

Confidential

Rev. 1.44

Feb. 10, 2023

Material for comfort
– SMP Dilatant-F –
(SMP Foam)

 **SMP Technologies Inc.**

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Characteristics of SMP Dilatant-F

「SMP Dilatant-F」 which we developed has following characteristics.

① Dynamic $\tan\delta$ is closer to the human skin

The value (Dynamic $\tan\delta$) showing the recovery time when applying force is designed to be close to human skin.

Dynamic $\tan\delta$ of SMP is 0.4~0.6

•Each part of human body viscoelasticity (Dynamic $\tan\delta$)

Lower arm	0.43
Palm	0.47
Forehead	0.51

Motoji Takahashi,

Polymer Science and Technology Vol.33, 1984

② According to vibration, softness changes

During Rest(less vibration): soft, During exercise(more vibration): stiff

During rest(rest~walking): Young's modulus of SMP is 39 kPa

During exercise(jump~Athlete level exercise): Young's modulus of SMP is 135 kPa

Advantages of SMP Dilatant-F

- ① Due to SMP Dilatant-F has physical properties similar to human skin, providing a natural smooth feel when SMP Dilatant-F is used in region touched by hand and gives comfortable both during rest and exercise.
- ② Due to the softness changes during rest and exercise, it is able to be given relaxation at rest and holding at exercise.

During Rest (Low frequency)

→ Relax



During exercise (High frequency)

→ Hold



Potential Applications



Sport Bra



Head phone



Insole



Pillow



Mattress