June 1, 2010

Marmot Rainwear Using Toyobo Specialties Trading's Ultra-light Nylon Fabric Silfine®-N Wins Outdoors Awards

Toyobo Specialties Trading Co., Ltd. ("TSTC") is "the prime global trading company" of the Toyobo Group, TSTC is as a development-oriented trading company, and markets high-functional products utilizing the core technology of the entire group.

The ultra-light nylon fabric Silfine®-N produced by TSTC was selected by the leading U.S. outdoors clothing manufacturer Marmot for their 2010 spring/summer rainwear, which has now won two outdoors awards.

1. About the Awards

The following two awards were given for the functionality from this light, compact but highly tear-resistant material combined with design making use of the unique transparent feel provided by Silfine®-N.

(1) 2010 Outside Gear of the Year Award

The Marmot rainwear was selected as 2010 Outside Gear of the Year by the leading U.S. outdoors magazine *Outside*. This magazine independently tests thousands of products and selects the best gear each year in such categories as tents, sleeping bags, backpacks, jackets, mountain bikes and sunglasses. The rainwear received its award in one of the five clothing categories.

(2) 2009 Outdoor Industry Award

The Marmot rainwear received a 2009 Outdoor Industry Award at Europe's largest outdoor products exhibition, the European Outdoor Trade Fair, which is held in Friedrichshafen, Germany each July. This prize is given in such categories as jackets, tents, sleeping bags, accessories, and backpacks/travel luggage, and the rainwear received the award in the jackets category.

2. Characteristics of Silfine®-N (for Rainwear Applications)

(1) Light and compact (50% weight reduction) with high tear strength, moisture permeability and waterproof functions

- TSTC succeeded in developing this new waterproof material with moisture permeability as a high-density fabric using 33 decitex yarn
- Similar prior materials made using nylon yarns on the order of 78 decitex were generally heavy with a rated density exceeding 150g/m^2, and it was difficult to gain sufficient tear strength for lamination.
- Waterproof fabric with moisture permeability produced using Silfine®-N is light (with a rated density of 70g/m^2, a reduction of more than 50% from prior fabrics) and compact (a thickness of 100 micrometers), with high tear strength (at least 10N). It provides strong waterproof and moisture permeability functions (water pressure resistance of 20kPa with moisture permeability of 20,000g/m^2/24h).

··· Silfine®-N -- mostly 11-44 decitx multi-nylon filament – is being used as the fabric for down clothing. It is widely adopted as a fabric which is non-coating but prevents feathers from bursting out and is difficult to tear.

(2) Technological Characteristics

1) 33 Decitex High-strength Multi-nylon-filament Spinning Technology

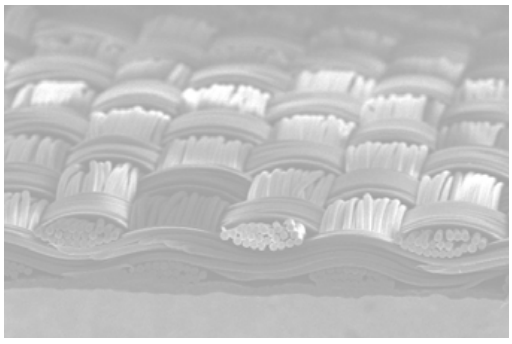
The yarn in light-weight Silfine®-N textiles uses nylon resin materials produced using special polymerization technologies. The molecular chains are made uniform during the spinning process to minimize strength variations among filaments.

2) Ultra-fine Yarn Production Technologies

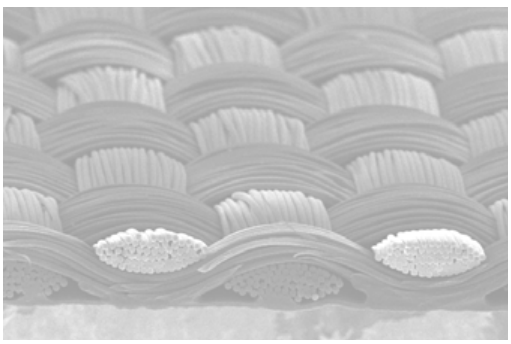
While yarns are spun fine to produce high-density, high-multi-nylon fabric, this results in the generation of fluff from the chafing of the warp yarns during weaving. To address this, TSTC has improved the looms for optimal weaving and established ultra-fine weaving technologies through the development of a glue that is applied to the warp yarns.

3) Coating Technologies

TSTC made it possible to manufacture durable laminated materials with uniform thickness through the uniform lamination processing of thin nylon fabric with a film that provides strong waterproof and moisture permeability properties.



Silfine®-N laminated fabric



Typical laminated fabric produced using 78 decitex yarn

3. Future Outlook

The trend toward weight reduction has been accelerating in the outdoor goods industry since 2000, and has been growing stronger in recent years. In 2006, a down jacket produced using TSTC's Silfine®-N was incorporated into a Patagonia women's down sweater which received a 2006 ISPO Volvo Sports Design Award.

TSTC will continue to actively advance sales, developing new applications for our unique materials.

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