

# We make the world a safer place.

Today for tomorrow.

## Right to repair – Design requirements by law & assessment

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Precisely Right.



Precisely Right.

# Agenda

Kapitel	Thema	Seite
1	Overview of existing "Right to Repair" regulations	
2	Definition and meaning	
3	Challenges and potentials for manufacturer of products	
4	Methods for assessing reparability	
5	Example for reparability assessment	

# Right to repair – „empower consumers for the green transition”

Consumer law(s) to give Consumers the right to repair

Proposal for a



## **DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL**

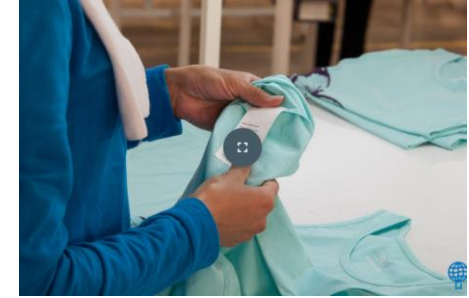
**on common rules promoting the repair of goods and amending Regulation (EU) 2017/2394, Directives (EU) 2019/771 and (EU) 2020/1828**

Rules promoting the repair of goods,..., while providing for a high level of consumer and environmental protection.

...to reduce waste and promote a circular economy by giving consumers the right to repair.

# Right to repair – „a consumer right to empower consumers for the green transition”

Consumer law(s) to give Consumers the right to repair



A combination of **six options** is proposed to address the problems **to increase repair**:

- **prioritising repair whenever it is cheaper than replacement** within the legal guarantee framework.
- an **online platform** at national level, **matchmaking consumers with repairers and** promoting refurbished goods.
- an obligation on repairers **to issue upon request a quote on price** and conditions for repair **in a** standardised **European Repair Information Form**.
- an **obligation** on producers of goods **to offer repair outside the legal guarantee against a price**.
- an obligation on producers **to inform** on **applicable obligation to repair** and **reparability score** (by law)
- a voluntary **EU easy repair standard** (European Standard for repair services).

# Repair & design – reparability in the ESPR

Product Regulation addressing sustainable and repairable design to manufacturers



Proposal for a

## **REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL**

**establishing a framework for setting ecodesign requirements for sustainable products and repealing Directive 2009/125/EC**

The “Ecodesign for Sustainable Products Regulation” aims to **improve the circularity**, and other environmental sustainability aspects of EU products.

The regulation will establish a framework to **set ecodesign requirements** for almost all categories of physical goods placed on the EU market, including product durability, reusability, upgradability, and **reparability**.

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## Reparability according to the ESPR

- (12) 'life cycle' means the consecutive and interlinked stages of a product's life, consisting of raw material acquisition or generation from natural resources, pre-processing, manufacturing, storage, distribution, installation, use, maintenance, repair, upgrading, refurbishment and re-use, and end-of-life;
- (b) ease of repair and maintenance as expressed through: characteristics, availability and delivery time of spare parts, modularity, compatibility with commonly available spare parts, availability of repair and maintenance instructions, number of materials and components used, use of standard components, use of component and material coding standards for the identification of components and materials, number and complexity of processes and tools needed, ease of non-destructive disassembly and re-assembly, conditions for access to product data, conditions for access to or use of hardware and software needed;

## Reparability and application according to EN 45554



= a process in which a defective product is restored to a condition in which it can fulfil its intended use.



≠ upgrade: Process of increasing the functionality, performance, capacity or aesthetics of a product.

=> with the aim to increase the longevity of a product



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# Challenges and potentials

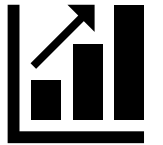
for a repair friendly design and verification process

## Challenges



- Detailed description of repair (depth)
- Long-term availability of spare parts
- Adequate Product design

## Potentials



- Conservation of resources
- Reusability of rare parts
- Necessity of repair centres (Jobs)

