

Child Resistant Packaging & Ease of Opening for Elderly People

Stephen Wilkins

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2772







The Child & Adult Test

ISO 8317:2015, EN ISO 14375:2023 & 16CFR 1700.20



What is a standard?

A standard is not a set of rules but a set of concepts from which we create suitable rules.

When a standard is cited in regulation then that standard will take on the force of the regulation.



BS EN ISO 13127:2012

Mechanical test methods for reclosable child resistant packaging systems

Normative Annexes

A mechanical testing standard for testing continued child resistance and adult openability in the case of a pack that has previously conformed to a behavioral research standard, BS EN ISO 8317:2015, and has been subjected to minor changes.

- ◆ Annex A – Torque Release Test
- ◆ Annex B – Squeeze Test
- ◆ Annex C – Non-Squeeze Torque Test
- ◆ Annex D – Press Down & Turn Engagement Test
- ◆ Annex E – Push and Turn Test
- ◆ Annex F – Reverse Ratchet Torque Test
- ◆ Annex G – Disassembly Test
- ◆ Annex H – Rotational Torque Test
- ◆ Annex I – Push-Off Force
- ◆ Annex J – Application Force



The Child test

ISO 8317:2015



The Child Test.

EN ISO 14375:2023 & 16CFR1700.20.



The Effects of Ageing



You become wary and unsure of your environment and your medicines

(source: AGE UK)



Between 65 & 75 you lose 50% of your manual dexterity

(source: Yoxall et al, Uni Sheffield)



The Adult Test

Panel spread 50 – 70yrs
Acceptance level 90%



Normal Vision



Myopia



Macular Degeneration



Cataracts



Diabetic Retinopathy



Standards for design criteria and testing



- ◆ BS ISO 17480:2012 – Ease of Opening
- ◆ BS ISO 22015:2019 – Handling & Manipulation
- ◆ ISO 19809 – Information & Marking
- ◆ BS ISO 21067:2016 – Vocabulary

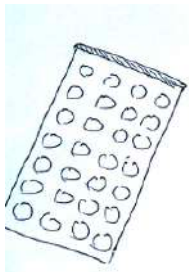


What is 17480 used for?

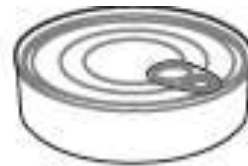
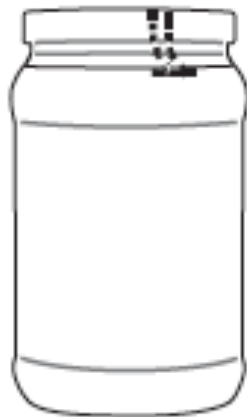
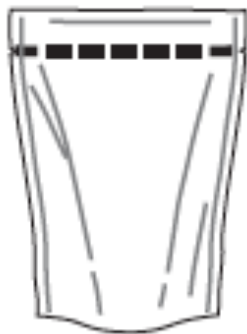


Things to be considered...

- ◆ Context of use
- ◆ Opening strength
- ◆ Dexterity
- ◆ Cognition



Examples of opening types



How we test

Annex D - Consumer Panel Test for ease of Opening



Consumer Panel Test

Effectiveness – Efficiency - Satisfaction



Extremely
dissatisfied



Dissatisfied



Neither
satisfied or
dissatisfied



Satisfied



Extremely
satisfied



Sequential Test Method

Panel age spread 65 – 80yrs

Number of panellists	Number of successes recorded	Number of failures recorded	Confidence Intervals (%)
20	20	0	85 to 100
40	38	2	82 to 99
60	56	4	83 to 97
80	75	5	85 to 97
100	94	6	87 to 97



