

Animal-free Down Feather Replacement Technology

HEAT-MX Disruptive Technology Series - 3 (Patent-pending)

Date issued: 2019-08-08

Applications (Typical)

Apparel, Bedding products, (Comforters, Pillows, etc.), Sleeping bags, etc.

Composition

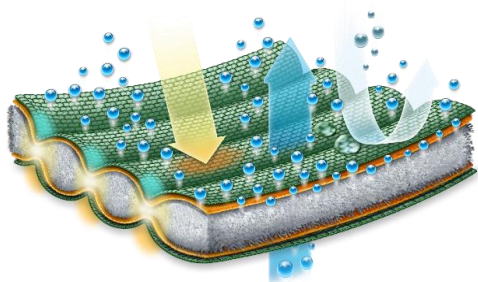
(Regular) Polypropylene / Polyester 65/35
(Recyclable) 100% Polypropylene

Flammability

Class 1, Normal according to US Federal Flammable Fabrics Act Procedure in 16 CFR Part 1610.

Technology Composition

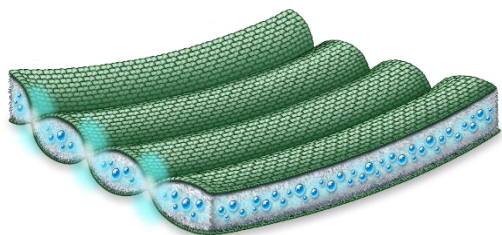
nDown(TM) Technology



Lining fabrics, Proprietary HEAT-MX™ non-woven fabric(s) & Synthetic filling material

in comparison with

Regular down or synthetic fill



Performance Features

Perfect replacement technology of down feather

Large volume effect (puffiness)

Improved warmth

Odour free

No leak of filling material

Easy home wash

Warm even when damp

Eco-friendly Technologies

Windproof & Water resistance

High rate of water-vapor transmission

High level of breathability

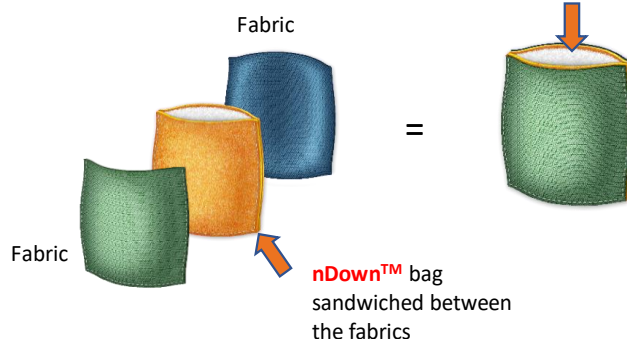
Sweat removal & Dry comfort



nDown™ Technology Construction Method -1

4-Layer structure

Filling material from HEAT-MX*



* HMX-VN, HMX-VNRD3 or HMX-VNRD7 used as filling material

Construction Guidelines

nDown(TM) Technology consists of HEAT-MX(TM) products designed and engineered with HEAT-MX(TM) proprietary technologies. Air pressure from down/feather blowing machine must not create the reconstruction of the fiber structures of the iDown(TM) products. Product grades of nDown(TM) may differ based on the construction methods of the types of finished goods. Please consult with your sales representative for specific instructions of nDown(TM) product grades as well as DOs and DON'Ts of applying nDown(TM) into your products. Manufacturing methods as well as product grades of nDown proposed by HEAT-MX are to be strictly adhered to and incorporated in the cut-and-sew manufacturing processes. Licensing agreement may be required to use the nDown(TM) Technology. Manufacturing with the Technology without licensing agreement may result in lawsuits. Please contact your sales representative for more details.

Care Instructions

Consumer products made with the iDown™ Technology are to be washed at home with commercially available home laundry detergents. Avoid dry cleaning. Ensure sufficient drying time in low-temp tumble dry setting for fully drying moisture inside the goods.

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Technology Application Guidelines*

Garment examples



Vest



Packable & Light weight

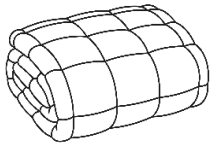


Ski



Parka

Bedding products & Sleeping bags



Blankets & Pillows



Sleeping bags

Other

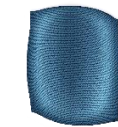
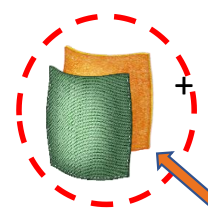


Ski gloves

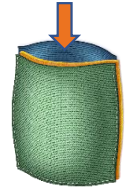
nDown™ Technology Construction Method -2

3-Layer structure

Option 1



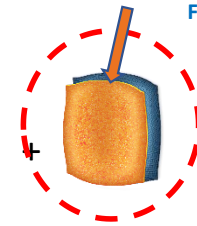
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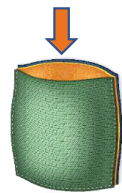
Filling material from HEAT-MX*

nDown™ layer stitched to one of the fabrics

Option 2



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Filling material from HEAT-MX*

* HMX-VN, HMX-VNRD3 or HMX-VNRD7 used as filling material

nDown™ Environmental Contributions



No Waterproofing & Windproofing treatment



No Dry-cleaning



Quick-drying & Energy saving



RECYCLABLE

* Product Usage Guidelines are based on entire area applications of HEAT-MX™ products unless otherwise expressed explicitly, but may vary depending on specific applications. Contact your sales representative for the approval in case of exceptions from the application methods indicated in this document.

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