

HEAT REGULATING HOT WATER BOTTLE FOR NEWBORNS

Newborns often have difficulty maintaining their body temperature in the first weeks after birth, which can lead to hypothermia. Hypothermia is a common problem worldwide, both in newborns in hospital and at home and can have adverse effects on newborns. That is why they are kept warm using hot water bottles. However, these bottles have occasionally caused burns posing a significant risk for babies.

The project '*Babykruiken*' aims to develop a cover for existing hot water bottles, that transmits heat effectively and stably and while eliminating the risk of burns. This cover must be user-friendly both in the hospital and at home setting, and compatible with existing hot water bottles. The design should feature good heat insulation on one side to maintain the temperature as long as possible. On the other side, the cover should have a good heat conduction to keep the baby warm, but not too warm, as this could cause burns.



Task Description

The objective of this internship or graduation assignment is to research several textile materials to define the best possible material considering heat insulation and heat conduction. Next to literature research, experimental lab measurements are important to define the 'best' possible textile material. This will take place in close cooperation with researchers at Twente University. Additionally, the cover design needs to be practical, allowing easy placement and removal of the bottle, and must be easy to wash.

The project is a collaboration between the Sustainable & Functional Textiles (S&FT) research group, Deventer Hospital, and the University of Twente. S&FT is a close-knit research group with passionate researchers and professionals. We believe in sharing knowledge and bringing together ideas, innovation, and creativity to achieve the best solutions. Whether you are just starting or already advanced in your studies, the research group offers the perfect balance between professional guidance and the freedom to explore your own research path. Join our enthusiastic team and experience firsthand how inspiring and impactful practice-oriented research can be!

PRACTICAL INFORMATION

Student profile: This assignment is specifically for Fashion & Textile Technologies students or Industrial Design student with a strong interest in research and development in the area of heat insulation and conduction of textile materials. We are looking for a student that can work very precisely and independent. Additionally, you present written and verbal communication skills to effectively document your research process and findings.

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Let us know if you are interested by sending your CV and motivation letter.