Mechanical Evaluation



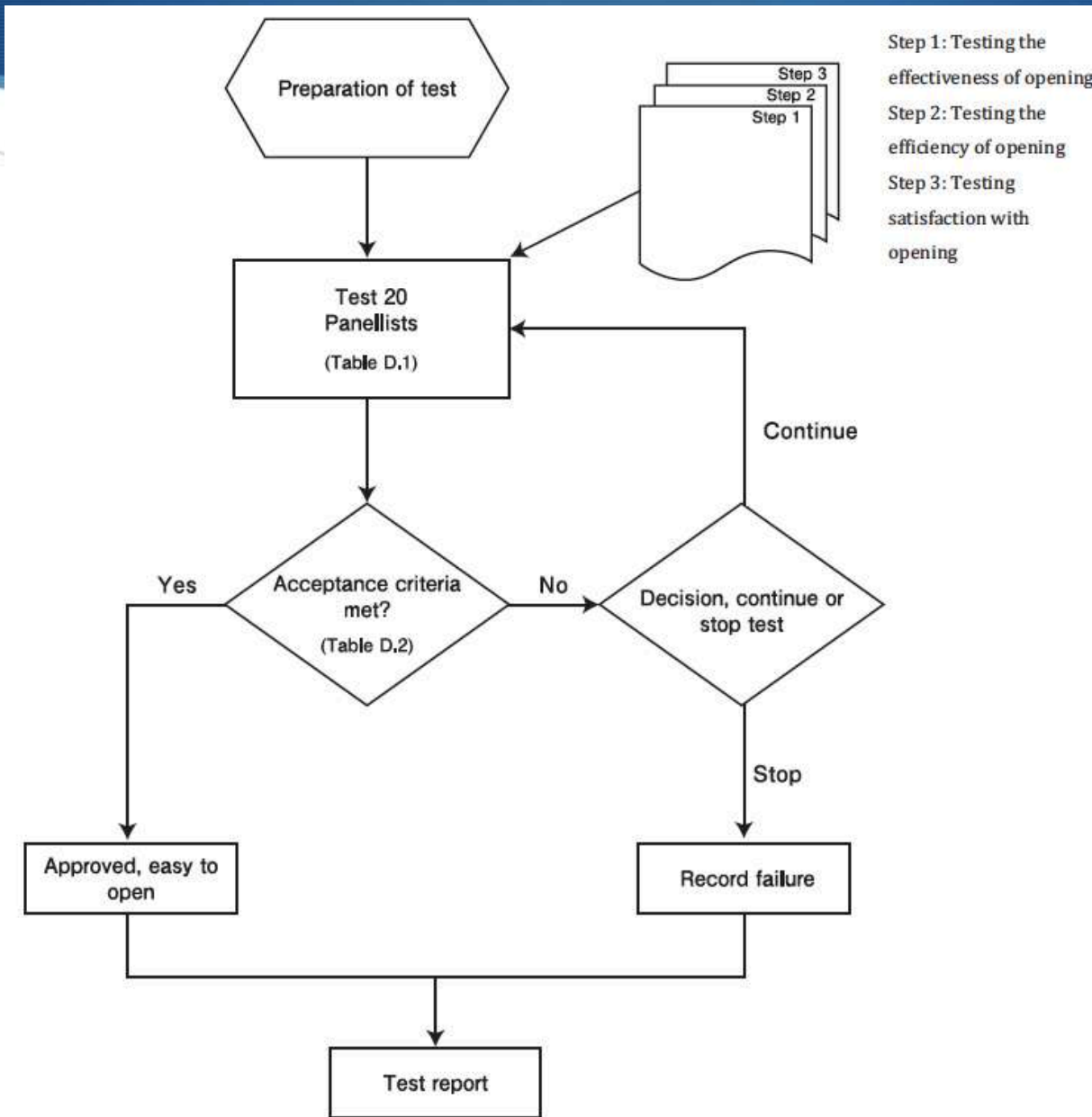


Figure D.1 — Flowchart for testing the ease of opening



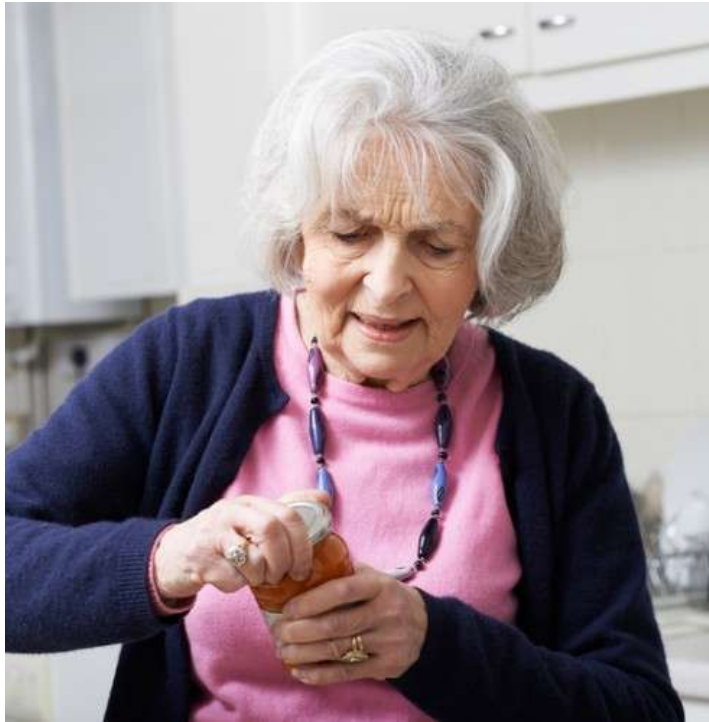
Designers checklist

Have the requirements of this standard been met?

- Context
- Information Design
- Handling of packages:
 1. Gripping
 2. Opening
 3. Emptying and Dosing



What is 22015:2019 used for?



