

# The Sheltermattress

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Sheltersuit is a foundation that produces 'Sheltersuits' to give away to homeless people and refugees.

These suits are handed out in a rucksack and consist of a jacket which can be easily transformed into a sleeping bag, through an additional zip-on part. The suits are wind- and waterproof and prevent the users from freezing to death (Sheltersuit, 2018).

Currently, the Sheltersuits are not really comfortable. When the user is laying on the ground, the hard surface is very well noticeable, which might lead to long-lasting physical complaints. Therefore, the main goal of this bachelor assignment is to improve the comfort of the Sheltersuit, while particularly focussing on the improvement of sleeping comfort.

To improve the comfort of the Sheltersuit, several steps are executed. Firstly, research is conducted about the foundation Sheltersuit; what kind of foundation is it, what is their business plan, what is their vision and what are their core values? Sheltersuits core value is "People helping people" (Sheltersuit, 2018), where the suits are given away to them in need, made by asylum seekers and people who are distanced from the employment market. Besides it is important that the foundation is supported financially and materially, to continue the production of the Sheltersuit.

Furthermore, to gain more insight in the product, the features of the jacket, sleeping bag and rucksack are considered and in addition the Sheltersuit is tested by various people. Also, the current users of the suit are interviewed, to gain more insight into the features of the Sheltersuit and to be able to sort these features in advantages and disadvantages.

Of major importance is the target group. Therefore, research is conducted towards understanding the living conditions of the target group. Because homeless people and refugees mainly live outside, the durability of the product and waterproof material is of great importance. As the suits are given away for free, further research is done towards potential suppliers, for example those who develop outdoor-products, since these companies might have waste material that Sheltersuit can use. Above-mentioned criteria have resulted in a schedule of requirements that is used as guideline during the design process.

During the idea-phase and design-phase, three different concepts were determined that allow the comfort during sleep to be improved, namely: 1) within the Sheltersuit, 2) within the rucksack or 3) with a completely new developed product. Through a lot of sketching, by creating prototypes at scale, and by testing, the concepts were further developed.

From the final concept, the prototype is created; a rucksack which can be transformed into a mattress; the Sheltermattress. For comfort reasons, two lightweight materials are added to the rucksack. The first material will improve the comfort when laying on the ground, the second

material is an aluminium layer which will improve the insulation of the mattress. To create the rucksack with the right materials, a collaboration with a new supplier is established who will provide the material which will improve the comfort. The prototype is introduced at Sheltersuit and the overall responses were very positive. Sheltersuit will most likely develop the Sheltermattress further in cooperation with the new supplier, to be able to produce it on larger scale.

**Reference**

Sheltersuit. (2018). Retrieved from <https://www.sheltersuit.com/>

