



# ISPO Top of Innovation Award



## Largest Energy Saving Technology in Global Textile Industry

### Breakthrough Innovations in Thermal Insulation

Date issued: 2022 02 21

#### APPLICATIONS (TYPICAL)

Apparel, Glove, Home textile products, (Comforters, Pillows, etc.), Sleeping bags, etc., which contain natural down feather material.

#### FIBER COMPOSITION

100% Polypropylene

#### FLAMMABILITY

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

#### TECHNOLOGY DESCRIPTIONS

##### Patent-pending iDown™ Technology

Innovative Water Molecular Adsorption Process  
(Eco-friendly & Permanent performance technology)



##### Proprietary structural example of iDown™

in comparison with Regular down feather

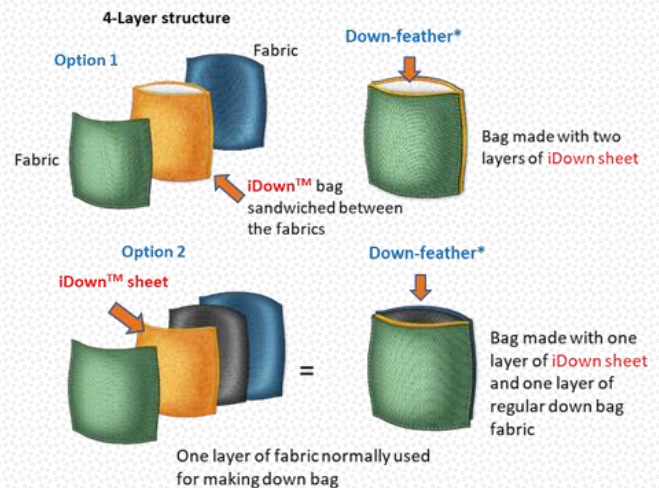


#### PERFORMANCE FEATURES

- Proprietary LRTD™ (Long Range Thermal Dynamics) Technology for optimum warmth
- Odor control
- Down leak proof
- Easy home wash
- Volume increase after wash
- Warm even when damp
- High rate of water-vapor transmission
- Improved longevity of finished goods
- Down cluster free and improvement in warmth
- Sustainable technologies
- High level of air permeability
- Easy home wash
- Windproof & Water resistance



##### iDown™ Technology Construction Method -1



\* Existing sources and quality of down feather can be used

#### CONSTRUCTION GUIDELINES

iDown™ Technology consists of HEAT-MX™ products designed and engineered with HEAT-MX™ proprietary technologies. Air pressure from down/feather blowing machine must not create the reconstruction of the fiber structures of the iDown™ products. Product grades of iDown™ may differ based on the construction methods of the types of finished goods. Please consult with your sales representative for specific instructions of iDown™ product grades as well as DOs and DON'Ts of applying iDown™ into your products. Manufacturing methods as well as product grades of iDown™ 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 iDown™ Technology. Please contact your sales representative for more details. Avoid high temperature or high pressure to attain optimum performance.

#### CARE INSTRUCTIONS

Consumer products made with the iDown™ Technology are to be washed at home with commercially available home laundry detergents. Avoid dry cleaning unless the washing label indicates otherwise. Ensure sufficient drying time in low-temp tumble dry setting for drying moisture inside the goods. Avoid keeping the goods in areas with high humidity.





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#### PRODUCT USAGE EXAMPLES\*

##### CLOTHING EXAMPLES



Vest



Packable & Light weight

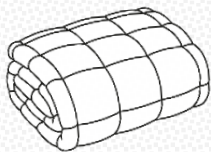


Ski



Parka

##### HOME TEXTILES & SLEEPING BAGS EXAMPLES



Blankets & Pillows

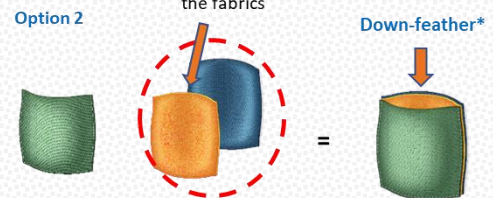
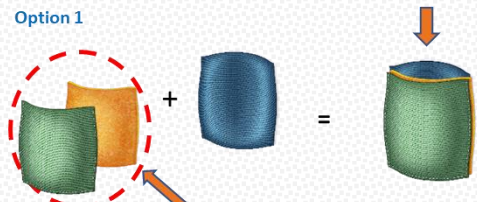


Sleeping bags

#### iDown™ Technology Construction Method -2

3-Layer structure

Down-feather\*



iDown™ sheet stitched to one of the fabrics

\* Existing sources and quality of down feather can be used

#### EXCEPTIONAL PERFORMANCE FEATURES & SOCIAL / ENVIRONMENTAL BENEFITS



Note - Some performance features are specific to a certain product type (product code) and optional. Please contact your sales representative for more details

\* Product Usage Guidelines are based on entire area applications of HEAT-MX™ products unless otherwise expressed as per Footwear examples, 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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