

How to use the Clothing Longevity Protocol

A guide on how to integrate the Clothing Longevity Protocol into your business

Welcome!

The Clothing Longevity Protocol is an exciting industry initiative to creating longer lasting clothing and increasing the length of time before a garment is discarded due to failure.

There are clear business benefits (fewer returns, customer loyalty) and environmental benefits to be gained from implementing the protocol.

This guide will walk you through what the protocol is and how you can apply it in your business.



Aim	Application	Tool 1	Tool 2	Wash and wear frequencies	Extended tests and trials
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What is the Protocol?

The Protocol comprises two key tools that will help to embed the idea of creating longer lasting clothing into your business.

Tool 1: Product development process

- This tool is in the form of a checklist and outlines a 'good practice' approach to embed longevity into the product development process.

Tool 2: Testing and performance standards

- This tool outlines core test performance standards that can be reasonably expected of some basic types of garment to deliver 'good practice' performance. It provides advice on additional testing in the form of extended wearer trials and repeated wash cycles that could be carried out to simulate 'lifetime' wear.

Applying the Protocol can help delay or even prevent certain garment failures from happening



Important note on implementation

- All companies are different! You will need to amend or adapt the Protocol to your own working environment
- You may wish to choose to trial the Protocol for a limited number or range of garments to start with
- The Protocol has implications for areas of responsibility throughout the product life-cycle and will therefore be relevant for various functional areas – it is important to get your colleagues on board
- In practice there may be overlap within the supply chain, as new product development and quality control tend to cut across business boundaries

Aim	Application	Tool 1	Tool 2	Wash and wear frequencies	Extended tests and trials

Tool 1: Product Development Process

The table below outlines some of the key job roles that are essential to improving product lifetimes. For each role there are some 'Good Practice' tips for ensuring they consider garment longevity in their day to day decision making.

<p>Buying</p> <p>Consider quality and garment life-span as well as style. The balance of cost versus customer quality/value assessment for repeat purchase should be taken into account. The range structure could be reviewed (e.g. the balance of fast fashion versus more durable fashion items).</p>	<p>Design</p> <p>Seek access to materials (yarns, fabrics and components) from reputable suppliers who understand the brand's performance requirements and can supply test reports for all elements before a sample is made. Designers should have sufficient technical knowledge of the product (or access to guidance from a technologist) in order to select components that in expected use will not be a 'first fail' area and specify sewing operations and make-up methods that will achieve the required longevity performance.</p>
<p>Manufacturing Quality Assurance</p> <p>Activities will often involve a retailer's own garment/fabric technologist, the supplier's technologist, and typically a 3rd party testing house or quality control agency. Material procurement (fabric and trimmings) should include appropriate test standards and compliance, and assembly processes should comply with required specifications and quality standards.</p>	<p>Technology</p> <p>Ensure that strict guidance is given to designers and buyers. Technologists should have the authority to reject products that do not perform adequately. They should be involved at the initial stages of garment development, when fabrics and trims are being selected.</p>
<p>Marketing</p> <p>Seek promotion opportunities for explaining long-lasting qualities garments to customers. Communication techniques should be implemented to raise consumer awareness of garment quality, durability and care issues and to create emotional attachments to clothing. The opportunity to create apps and use other direct marketing to allow better wardrobe management could be investigated.</p>	<p>Consumer Assurance</p> <p>Communicating aspects of garment longevity might be addressed as part of corporate market positioning and general reputation of the brand or retailer. Some aspects could be incorporated into garment labelling or information leaflets/web pages/social media. Product guarantees (or less formal 'promises') could indicate a minimum expected number of 'wear and wash' cycles and be communicated through use of a durability index/kitemark, a statement on the returns procedure, or specific product advice on swing tickets.</p>

Aim	Application	Tool 1	Tool 2	Wash and wear frequencies	Extended tests and trials	<p>Longevity Protocol</p> <p>page 3</p>
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Tool 1: Product Development Process – Checklist (page 1)

The checklist below identifies the key actions that should take place when creating a garment with longevity in mind. The checklist should be followed as far as reasonably possible, with each stage normally requiring completion before moving on to the next stage.

Note this Checklist is also available as a separate document.

	Person Responsible	Action Required	Target Date
Stage 1 – Initial design development			
Ensure that the choice of materials is appropriate for each component so that in expected use none is expected to be a 'first fail' area, addressing qualities supportive of garment longevity i.e. physical performance and colour fastness requirements.			
Use reliable suppliers who will ensure that fabrics, trims, components and yarns pass the testing standards.			
Apply specified make-up methods that reduce early failure.			
Stage 2 – Pre-contract garment developed for buying / selection			
Request physical performance test reports from the yarn/trim/fabric supplier prior to sample garment development (for standard fabrics).			
Carry out risk assessment to identify any possible failings and weak areas within the manufacture of the garment prior to the specification being sent to the factory.			
Fully test fabric using the relevant physical performance tests for that product (e.g. pilling, dimensional stability and spirality for knitwear).			
Carry out a care label wash with visual assessment and, if appropriate for the product, extended wash cycle tests.			

Tool 1: Product Development Process – Checklist (page 2)

	Person Responsible	Action Required	Target Date
<i>Stage 3 – Pre-production testing and sealing (approval for production)</i>			
Confirm that testing at the development Stages 1 and 2 has assured quality and all garments and fabrics/yarns meet the required pass criteria.			
Undertake additional 'longevity testing' if production fabric and trims are available (e.g. extended care label washes, durability wash tests and extended wearer trials). Final product testing should simulate washing/wear for the anticipated life-expectancy of the garment.			
Address potential bulk colour fastness issues (review dye stuff selection, dye recipe evaluation tests).			
Identify instructions for care labelling recommendations to encourage good consumer practice.			
Identify end-of-use guidelines for returns and possible reuse of products.			
<i>Stage 4 – Bulk Production</i>			
Submit garments to bulk physical performance and colour fastness tests.			
Undertake due diligence testing from production, either by retailer or trusted supplier (e.g. random sampling care label wash, extended wash cycle test).			
Carry out extended wearer trials for base fabrics or continuity styles.			
Use an on-line quality management system (examiners on the production line, faults/rejects analysis, random inspection, etc.) within the critical path process.			

