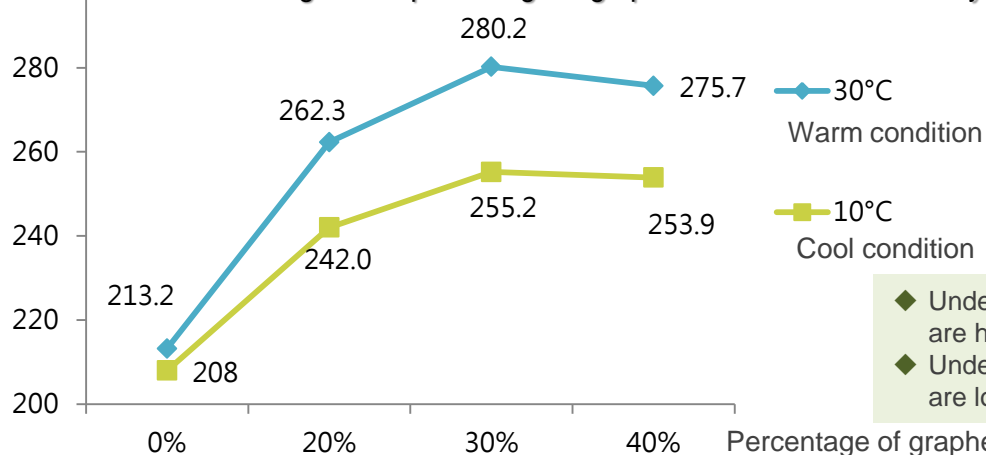


# Graphene Thermo-adaptive Fiber

## Heat Adaption and temperature stability

- ✓ Heat dissipation under warm conditions-  
As the temperature increases, the rates of heat dissipation and conduction are enhanced. The higher the temperature is, the better the heat dissipation rate is.
- ✓ Instantaneous heat-generating property and temperature stability under cool conditions-  
Graphene is composed of carbon atoms, and absorbs heat. Its swift heat transfer property absorbs the heat, then rapidly circulates it throughout the garment made of graphene fiber.

Correlation diagram for percentage of graphene and thermal effusivity



$$\text{Thermal effusivity} = \sqrt{K\rho c_p}$$

K: rate of heat transfer (W/m·K)

$\rho$ : density (kg/m<sup>3</sup>)

$c_p$ : specific heat capacity (J / kg·K)

- ◆ Under a 30°C warm condition, the rates of heat dissipation and conduction are high, and create a superior cooling effect.
- ◆ Under a 10°C cool condition, the rates of heat dissipation and conduction are low, and create a balanced heat retention effect.