# **HEAT-MX TECHNOLOGY DESCRIPTIONS**

## ISPO TOP OF INNOVATION AWARD - TOP TEN



Thanks to the breakthrough innovations HEAT-MX created in thermal insulation, two product categories, namely nDown and VEGAN DOWN MX, were awarded by the TOP TEN of ISPO TOP OF INNOVATION.

Awarded only to the most innovative technologies in the industry, this is a proof of the innovations HEAT-MX brings in the market for performance and environmental benefits.



### **CRUELTY FREE**

HEAT-MX offers a wide range of technology options matching or exceeding the warmth of natural down feather material even in highest quality without using any animal based ingredient, thanks to breakthrough innovations, including HEAT-MX's patent-pending technology platforms.

#### **ABRASION RESISTANCE**



HEAT-MX's unique product structure provides strong abrasion resistance which help withstand tough manufacturing processes and environments. Thanks to the innovative product structure, applied in various products of HEAT-MX, the technical feature remain intact even after some of the toughest manufacturing and handling processes in the textile industry.



#### CHANNEL SIZE INCREASE

Supported by HEAT-MX's patent-pending technology platform, it allows to maximize channel sizes when using loose filling material such as natural down feather, synthetic fibers, etc., for significant performance benefits without having issues of settling down of filling material to the seam-lines. Please ask your HEAT-MX sales representative for more technical details.

#### **CLUSTER RELIEF**



HEAT-MX's proprietary, patent-pending technology prevents filling material from clustering even after repeated washes. This special technology feature allows finished products such as apparel, home textiles, sleeping bags, etc., to provide optimum warmth as it prevents development of COLD-SPOTS in use.



# **COLD SPOT RELIEF**

This innovative technical feature helps significantly reduce or even eliminate the COLD-SPOTS in various products such as apparel, sleeping bag, home textiles, etc. Built for toughest winter weather, it provides comfort regardless of weather conditions and/or activity levels.

#### **DOWN-PROOF**



Based on the patent-pending non-woven down bag technology, this technical feature offers the highest level of down-proof performance never before seen in the industry. Attested by internationally renowned IDFL, this technology allows the LEVEL 5 (highest rating) even after 50 washes, which is the first in the industry. Please ask HEAT-MX sales representative for more details.



#### **DRI-CAVE**

HEAT-MX offers this innovative technical feature to quickly remove moisture created by our own sweat to provide ultimate dry-comfort. This is a critical performance feature for clothing, footwear, glove, sleeping bags, etc., as moisture close to our body can create discomfort or even dangerous hypothermia. DRI-CAVE functionality comes without any treatment of chemicals and will last until the end of the life-cycle.

#### **HIGH-VOLUME**



HEAT-MX offers breakthrough technology feature of VOLUME INCREASE for items filled with natural down-feather or synthetic fibers for a given weight of material used. This cutting-edge technology helps manufacturers and brands to use lower quantity of filling material for same or higher level of warmth for the benefits of reduced cost, environment, etc. This technical feature uses no chemical treatment and recognized by ISPO TOP OF INNOVATION AWARD.



# LRTD TECHNOLOGY

As one of the key technology basis of all HEAT-MX products, this LONG TERM THERMAL DYNAMICS (LRTD) Technology offers the most efficient ways of trapping and conserving body heat. Thanks to the innovations HEAT-MX created, items made with HEAT-MX products offer superior and long-lasting warmth.

#### MOISTURE MANAGEMENT



HEAT-MX offers a moisture management performance feature which helps provide a high level of comfort for people enjoying winter outdoors even in high level of activities. Enjoy outdoors with no limitation!



#### **ODOR-RESISTANT**

Based on HEAT-MX's proprietary and award-winning DRI-CAVE Technology platform, it provides a natural and effective way to remove moisture, which in turn creates a dry environment to resist growth of microorganisms. This important HEAT-MX technology is critical for any item using natural fibers such as down-feather, wool, etc., and does not use any chemical.

#### SWEAT-RESISTANT



It is important to keep our body dry, especially in high mobility applications such as sportswear, workwear, military / police uniforms, etc. HEAT-MX's innovative and award-winning DRI-CAVE technology provides an effective way to remove sweat from our body. This important HEAT-MX technology feature does not use any chemical and lasts until the end of life-cycle.

#### **TEMPERATURE RATING - COLD**



Under HEAT-MX's proprietary temperature rating program, items made with various types of HEAT-MX products can offer the COLD rating covering 0C ~ -20C or 32F ~ -5F. Based on the science of warmth, HEAT-MX works with its clients to help build items for this temp rating with appropriate product weight, design, performance features, etc. Ratings for lower temperature ranges are also available. Please ask your HEAT-MX sales representative for more details.

# -20° -5° -40° -40° VERY COLD

#### **TEMPERATURE RATING – VERY COLD**

Under HEAT-MX's proprietary temperature rating program, items made with various types of HEAT-MX products can offer the COLD rating covering -20C ~ -40C or -5F ~ -40F. Based on the science of warmth, HEAT-MX works with its clients to help build items for this temp rating with appropriate product weight, design, performance features, etc. Ratings for lower temperature ranges are also available. Please ask your HEAT-MX sales representative for more details.

#### TEMPERATURE RATING – EXTREME COLD



Under HEAT-MX's proprietary temperature rating program, items made with various types of HEAT-MX products can offer the COLD rating covering -40C  $\sim$  -60C or -40F  $\sim$  -75F. Based on the science of warmth, HEAT-MX works with its clients to help build items for this temp rating with appropriate product weight, design, performance features, etc. Ratings for lower temperature ranges are also available. Please ask your HEAT-MX sales representative for more details.



#### TEMPERATURE RATING – EXPEDITION

Under HEAT-MX's proprietary temperature rating program, items made with various types of HEAT-MX products can offer the COLD rating covering -60C ~ -100C or -75F ~ -150F. Based on the science of warmth, HEAT-MX works with its clients to help build items for this temp rating with appropriate product weight, design, performance features, etc. Please ask your HEAT-MX sales representative for more details.

#### WARM EVEN IN WET WEATHER



Thanks to breakthrough innovations of HEAT-MX, items made with HEAT-MX products are warm even in wet weather regardless of fiber types including natural fibers including down-feather, wool, etc. This technology provides ultimate comfort regardless of activity level or weather conditions.



# WATER REPELLENT

HEAT-MX provides the highest level of water repellency of its kind to help protect water penetration from outside towards body. This technical feature also contributes to the moisture management within its structure and help people feel comfortable even in wet environment.

#### WATER RESISTANCE



HEAT-MX's breakthrough innovations create a high level of water resistance in selected product categories. This technical feature is engineered with the proprietary non-woven fiber structure with no chemical treatment. This technical feature is designed to withstand light to moderate level of precipitations without heavy waterproof chemicals.



#### WIND RESISTANCE

HEAT-MX offers a high level of windproof performance feature in selected product categories and it is engineered without using any chemical.