Designation: D 3475 – 03a

Standard Classification of Child-Resistant Packages[1]

This standard is issued under the fixed designation D 3475; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This classification covers various types of child-resistant packages.

1.2 The examples for each type of child-resistant packaging are not intended to be all-inclusive, but are included only as an aid in the understanding and comprehension of each type of classification.

1.3 Listings are not to be considered endorsements or approval of the package by ASTM.

2. Terminology

2.1 *Definitions of Terms Specific to This Standard:*

2.1.1 *child-resistant package—as defined by the Poison Prevention Packaging Act*, packaging that is designed or constructed to be significantly difficult for children under five years of age to open or obtain a toxic or harmful amount of the substance contained therein within a reasonable time, and not difficult for normal adults to use properly, but does not mean packaging which all such children cannot open or obtain a toxic or harmful amount within a reasonable time.[2]

2.1.2 *unit dose package*—an immediate product container/package designed and labeled in such a manner that each individual product package is intended to be opened or used one time in a generally non-reclosable or non-resealable manner, separately from the other individual product units in the package, or the entire contents of a single unit package intended for use in one application.

2.1.2.1 *Discussion*—Normally used for pharmaceutical, human healthcare, and nutritional products in dry solid, topical, transdermal, or liquid form. A unit of sale package may contain one or more individual unit dose packages, that is, individually wrapped transdermal patches, pre-filled syringes and syringe cartridges, blister cards with multiple tablets or capsules, etc. Unit dose packages may or may not be child-resistant in accordance with the regulatory requirements of the package contents.

2.1.3 *unit use/single use package*—an immediate product container/package, which may include label directions for use, designed in such a manner that each individual product package is intended to be opened or used one time separately from the other individual product units in the package, or the entire contents of a single unit package intended for use in one application.

2.1.3.1 *Discussion*—These packages are generally non-reclosable or non-reusable. A unit of sale package may consist of one or more non-reusable individual packages. Generally used for household, automotive, chemical, pesticide, veterinary, garden and other products not intended for human ingestion. Package styles may include some aerosol, that is, foggers, soluble film, canisters, pouches, etc., filled with liquids, drys, powders and other product forms. Packages may or may not be child-resistant in accordance with the regulatory requirements of the package contents.

3. Significance and Use

3.1 This classification scheme defines the type of motions, skills, or tools required for a particular type of child-resistant package and provides examples of current packaging within that type.

3.2 Reference to a particular package in this classification is not intended in any manner to denote endorsement or approval of the package by ASTM.

3.3 Packages have been included as examples based on manufacturers' claims of child-resistance. Child-resistant package functionality for any specific product type must be determined by the packager/manufacturer following the guidelines of the PPPA of 1970 and the most current version of the CFR Title 16 Part 1700 and Title 40 Part 157.[2] The listing of a package in this classification is not an indication of whether or not it has been successfully tested in accordance with the aforementioned guidelines.

3.4 Additions or deletions to the examples should be reported to Committee D10 on Packaging, for incorporation into this classification during the next revision.

4. Basis of Classification

4.1 The basis for classification for child-resistant closure, and the classifications themselves, appear in Table 1.

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[1] This classification is under the jurisdiction of ASTM Committee D10 on Packaging and is the direct responsibility of Subcommittee D10.31 on Child-Resistant Packaging.

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[2] Code of Federal Regulations, Title 16, Part 1700 and Title 40, Part 157. A copy may be obtained through the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

