

Characterization of influencing parameters for durability, reparability, and recyclability

Aspect	Characteristic	Source
Durability (product-related/ functional)	<p>Product structure:</p> <ul style="list-style-type: none"> - Selection of fasteners/accessories, - Choice of fibres and their dimensions (thickness, length, number, twist, and density of yarns), - Weave of the fabric/structure of the knitted fabric, - Composition in relation to the surface and stitching techniques used, - Finishing processes (dyeing, printing, attaching fasteners/accessories and their quality). 	Botta and Cabral 2021; German Environment Agency 2022
Durability (product-related/ functional)	<p>Utilisation phase:</p> <ul style="list-style-type: none"> - No significant wear with average care requirements, - Resistance to care (resistance to wash-ing, care and drying), - Retention of functions and properties (crease resistance, correct fit of interlin-ings, easy-care finish, strength of zips, air permeability, closing force of press studs & other fasteners, performance of zips, water-repellent properties, water pres-sure resistance, tensile strength, tearing property, bursting property for the strength of knitted fabrics, seam strength, slippage resistance of yarns and seams, colour fastness, colour permea-bility, pilling resistance and abrasion resistance, abrasion resistance, elasticity and stretchability, resistance to bending, resistance to thread pulling). 	Botta and Cabral 2021; German Environment Agency 2022
Repairability (to maintain functionality)	<p>Product structure and utilisation phase:</p> <ul style="list-style-type: none"> - Availability of product components and options for replacement and disassembly (fasteners, accessories) - Use of standard components, - Reconditioning of worn components (seams, holes), - Retrofitting to improve functionali-ty/performance/aesthetics, - Non-destructive disassembly and reas-sembly, - Re-impregnation capability, - Number and complexity of processes required for repairability. 	Botta and Cabral 2021; German Environment Agency 2022

<p>Recyclability (material recycling)</p>	<p>Product structure:</p> <ul style="list-style-type: none"> - Use of raw materials (natural and/or synthetic fibres), - Filaments (monofilament or multifilament) or staple fibres (short/long processed as yarn), - Mono- or multi-materials (use of mixed fibres in the yarn), - Woven / knitted fabric, knitted fabric or fleece, - Fabric layers made from different materials (e.g. lining fabric, appliqués, collars), - Mixed textiles by combining layers of fabric, - Dyes and prints (reactive, disperse, direct dyes and non-textile prints), - Textile laminates (fabric-locking connection of different surfaces). 	<p>Mauter 2023; Botta and Cabral 2021; Ökopol GmbH 2023</p>
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