# Agenda

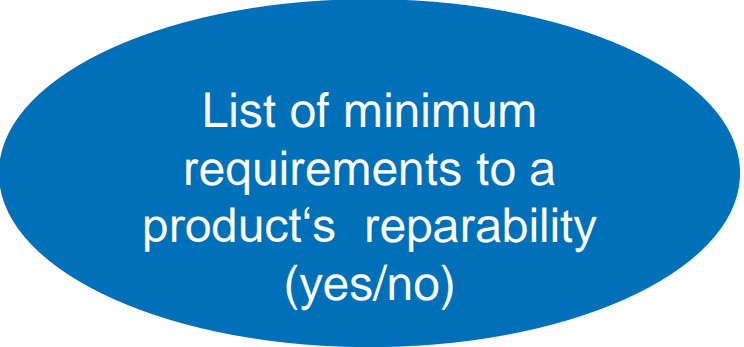
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# Reparability index /score – Europe



## Different schemes of assessment:

- Qualitative
- Semi-quantitative
- quantitative



List of minimum requirements to a product's reparability (yes/no)



# Reparability index /score – Europe

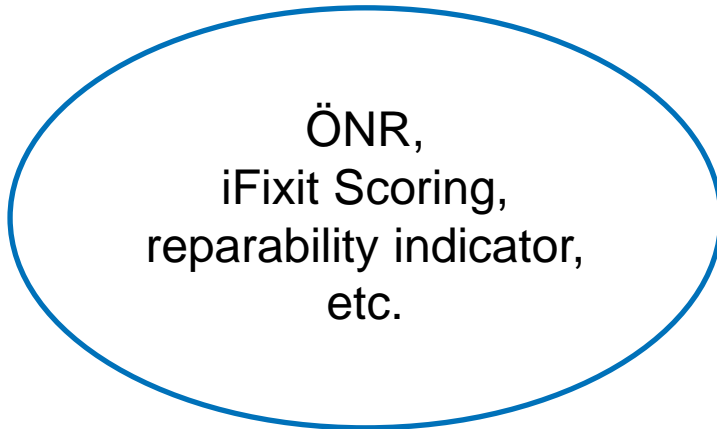


## Different schemes of assessment:

- Qualitative
- Semi-quantitative
- quantitative



Qualitative assessment  
combined with  
differentiated assessment  
scheme



# Reparability index /score – Europe



## Different schemes of assessment:

- Qualitative
- Semi-quantitative
- quantitative



Summary of single indicators (one or multidimensional) to an all-over Index

U-effort,  
Phillips ECC

## Reparability index / score France



- Mandatory declaration since 2021 for the following products
  - washing machine, Lawn mower
  - Smartphones, Laptops, TVs,
- Simple and quick information on the reparability of the product criterias:
  - Access to information
  - simple disassembly
  - **price of spare parts (versus rest of EU!)**
  - product-specific properties



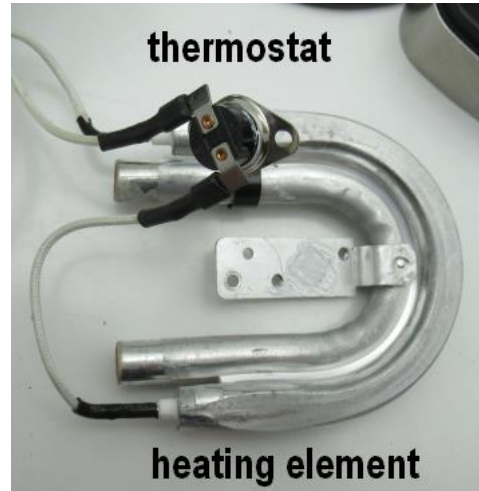
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# Example - Reparability assessment of filter coffee machine

## 1. Identifying priority components



# Example - Reparability of filter coffee machines

## 2. Reparability Index Calculator in support of JRC Report in accordance with EN 45554

### Disassembly depth

PART LEVEL		Disassembly depth (PER PART)	Dynamic Weighting factor	Choice	Points	Score
LEVEL 1	1a			select number of steps	0	0
	1b			select number of steps	0	0
LEVEL 2	2			select number of steps	0	0
LEVEL 3	3	Filter holder	16,67%	$x \leq 2$ steps	5	0,83
	3	Water tank	16,67%	$10 \geq x > 5$ steps	3	0,50
	3	Water-carrying hoses	16,67%	$10 \geq x > 5$ steps	3	0,50
	3	Thermostat	16,67%	$5 \geq x > 2$ steps	4	0,67
	3	Overheat Protection	16,67%	$5 \geq x > 2$ steps	4	0,67
	3	Heating element	16,67%	$5 \geq x > 2$ steps	4	0,67
LEVEL 4	4			select number of steps	0	0
TOTAL DISASSEMBLY DEPTH						3,83