TABLE 1 Classification of Child-Resistant Packages

	Description	Example
	TYPE I RECLOSABLE PACKAGING—CONTINUOUS THREAD CLOSURE	
A	Random push down while turning; no orientation of the push down force necessary	Kerr CR-I, II, III, XIV and CRTE; Owens-Illinois Clic-Loc I, II, and III, Argus-Loc I and II and Chem-Loc; Alcoa Tot-Gard III; Van Blarcom metal-on-metal, Saf-Cap I, II, III, and IIIA; Ferdinand Gutman; Poly Seal Corp.; Reliable Products; Rexam F.G. (Final Generation), Carow-Turnloc; Comar-Secure Cap; Reike-FS652; CCL Container Corporaton (tube) & RPC Containers Ltd. (closure) Tube Secure; Owens-Illinois Inc. Ultra-Loc; Van Blarcom Closures Inc. Dropper Closure, Saf-Cap Convertible, 1-1/8 Beta Closure
B	Localized squeeze force while turning; the force must be applied to a designated location on the closure skirt	Rexam Squeeze-Lok, Snap-Lok, Econo-Lok, Tip Lok, DOT, Dougherty Brothers; Fastex; Owens-Illinois Squeeze and Turn, Tab-Loc; Berry Plastics-Squeeze & turn jigger-Lite-touch; Weatherchem-Top Squeeze; Kerr-Tab II Squeeze & Turn; Rieke FS633, HZ43CR, HZ24CR; US Can-Screw top; Owens-Illinois Inc. Drain Back System; Rexam Closures & Containers Jigger, Snap-Lok II, Squeeze Lok Low Profile; Rieke Corporation Stolz HZ32CR
C	Random squeeze while turning; no orientation of the squeeze force is necessary	Owens-Illinois
D	Holding a fitment while turning; two-handed operation is normally required	Thomas Closure Moldcraft; M & M Industries, Inc.-Life Latch; Berry Plastics, Lite-Touch
E	Key or device required to open	Research and Devices; Ben King Associates Baby Safe; Tredegar
F	Random lift while turning; no orientation of the lift force is necessary	
G	Localized lift of cap skirt or tab on closure while turning	Charles A. Breskin; Alcoa Tot Gard II
H	Localized push down while turning; force must be applied to a designated place on the top of the closure	Mack Wayne Plastics; Anchor Hocking Mold Craft; Owens-Illinois
I	Set combination before turning	None at this time
J	Pull tab then turn	Intermova Gate Lok, Lefty Lok
K	Align arrows, then push tab down, then turn	Owens-Illinois Cognitive Closure
L	Turn closure until stops, then lift and continue trying to open	Berry Plastics Corp.-pail; Berry Plastics Corporation ZH05SQ
M	Localized push in while turning, force must be applied to designated place on closure	U S Can Company-pail
N	Localized push back lever while turning, force must be applied to designated place on closure	None at this time
O	Turn the top cap until stops, then push down and turn	M&M Industries, Inc
	TYPE II RECLOSABLE PACKAGING—LUG FINISH CLOSURE	
A	Random push down while turning	Eyelet Specialty; Pac-Tec Inc.-Palm-N-Owens-Illinois Screw Loc; Kerr CR-V & Friendly and Safe; Thornton Plastics Tot-Lok; Child Related Research, Inc. Push-Palm; Design Consultant Plastics; Iventive Packaging Corp., Clarke Container Push & Turn; Cebal Americas (tube) & Rexam Closure & Conatiners (closure) TubeLok; Owens-Illinois Inc. Purse Pak
B	Hold fitment down while turning closure	Rexam Snap-Lok, Econo-Lok, Tip Lok; Owen-Illinois-1-Clik
C	Unlock outer ring to release lugs	Thornton Plastics
D	Depress fitment and slide to one side	Plastic box with sliding lug lock (manufacturer unknown); Creative Packaging Lok-Pak
E	Holding of fitment while turning; two-handed operation is normally required and no orientation of holding force is specified	None at this time
	TYPE III RECLOSABLE PACKAGING—SNAP CLOSURE	
A	(*1*) Align two points then push up on tab or lip	Bristol-Myers; Calmar Snap Safe; Stull; Plastic Research; Henlopen Snap Cap; Lermer CR Snap; Owens-Illinois Snaploc; Central States Can Co.; Boyle Midway; Clarke Container Snap Lok; VH Technologies-virtual hinge; Saf-Cap I, II, III and IIIA
	(*2*) Rotate then lift	Continental Carlisle Co. Unikon; Magenta Corp.-Pillpack
B	Localized downward pressure to open	Polymold; Basic Products Poly Mold
C	Downward pressure on top with simultaneous upward pull on edges	Versatile Ind. Products
D	(*1*) Press to release and then lift hinged tab (dispensing cap)	Magenta Corp.; Lumlite PopLok; Polytop ToggLoc Dispensing Closure
	(*2*) Press to release, follow by lifting force on tab (removable cap)	Wheaton Industries Ryles Closure; Owens-Illinois hood type, Magenta Corp. Pop-Lok Plug
	(*3*) Push up to release	Stull Easy Flip 2008 captive hinge
	(*4*) Push in or up, or both, to release	Shellvick Industries, Inc.
	(*5*) Pull to release and lift hinged lid (dispensing cap)	Stull Technologies: StullSURE
E	(*1*) Squeeze and lift two specific points simultaneously	Pennwalt-Lye; J. L. Clark
	(*2*) Squeeze and lift one specific point simultaneously	
	(*3*) Squeeze two points simultaneously to open	MAC Closures Inc.; FTCR 19000, FTCR 19100, FTCR 19500
F	Squeeze two specific points simultaneously to unlock sides, then squeeze specific point on third side while lifting lid	Shaw-Clayton Press N Pop; Norman J. Larus
G	Requires key device or fingernail or coin or other tool to open	Skilcraft; Continental Plastics Med Guard; Plastic Container Corp. Prex Con; Polytop Corp. LokTop; Myco Corp. Surelock, Vicap; Rexam Snap Cap; Pin Lock, Inc. Pin Lock; Kerr Glass Pry Off; Genpak Corp. Pry Off; Cin-Made Corporation (container) CMI (closure) Tec Loc; Continental Fibre Drum Leverpak; Berry Plastics; Plastican, Inc. Lever/Toggle Band on Pail; Container Products Inc. Lever Lok; Cin Made Corp. Friction Fit Plug; Silgan Plastics Corporation 28MM-410 CR Dispensing Nozzle Closure

