET bottles (29g/bottle).

ZIPPER TYPE	SIZE	ELEMENT*1	TAPE*2	RECYCLED MATERIAL RATIO'3 (CHAIN)
Coil	3	Recycled PET	Recycled PET	100%
Coil	5	Recycled PET	Recycled PET	100%
YZiP®	3	Recycled Copper Alloy	Recycled PET	Approx.47%
Metal	5	Recycled Copper Alloy	Recycled PET	Approx.43%

<sup>\*1</sup> Materials used in the elements are third party certified.

<sup>\*</sup>The reduction ratio was calculated internally at YKK based on the Lifetime Cycle Assessment (LACA) results of GHG emissions Global Warming Potential over 100 years (GWP100) verified by SAGS.

<sup>\*</sup>Calculated based on ISO14040/14044 (Cradle to Gate, GWP100, IPCC AR6).
\*The No. 3 standard coil zipper was evaluated using 2022 data, the No. 3 NATULON Plus® zipper was evaluated using 2023 data, and the No. 5 coil zipper was evaluated using 2021 data.

<sup>\*</sup>For further details about calculation data, please contact a YKK representative

<sup>\*2</sup> The yarn used in the tape and the element materials are third party certified. The tape does not include core cord, sewing thread, and tightening yarn.

<sup>\*3</sup> Recycled material ratio is based on in-house calculations by weight.

### NATULON® Fiber Sourced™



NATULON® Fiber Sourced™ zipper helps to advance apparel circularity by using textile waste and discarded clothing as input materials to create the tape for new zippers. Materials made from chemically recycled monomers have the same strength and quality as those made from virgin materials.

### using textile waste and discarded clothing to create new zippers



ZIPPER TYPE	SIZE	ELEMENT	TAPE*1	RECYCLED MATERIAL RATIO <sup>2</sup> (CHAIN)
Coil	5	Recycled PET*3	Recycled PET*⁵	Approx.83%
VISLON®	5	Recycled PBT*4	Recycled PET*⁵	Approx.91%
VISLON®	5	РОМ	Recycled PET*⁵	Approx.38%
Metal	5	Copper Alloy	Recycled PET*⁵	Approx.22%

 $<sup>^{*1}</sup>$  The yarn used in the tape is third party certified. The tape does not include core cord, sewing threads and tightening yarn.

<sup>\*2</sup> Recycled material ratio is based on in-house calculations by weight.

 $<sup>^{\</sup>ast 3}$  Recycled from PET bottles and other materials.

<sup>\*4</sup> Recycled from industrial PBT materials. The Recycled PBT elements have relatively low chain strength compared to virgin POM elements. Element color is limited, so please check with your local YKK representative for details.

 $<sup>^{*5}</sup>$  Recycled from waste clothing and scraps.

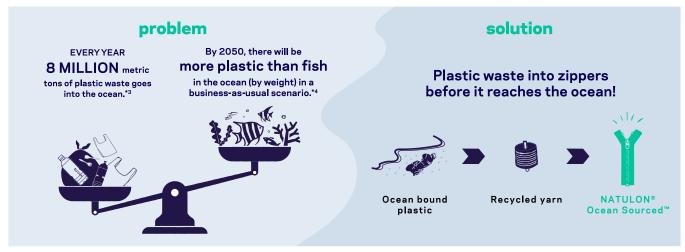
## NATULON<sup>®</sup> Ocean Sourced™



NATULON® Ocean Sourced™ zipper uses 100% recycled material made from ocean bound plastic (OBP) for its tape. OBP is plastic waste discarded on land within 50 km of coastlines in areas where waste management is insufficient or nonexistent.

It is estimated that approximately 80% of ocean plastic waste originates from land-based sources\*1, with a significant portion coming from Asia\*2. By using OBP PET bottle waste collected in Sri Lanka, NATULON® Ocean Sourced™ helps address one of the primary sources of ocean plastic pollution.

- ": Ocean Conservancy and McKinsey Center for Business and Environment, Stemming the Tide: Land-based strategies for a plastic-free ocean (2015).
- \*2 : World Economic Forum, Ellen MacArthur Foundation and McKinsey & Company, The New Plastics Economy: Rethinking the future of plastics (2016).



- $^{*3}$  : Jambeck , J. R. , et al. (2015) . Plastic waste inputs from land into the ocean. Science, 347, 768 -771
- \*4: World Economic Forum, Ellen MacArthur Foundation and McKinsey & Company, The New Plastics Economy: Rethinking the future of plastics (2016).

ZIPPER TYPE	SIZE	ELEMENT	TAPE*1	RECYCLED MATERIAL RATIO'2 (CHAIN)
Coil	3	PET	Recycled PET	Approx.56%
Coil	5	PET	Recycled PET	Approx.45%
YZiP®	3	Copper Alloy	Recycled PET	Approx.19%

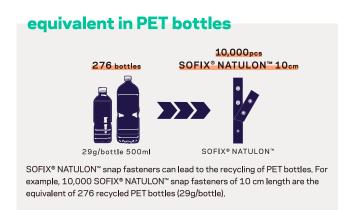
<sup>\*1</sup> The yarn used in the tape is third party certified. The tape does not include core cord, sewing thread, and tightening yarn.

 $<sup>^{\</sup>star_2}$  Recycled material ratio is based on in-house calculations by weight.

# SOFIX® NATULON™



The SOFIX® snap fastener is an innovative product where plastic snaps are injected onto the tape. The SOFIX® NATULON™ snap fastener features a tape made entirely from 100% recycled materials, primarily sourced from PET bottles which is the same material as NATULON® zippers. The tape is knitted for a soft touch and feel. Snap parts (POM) are injected onto the tape to ensure security. Neither attaching machines nor attaching dies are required. No metal used in production, ensuring no broken needles, and it is anti-nickel compliant. This product is certified OEKO-TEX® STANDARD 100 product class 1, with testing to the strictest requirements and limit values, safe enough for babies (OEKO-TEX® STANDARD 100 | TP001 249576 TESTEX | www.oeko-tex.com).



### item availability

TAPE WIDTH	20mm
SNAP DIAMETER	8mm, 10mm
PITCH	15mm, 30mm, 45mm, 60mm, 75mm, 90mm

<sup>\*</sup>The yarn used in the tape is third party certified.

# **NATULON™ Plastic Hardware**



YKK's recycled material buckles are beloved by customers for a wide range of uses, from urban to outdoor activities. We prioritize environmental protection and customer satisfaction and strive daily to provide better recycled products. Most of our plastic hardware is available with pre-consumer and post-consumer recycled materials.



### item availability

AVAILABLE ITEMS	Buckles, Adjusters, Cord stoppers and more	
COLOR VARIATIONS	Black (Recycled material ratio of 100%)	
	Standard colors, DTM (Recycled material ratio of 50%)	

\*The POM is third party certified.

NATULON™Series 07