Things to consider... ISO 22015 Annex A

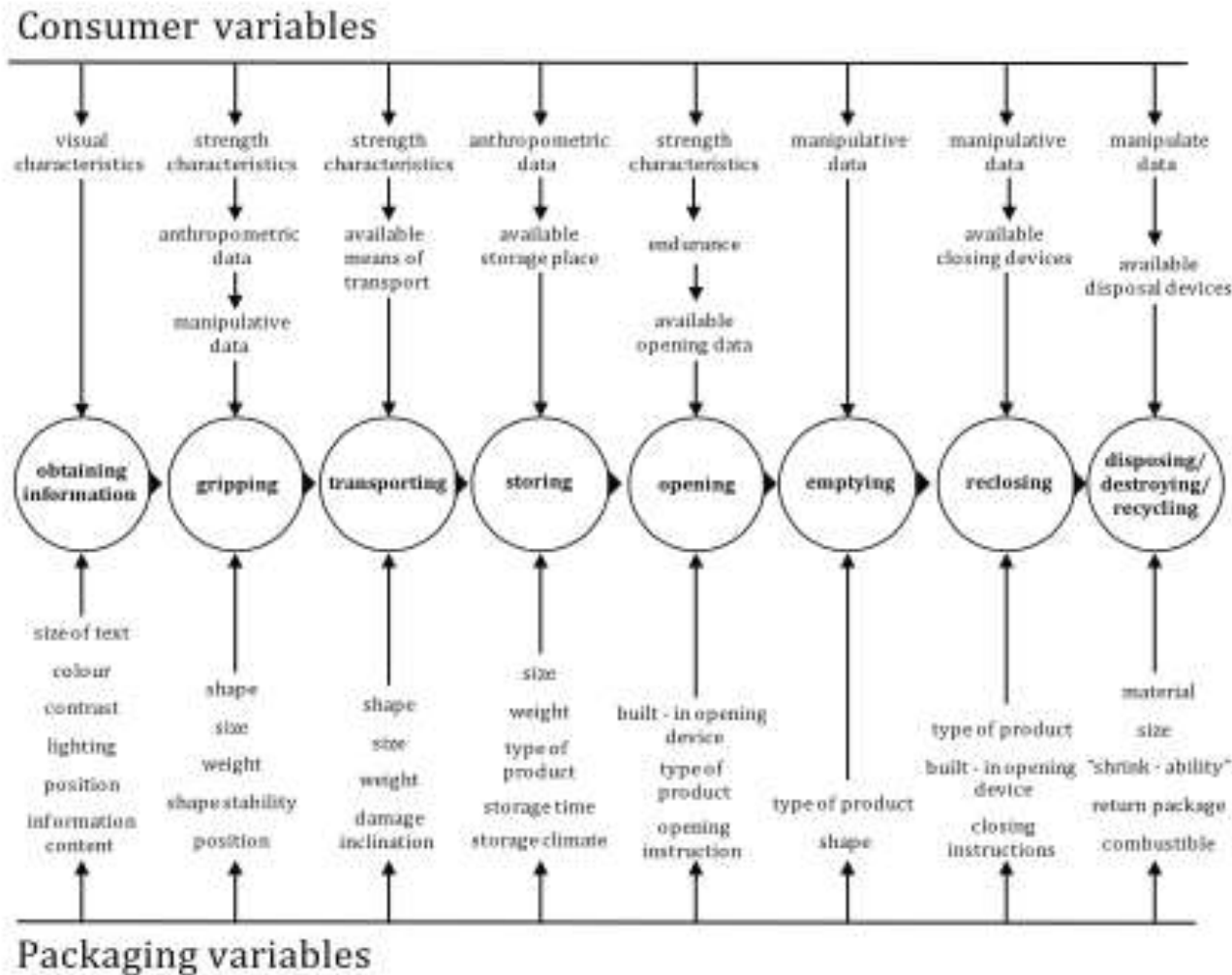


Figure A.1 — Packages variables and consumer variables in the life cycle of packaging



What is 19809 used for?



Things to consider...

Types of disabilities for Human Functions

- ◆ Vision
- ◆ Hearing
- ◆ Touch
- ◆ Physical & Cognitive functions

Dimensions of Tactile Markings

- ◆ Symbols & Letters
 - ◆ Diameter
 - ◆ Height
 - ◆ Width

Designers Checklist

- ◆ Does the packaging fulfill the requirements of the standard?



What is 21067:2016 used for?



Packaging — Vocabulary

Part 1: General terms

Example:
Packaging noun? Packaging verb?



Stephen Wilkins.
Davies Development and Testing Ltd.
Halghton Mill
Whitchurch Road
Wrexham
LL13 0BN
United Kingdom
+44 1978 780978
wilkinsstephen@icloud.com
ddtinfo@icloud.com



2772