TABLE 1 *Continued*

	Description	Example
H	Lift locking tab then push up	Internova Corp. Flap Lok
I	Random squeeze while turning and pulling up	Stull Snap On/Twist Off
J	Align two points, push down outer ring, then push up tab or lip	Robert Linkletter Associates
K	Rotate cap to a first index, then counterrotate cap to a second index, then lift cap	Yellowstone Environmental Science, Inc. WiseCap
	TYPE IV UNIT NON-RECLOSABLE PACKAGING—FLEXIBLE (STRIP/POUCH)	
A	Internal (hidden) tear notch	Sharp; Reynolds Aluminum (Safety Pak 101); PCM Corp.; Cardinal Health; West Pharma-Services; Reed-Lane, Inc.
B	Oriented tear	Schering Corp.; Sharp; American National Can Co.; Reed-Lane, Inc.
C	Requires tool	Hargo Flexible Packaging (Pos-I-Pak); Sharp; Hach Chemical Co.; American National Can Co.; Cardinal Health; Paco; Reed-Lane, Inc.; Pactech
	TYPE V UNIT NON-RECLOSABLE PACKAGING—RIGID	
A	Requires tool	All metal can
B	Requires localized force	None at this time
C	Peelable backing or coating	Standard Packaging
	Package is not opened or activated to expose contents-1. One piece plastic unit with multiple holes to allow use of product without human contact; and 2. Two piece plastic unit with multiple holes to allow use of product without human contact	
	TYPE VI UNIT RECLOSABLE PACKAGE	
A	Metered device	None at this time
	TYPE VII AEROSOL PACKAGES	
A	Localized squeeze while lifting removes overcap (actuates normally)	Knight Engineering; Berry Plastics; Cobra Plastics Inc. 65 mm NICR
B	Hold fitment still while turning (actuates normally)	Thomas Closure
C	Hold fitment still while lifting (actuates normally)	None at this time
D	Requires use of a key or device to open (actuates normally)	Newman Green, Shellvick Answer Cup 200 TR/CR
E	Directional overcap-actuator must be oriented, then pressed	Owens-Illinois
F	Directional overcap-actuator requires sequential simultaneous pushing of locking device and actuator	Union Carbide; Seaquist; Rexam CR Aerosol
G	Directional overcap-actuator which requires a finger longer than that of a child	Shell Chemical
H	Press to release, lift hinged tab at center of the closure followed by an upward force on the tab to remove overcap (actuates normally)	None at this time
I	Directional overcap-actuator that requires the lifting of a hinged tab to reveal the actuator	None at this time
J	Random push down while turning; no orientation of the downward force is necessary	ITL (Hayes-Albion)
K	Localized press down then pull up at arrow	Berry Plastics Corp.
L	Localized push up to remove	Berry Plastics Corp.
M	Line-up arrows on the overcap and ring to remove	Duerr–Innopak Inc. Airsafe; Pierson Industries Inc. (Contact Technimark Associates) Hold Collar Line up Arrows Safety Closure, Universally Adaptable Safety Closure
	TYPE VIII NON-RECLOSABLE PACKAGING—SEMI-RIGID (BLISTER)	
A	Remove portion (tab) and peel back	Sharp; Merial Ltd. Child-Resistant Blister Pack
B	Remove portion (tab), peel back, and push out	Sharp
C	Peel back	Sharp
D	Peel back and push out	Sharp; Proclinical, Pick and Peel
E	Requires tool	Sharp
F	Center bend	Sharp
G	Push out	Sharp
H	Bend, peel off, peel back, and push out	Sharp
I	Internal tear (hidden) notch	Sharp; Cardinal Health E-Z tear
J		none at this time
K	Internal tear notch (visible)	Sharp Ivers-Lee
L	Zipper card-pull back card strip behind tablet and pushout	Sharp Ivers-Lee; Proclinical Inc.: Pick and Peel
M	Bend, peel back, push out	Intini Marketing Bend & Peel Blister Pack
	TYPE IX DISPENSERS (NOT INTENDED TO BE REMOVED)[B]	
A	Finger pump	
	(*1*) Directional pump must be oriented (by rotation to a second stop position) then pumped with finger	Owens-Illinois
	(*2*) Push tab while rotating directional pump to spray position, then pump with finger	Packaging Concepts Association, LLC CR Mpak

