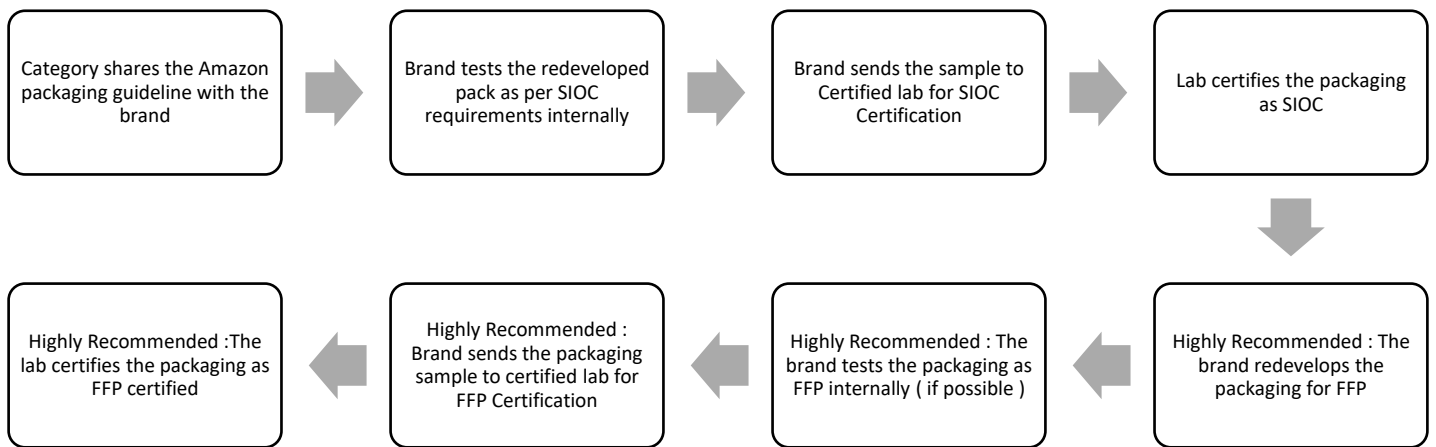


Executive summary

This document provides the packaging technical details for water purifiers & Accessories under multiple brands to understand the existing packaging in-depth and identify the opportunities to convert them into e-commerce friendly packaging (Essentially SIOC worthy) by redeveloping their packaging appropriately. Currently the present packaging adopted by the brands doesn't necessarily comply with the requirements for e-commerce worthiness as SIOC. These ASINs are packed presently in large corrugated boxes at our end that results into a lot of packaging consumption and excessive transportation cost. There would be a significant cost saving (consumables cost and transportation cost) once these packaging for Water Purifiers are redeveloped by the brands to make them SIOC worthy in short-term. We would eventually look forward to developing FFP (Frustration-Free-Packaging) appropriately as a long-term packaging solution.

Process Flow

The below process flow helps us understand the entire process since the category shares Amazon Packaging guideline to the brand till it gets the packaging redeveloped, tested and certified by the lab. The brand redevelops the packaging as per the recommendations and test it internally. The packaging sample is sent to the certified packaging lab for SIOC certification and lab certifies that as SIOC if it passes the certification. In case of failure, the brand needs to further rework on the packaging (Amazon packaging team can help appropriately here) till it gets certified as SIOC. As the most sustainable packaging, the brand should develop the FFP packaging which needs to be tested by the brand internally followed by FFP certification by the certified lab [Pl. refer the Appendix].



Concession Analysis

Category team provides relevant concession data under this section appropriately.

Packaging Specification and recommendations

Based on the detailed packaging evaluation for we have observed that mostly water purifiers are packed inside a 5 ply RSC type corrugated box with molded EPS (density approx. 8 – 9 kg/cm³) placed between Purifiers and the corrugated box. The box is taped with C type taping method followed by 2 plastic (PP) straps along the length of the box. In some boxes there is no protection on front & back sides and the corrugated board which seems to be quite vulnerable to damage during transit and handling in case of high impact. The recommended packaging should be made out of 5 ply strong corrugate (Min 35 lbs./inch ECT , BC Fluted, all brown kraft paper) with molded EPS with higher density (approx. 11 – 12 kg/cm³) on all the sides of the Purifier appropriately so that the Purifier components are well protected (full suspension) during transit. There should be H type taping covering the length and width of the box and 2 straps along the height of the box. This would help in making the transit packaging more robust and SIOC worthy most likely.

RSC – Regular Slotted Container
CCNB – Clay Coated News back

PP – Polypropylene
EPS – Expanded Polystyrene

Water Purifiers

Parameter	Severity	Recommendations
Type of Box	High	The master box should be a RSC type box
Box Opening	High	The opening of the box should be top side of it
Strapping Type	Moderate	The plastic strapping is recommended for better performance
Strap Material	High	The standard plastic strap is made out of PP material
No of straps	High	There should be 2 straps along the height of the box.
Taping Type	Moderate	H type taping along the length and edge of the box is recommended for better performance
Tape Substrate	Moderate	BOPP is widely used tape substrate for such application
No of ply	High	Box should be made out of min. 5 ply corrugated board (cardboard)
Flute Type	High	The 5 ply board should consist of both B (Narrow) and C (Medium) flute
Board Thickness	Moderate	The standard board thickness should be min.10 -12 mm
Outer layer of the board	Moderate	Ideally all the layers of the board should be made out of kraft instead of duplex outer layer for better strength of the board
Board Edge Crush (ECT)	High	The corrugated board should have min. ECT of 35 lb/inch for required performance level
Manufacturing Joint	Moderate	Glued joint is preferred over stapling without affecting pack performance (if possible)
B. Internal Packaging Components		
Parameter	Severity	Recommendations
Poly Bag	High	The product must be wrapped in a poly bag to make it dust-proof
EPE Foam	High	The scratch prone parts must be wrapped with EPE foam of suitable thickness to make it scratch-proof.
Cushion Material (Molded Thermocol or EPS)	High	The product must be suspended within the box with the help of molded EPS or EPE foam with suitable density or structurally engineered corrugated fitments (preferably) in place of EPS
Cushion on edges	High	Ideally all 4 sides should be well protected by molded thermocol or EPE foam with suitable density. The outlet that is tap must be well protected.

