

Reducing the weight of clothing and using natural energy  
makes a sustainable contribution

## Introducing the light absorption heat generation test for measures against cold in winter

### Functional fiber for more comfortable clothing for consumers

The development of functional fibers using advanced technologies is proceeding every day to realize a more comfortable lifestyle for consumers.

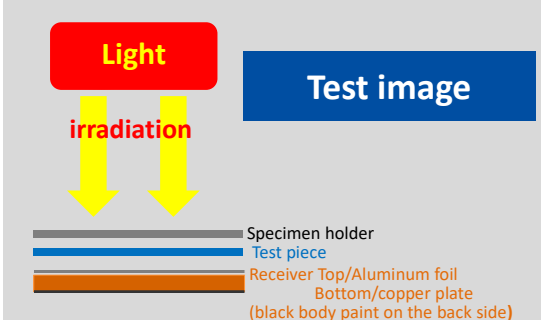
One of them are measures against cold in winter, and the main ones are the function of heat retention and heat generation by the fiber itself. The light-absorption heat generation introduced here, are functions that generate heat when fibers absorb sunlight and provide warmth to wearers.

Weight reduction of clothing in winter will lead to a reduction in resources consumed. In addition, it can be said that fibers have a functionality that includes a sustainable element in converting solar light, a natural energy, into heat.

### Regarding [JIS L 1926 Evaluation Method for Light Absorption and heat generation for textile Products]

"Light-absorption and heat-generation" is a function in which zirconium carbide, efficiently converts light into heat, and kneaded into fibers to accelerate the temperature rise of the fibers and heat is released from the fibers to warm them.

JIS has also established an evaluation test for this light absorption and heat generation. For example, for JIS it is used as an evaluation method for "fabric used for clothing worn for golf, fishing, and winter trekking, etc." and has been expanded to include other uses as well.

<b>Test Method</b>	<p>Set the distance from the test table to the light source to 500 mm. Place 3 specimens on the test table with the black heat receiver underneath and place a blank receiver in 1 place.</p> <p>Before light irradiation and 30 mins after starting irradiation, the temperature of the backside of the receiver is measured by thermography.</p> <p>Change the location and specimen and measure the remaining 3 points to determine the mean.</p>	
<b>Test Results</b>	<p>Calculate the difference in the light absorption heat generation temperature (<math>\Delta T</math>) from the difference between the blank rising temperature (<math>\Delta T_b</math>) and the sample rising temperature (<math>\Delta T_s</math>).</p> $\Delta T(^{\circ}\text{C}) = \Delta T_s - \Delta T_b$ <p style="text-align: right;">(above equation)</p>	
<b>Standard</b>	The higher the $\Delta T$ , the higher the light absorption heat generation effect.	
<b>Test cloth</b>	When requesting a test, please prepare four sheets of 90 mm x 90 mm. (Provide about the size of A4)	

**For further information, please feel free to contact us.**

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