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Purpose Kansei ergonomics is a fusion of the methodologies of ergonomics and Kansei engineering, which was originated by Nagamachi. Applying only the methodologies of ergonomics is not enough for developing attractive and comfortable products. Kansei engineering should also be applied during development. Wheelchair bound persons spend a large part of the day in their wheelchairs. Thus, being able to prevent pressure sores is an important requirement for the wheelchair cushion. To prevent bedsores, not only absorbing pressure but avoiding dampness is also required. Urinary incontinence is often a concern, as such, washable and quick drying are also cushion requirements. BreathAir, manufactured by Toyobo, has a 3-dimensional structure of interwoven Polyester fibre. BreathAir has numerous variations of fibre diameter, density and thickness, because of this and results of the evaluation experiments conducted with disabled and not-disabled subjects, we have selected it as the best material for cushions. **Method** 5 candidate cushions, made of different BreathAir variations, and 8 market-available, wheel chair cushions (Gel, High density foam, Honeycomb, Air) were used for this evaluation experiment. Body pressure was measured with the FSA seat pressure measurement system². Ten wheelchair bound persons participated in the experiment. Measurements without cushion were used for the standard. Subjective evaluations of the comfort, stability, shock absorbance and softness were also asked. **Results & Discussion** One-way ANOVA was used to assess the peak pressure difference between with and without cushions, the results were significant. Recent studies agree that, pressures higher than 32mmHg has the risk of causing pressure sores. The measurement result shows that one variation of BreathAir (Figure 1) has the lowest pressures (7 of 10 participants had a peak pressure less than 32mmHg). Subjective evaluation rated the same cushion the highest. As a result, the BreathAir cushion has hit the market in the spring of 2009.

References

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Figure 1. New wheel chair cushion from Panasonic