EVS35
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Textile Lightweight Bodies for Urban Logistic Vehicles

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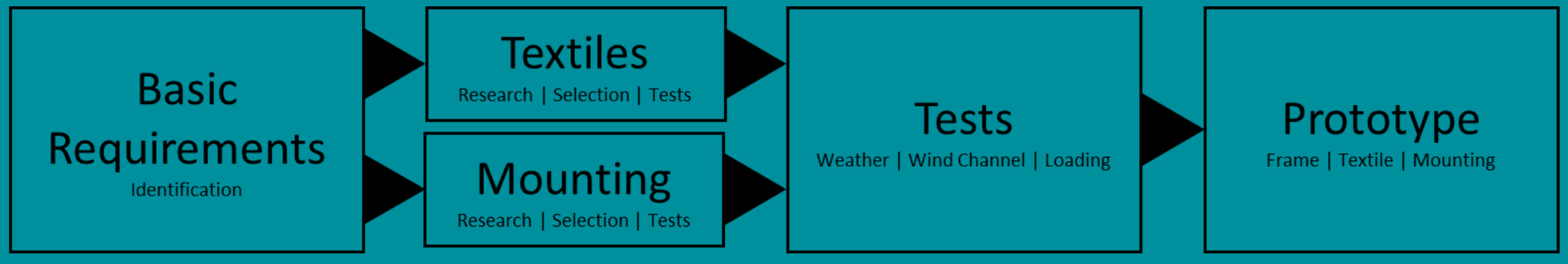
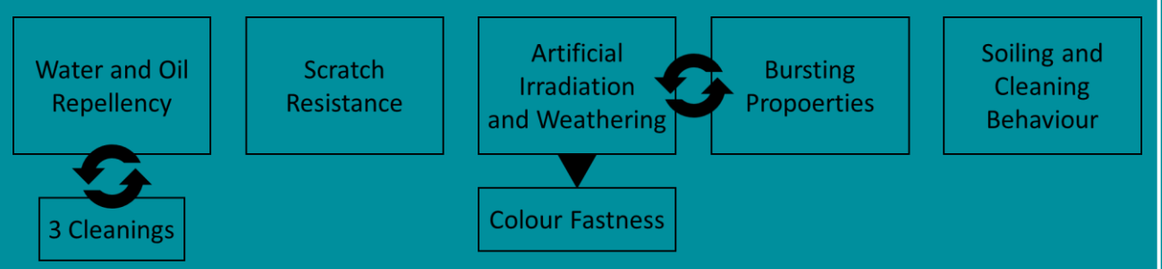
Methodical Approach



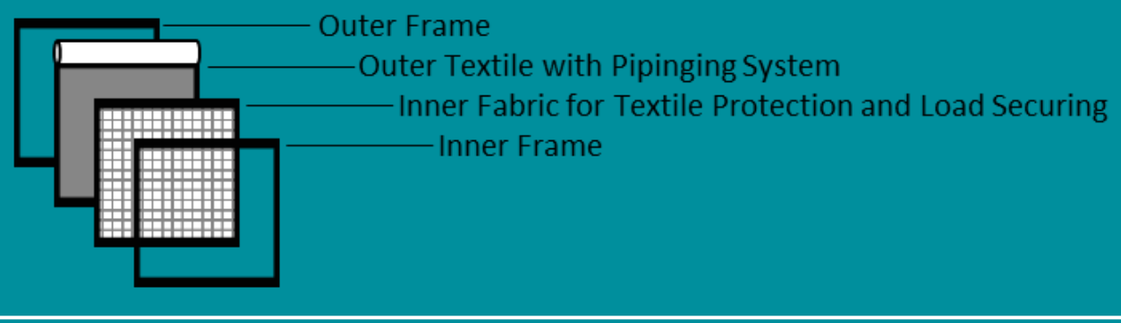
Textiles

- Technical requirements
- Research in various industries
- Different test methods
- Selection: Laminate (A), Woven Polyester (B) and Double-Ripstop Polyester (C)

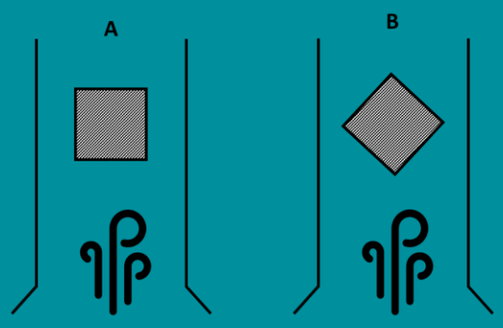


Mounting Techniques

- Several frame constructions
- Piping system, gluing and clamping
- Two layered structure: Outer textile and inner fabric (protection and load securing)

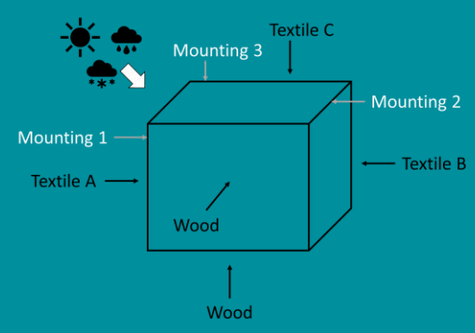


Test Procedures



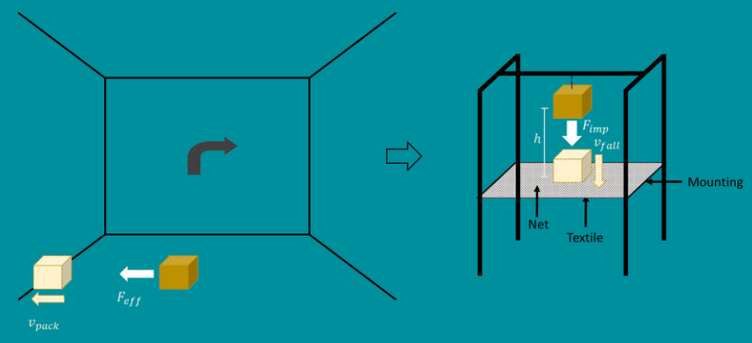
Wind-Tunnel-Test

- Continuous wind flow
- Maximum frame size for urban vehicles
- Tensile and compressive force
- Deformation of the textiles (fluttering)
- Best overall values for (B)



Weathering-Test

- Test-cube exposed for endurance test to weather
- 12 months in Central Europe climate
- Best results for (B) and the piping system



Load-Test

- Mechanical resilience of the textile-frame-system
- Enables repetitive consistent conditions
- Best results for textile-frame-system with (B) and piping system

Prototype

- Lightweight potential of 15-20% because of a textile body
- Implementation of a flap and sliding door

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