[A]

TABLE 1 *Continued*

	Description	Example
B	Trigger pump (*1*) Press down on a point to release lock, rotate orifice to spraying position, and squeeze trigger	Owens-Illinois
	(*2*) Press in and up on orifice (lock cover) and squeeze trigger	AFA Corp.
	(*3*) Push down on a point and slide it back to release lock, then rotate the orifice to the spraying position, and squeeze trigger	Spray Plast S.P.A. Vela CR
C	Line up arrows, squeeze and turn dispensing unit where the dispensing cap is permanently attached to the bottle	Van Blarcom
D	Line up arrows, and pull apart to open dispensing slot of a permanently attached two-piece unit. When the arrows are aligned, the two halves can be pulled apart to reveal a slot just large enough to dispense one tablet or capsule.	Magenta
E	Combination lock, turning counterclockwise until it stops, then turning clockwise until arrow 1 on the closure aligns with the arrow on the bottle, and finally turning counterclockwise until arrow 2 on the closure aligns with the arrow on the bottle	Toren Consulting Pty. Ltd. CR Tablet Dispensing Pack with 2 Line-Up Arrows on Cap
	TYPE X BOX OR TRAY PACKAGE	
A	Squeeze and slide to open	Tredegar, Kerr, CR Pill Box
B	Combination lock, multi-toggle, press down combination and slide or lift to open	Lederle, Magenta Corp.-Safety Box
C	An asymetrical neck bottle that uses a squeeze and slide cap	
D	Localized squeeze while lifting up, then pressing two tabs while lifting lid to open	Intini Marketing Medi-Lock
	TYPE XI RECLOSABLE PACKAGING—FLEXIBLE	
A	Squeeze two specific points simultaneously, lift zipper tab and pull to open	Pactech MEDI-CRREO
B	Continuously threaded closure random squeeze while turning, No orientation of squeeze force is necessary	Pactech
	TYPE XII DISPENSER (MAY BE REMOVED)	
A	Trigger handle fits into an opening on a package, trigger handle is rotated 90 degrees to lock into place, a second device is attached to the trigger via a continuously threaded opening, then squeeze trigger	
	TYPE XIII RECLOSABLE PACKAGING—SEMI-RIGID (BLISTER)	
A	Press hold, pull out (parts remain together), push out	MeadWestvaco Corp., Dosepak
B	Pull trigger, lift flap, push out	MeadWestvaco Corp., Surepak
C	Unlock, unfold, and push out	Toren Consulting Pty. Ltd. CR Folding Blister Pack
D	Slide blisters to align with holes in bottom of case, push out, blisters then non-align	Cardinal Health Slide Pack
E	Press then flex and lift to open	Rondo, TopPak

[A] There are other laminations which could also function as described. These materials are examples:

Contract Packagers/General Packaging:	*Foil Lamination Suppliers:*
Paco	Alusuisse
Sharp Corp.	M&N
Packaging Coordinators, Inc.	
Comar	American National Can Co.
Reynolds	Heuck
Alcoa	Alcan
Ivers-Lee	
PCM Corp.	
Print Pak	
Endo Laboratories, Inc.	
Upjohn	

[B] Mechanical dispenser in the current context refers to unit that possesses a plunger or lever for activation. Other dispensers of the squeeze-bottle type (for example, Polytop, CCC, Stull) are listed in accordance with the type of closure they possess.

5. Keywords

5.1 child-resistant; child-resistant packaging