Aim	Application	Tool 1	Tool 2	Wash and wear frequencies	Extended tests and trials	Longevity Protocol page 5
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Tool 2: Testing and performance standards - Core test performance standards

Core tests and performance standards that can be reasonably expected of some basic garment types to deliver 'good practice' performance are identified in the table below. To comply with the Protocol, these should be applied as a minimum standard.



Applying the protocol could help reduce issues such as pilling, fading or trim failure

Core Test	Knitwear	Shirt	Jeans	Socks	T-shirt
Dimensional Stability to washing/dry clean	+or- 5%	+or- 3%	+or- 3%	to fit sock boards or volumetric legs	+or- 5%
Pilling	4	n.a.	n.a.	4	4
Care Label Wash with visual assessment	expert judgement	expert judgement	expert judgement	expert judgement	expert judgement
Colour Fastness to: <ul style="list-style-type: none"> • Washing* / dry clean • Water or perspiration* • Light • Rubbing <i>(*includes shade change and staining)</i>	4 4 4 4	4 4 4 4	4 4 n.a. 4	4 4 n.a. 4	4 4 4 4
Spirality	3%	n.a.	n.a.	n.a.	3%
Seam slippage	n.a.	80N for 6mm opening	n.a.	n.a.	n.a.
Seam strength	n.a.	100N at breakdown	n.a.	n.a.	n.a.
Fusible lamination	n.a.	appearance after wash	n.a.	n.a.	n.a.

Tool 2

Aim

Application

Tool 1

Wash and wear frequencies

Extended tests and trials

Longevity Protocol

page 6

Wash and wear frequencies – advice on testing to simulate 'lifetime' wear

The table below gives an indication of wear and wash frequencies that companies may use to help specify a representative testing regime. The data are based on expert assumptions of the typical frequency of wear and hours per wear between laundering, and then related to the target product lifetime in terms of calendar years. The figures are indicative only.

Once the target lifetime of a garment has been estimated, in terms of the number of hours of wear and number of washes, additional testing may need to be carried out in the form of repeated wash cycles and extended wearer trials.

Longevity factors	Knitwear	Shirt	Jeans	Socks	T-shirt
Current lifetime estimate (years) ⁱ	3.7	3.6	3.1	1.8	3.3
Target lifetime (years) ⁱⁱ	5	5	4	2.5	4.5
Average wear days per year ⁱⁱⁱ	30	16	75	50	25
Implied wear days per month ^{iv}	2.5	1.3	6.2	4.2	2.1
Total days of wear for the target lifetime ^v	150	80	300	125	112.5
Hours of wear for the target lifetime ^{vi}	1,800	960	3,600	1,500	1,350
Assumed days of wear per wash ^{vii}	5	2	10	2	2
Hours of wear per wash ^{viii}	60	24	120	24	24
Average number of washes for the target lifetime ^{ix}	30	40	30	62	56

ⁱ Based on WRAP data

ⁱⁱ Based on lifetime increase of one third

ⁱⁱⁱ Working assumption (validated by industry interviews)

^{iv} Row C / 12

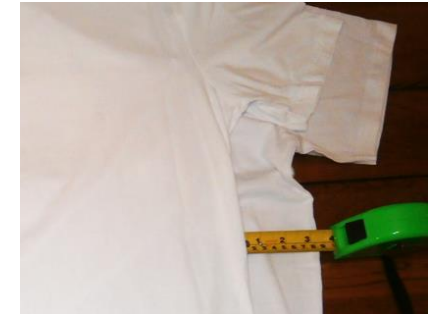
^v Row B x Row C

^{vi} Row E x 12 (assumed average 12 hours wear per day)

^{vii} Working assumption (validated by industry interviews)

^{viii} Row G x 12

^{ix} Row F / Row H



Shrinking garments



Wash and wear frequencies

Extended tests and trials

Longevity Protocol

Page 7

Extended wash tests & wearer trials - advice on testing to simulate 'lifetime' wear

Extended wash tests are valuable to identify the point at which garments fail

In preparing the Protocol a range of core products were washed and dried according to the care label. Socks and t-shirts underwent 50 wash cycles, shirts and jeans 40, and cashmere knitwear 20. The tests proved very useful for showing the point at which garments failed against specified performance criteria. Certain problems were not evident until later washes and in the case of shirts 40 washes was insufficient to reveal significant deterioration. The results thus confirmed the value of repeated wash cycle tests.

Extended wearer trials should be kept at 50 hours to identify failure that might result in customer returns or extended beyond 200 hours to identify long term failure modes

Extended wearer trials were carried out for around 200 hours on a range of core products. The results did not confirm the value of extending the wearer trials from 50 hours to 200 hours; the standard industry practice of carrying out trials for 50 hours already reveals points of failure that might result in customer returns after a short period of wear. Where extended wearer trials were carried out for up to 500 hours garment failure became evident on some items (for example, fabric wearing into holes at the knees on a pair of jeans). This indicates that wearer trial hours may need to be extended considerably beyond 200 hours in order to identify the point of garment failure; however, this may be difficult for retailers to factor into product development lead times.



Wash tests and wearer trials can be very valuable in finding out a garments first failure mode – such as this frayed pocket lining



Aim	Application	Tool 1	Tool 2	Wash and wear frequencies	Extended tests and trials
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