### Fasteners

PART LEVEL		Fasteners (type) (PER PART)	Dynamic Weighting factor	Choice	Points	Score
LEVEL 1	1a			select type of fastener	0	0
	1b			select type of fastener	0	0
LEVEL 2	2			select type of fastener	0	0
LEVEL 3	3	Filter holder	0,00%	select type of fastener	0	0,00
	3	Water tank	20,00%	Reusable	5	1,00
	3	Water-carrying hoses	20,00%	Reusable	5	1,00
	3	Thermostat	20,00%	Reusable	5	1,00
	3	Overheat Protection	20,00%	Removable	1	0,20
	3	Heating element	20,00%	Removable	1	0,20
LEVEL 4	4			select type of fastener	0	0,00
TOTAL FASTENERS						3,40

# Example - Reparability of filter coffee machines

## 2. Reparability Index / score Calculator in support of JRC Report in accordance with EN 45554

### Tools

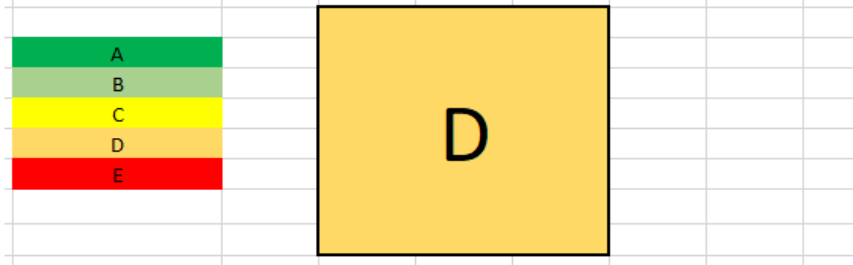
PART LEVEL		Tools (type) (PER PART)	Dynamic Weighting factor	Choice	Points	Score
LEVEL 1	1a			select type of tool	0	0
	1b			select type of tool	0	0
LEVEL 2	2			select type of tool	0	0
LEVEL 3	3	Filter holder	16,67%	No tools	5	0,83
	3	Water tank	16,67%	Tools supplied with part	3	0,50
	3	Water-carrying hoses	16,67%	Tools supplied with part	3	0,50
	3	Thermostat	16,67%	Tools supplied with part	3	0,50
	3	Overheat Protection	16,67%	Tools supplied with part	3	0,50
	3	Heating element	16,67%	Tools supplied with part	3	0,50
LEVEL 4	4			select type of tool	0	0,00
		<b>TOTAL TOOLS</b>				<b>3,33</b>

# Example - Reparability of filter coffee machines

## 2. Reparability Index Calculator in support of JRC Report and in accordance with EN 45554

PRODUCT PARAMETERS (PRODUCT)	Weighting factor	Choice	Points	Score
Spare part (target group)	17,65%	select parts available to endusers	0	0
Software Updates (duration)	0%	select updates availability duration	0	0
Repair Information for all parts	17,65%	select target group and fee	0	0
Disassembly depth (AGGREGATED)	29,41%	SCORE TAKEN FROM G28	3,83	1,13
Fasteners (type) (AGGREGATED)	17,65%	SCORE TAKEN FROM G43	3,40	0,60
Tools (type) (AGGREGATED)	17,65%	SCORE TAKEN FROM G58	3,33	0,59
<b>TOTAL SCORE</b>				<b>2,31615981</b>

The Product's Reparability Class is:



# Example – Reparability adopted in EU DELEGATED REGULATION (EU) 2023/1669

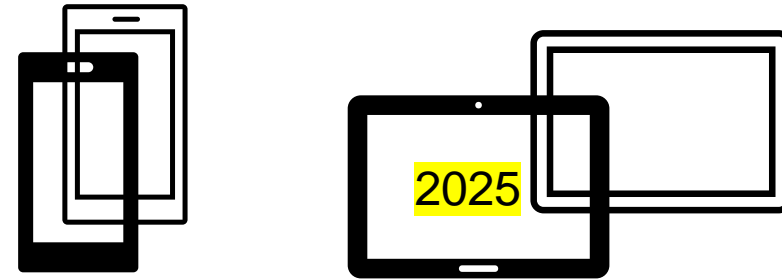
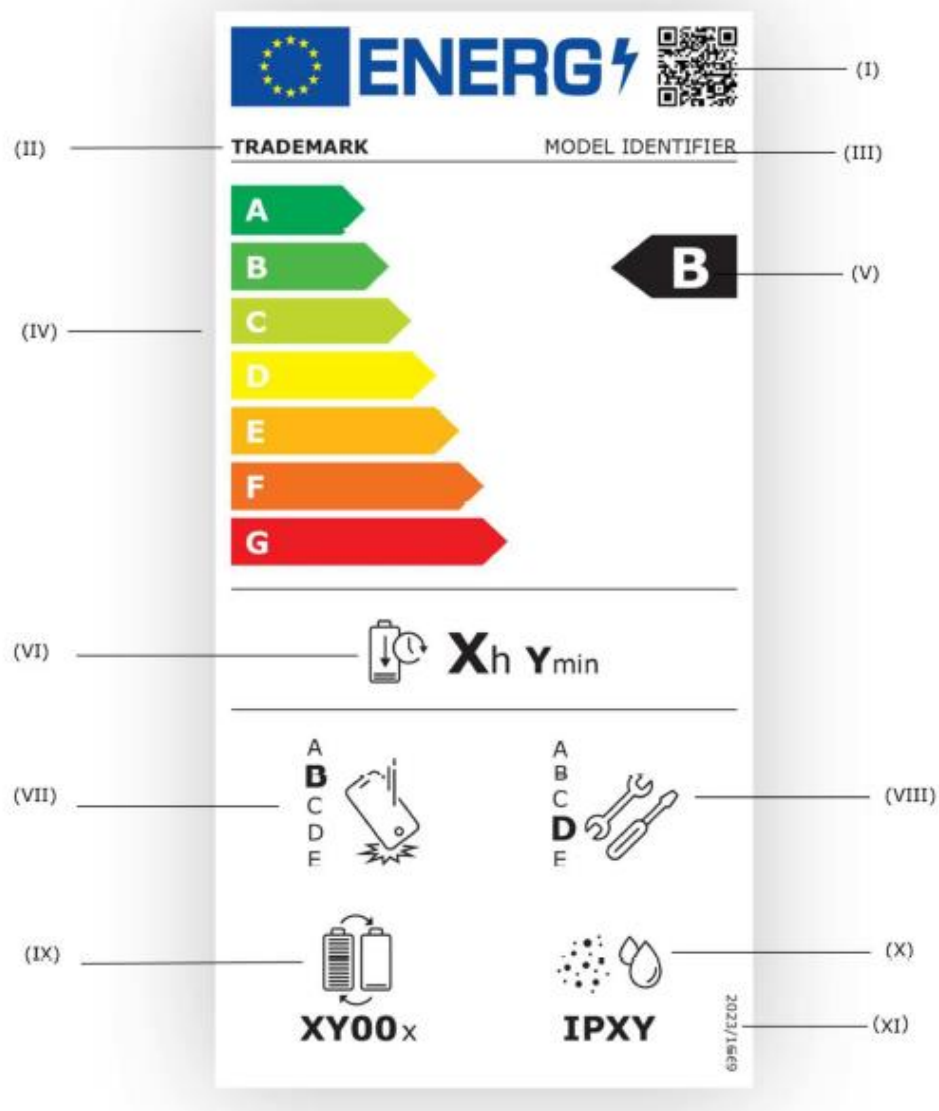


Table 4

Repairability classes of smartphones and slate tablets

Repairability Class	Repairability Index (R)
A (most repairable)	$R \geq 4,00$
B	$4,00 > R \geq 3,35$
C	$3,35 > R \geq 2,55$
D	$2,55 > R \geq 1,75$
E (least repairable)	$1,75 > R \geq 1,00$

# Thank you for your attention!

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