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Primary packaging improvement – Water Purifiers & Accessories

Cushion at top & Bottom	High	The top & Bottom must be well protected with some cushion material (e.g. molded EPS or corrugated fitments) within the corrugated box
EPS Density	High	The density of EPS should be increased up to 11 – 12 kg/cm ³ appropriately in order to provide better protection during transit and handling
Void Space	High	There must not be any void space inside the Box to avoid any kind of rattling during transit.

Acronyms:

RSC – Regular Slotted Container

PP – Polypropylene

CCB – Clay Coated Board / CCNB- Clay Coated News Back

EPS – Expanded Polystyrene

Appendix

A1: Packaging Evaluation Report for few Typical National Brand

Packaging Type – Printed Duplex Corrugated Box
Corrugated Box

1. The primary cum transit packaging is made out of 5 ply with B (Narrow) fluting with (top grey back or CCNB) corrugated board.
2. The corrugated box appears to have an ECT of around 28 lbs. /inch.
3. The gross weight of the pack is approx. 10Kgs
4. The box is tapped following C type taping and PP strapped in 2 locations along the height of it.

Internal Fitments.

1. All the four sides of the are protected by molded EPS (Thermocol) having a density of around 8 kg/cm³
2. There is another top sheet of 5 Ply narrow fluted corrugate to protect the wiring & filling the void space at the top along the length of the Box.
3. The entire Purifier is packed inside a large poly (made out of LDPE) liner to avoid any scratches during handling



Pic – 1



Pic – 2

RSC – Regular Slotted Container
CCNB – Clay Coated News back

PP – Polypropylene
EPS – Expanded Polystyrene

Primary packaging improvement – Water Purifiers & Accessories



Pic – 3



Pic – 4



Pic – 5



Pic-6



Pic – 7



Pic-8

RSC – Regular Slotted Container
CCNB – Clay Coated News back

PP – Polypropylene
EPS – Expanded Polystyrene

Accessories

A. Corrugated Master Box		
Parameter	Severity	Recommendations
Type of Box	High	The master box should be a RSC type box
Box Opening	High	The opening of the box should be top side of it
Taping Type	Moderate	H type taping along the length and edge of the box is recommended for better performance
Tape Substrate	Moderate	BOPP is widely used tape substrate for such application
No of ply	High	Box should be made out of min. 5 ply corrugated board (cardboard)
Flute Type	High	The 5 ply board should consist of both B (Narrow) and C (Medium) flute
Board Thickness	Moderate	The standard board thickness should be min.10 -12 mm
Outer layer of the board	Moderate	Ideally all the layers of the board should be made out of kraft instead of duplex outer layer for better strength of the board
Board Edge Crush(ECT)	High	The corrugated board should have min. ECT of 30 lb/inch for required performance level for SIOC
Manufacturing Joint	Moderate	Glued joint is preferred over stapling without affecting pack performance (if possible)
B. Internal Packaging Components		
Parameter	Severity	Recommendations
Poly Bag	High	The product must be wrapped in a poly bag to make it dust-proof
Corrugated Fitments	High	The Product must have at least 3 Ply corrugated sheet fitment with B- Narrow fluting to provide strength at corners & to separate individual components.
Void Space	High	There must not be any void space inside the Box to avoid any kind of rattling during transit.

A2: Packaging Evaluation Report for Typical National Brand

Packaging Type – Printed Corrugated Box
Corrugated Box

1. The primary cum transit packaging is made out of 3 ply with E (Micro) fluting with (top grey back or CCNB) corrugated board.
2. The corrugated box appears to have an ECT of around 10-12 lbs. /inch.
3. The gross weight of the pack is approx. 500g

Internal Fitments.

RSC – Regular Slotted Container
CCNB – Clay Coated News back

PP – Polypropylene
EPS – Expanded Polystyrene

Primary packaging improvement – Water Purifiers & Accessories

1. Inside the Box, There is a wraparound sheet of 2 Ply corrugation wrapped around 1 component or without any fitment.
2. The components are directly placed inside a corrugated box
3. Components were packed inside an individual (made out of LDPE) liner to avoid any scratches during handling.



Pic- 1



Pic- 2



Pic – 3



Pic – 4

Note – The recommendations are purely based on the observations during packaging evaluation of few National brands. The brand may have some suggestions for packaging improvement which should be referred along with above recommendations for necessary packaging design or material change. The prescribed packaging quality parameters as mentioned above are just for reference. There would be a joint review of by the brand and Amazon Packaging team once packaging is redeveloped and certified by the lab.

Queries

Please reach out to in-packaging@amazon.com for any queries related to this document or any other clarifications

A3: SIOC Certification

Once the primary-cum-transit packaging is redeveloped based on the above recommendations from Amazon, the brand needs to send the packaging to the certified lab (Intertek/PCRI/SIES) and get it certified for SIOC. Below criteria need to be followed for SIOC certification –

- a. Shippable without any Amazon over box
- b. No prep. Is required by Amazon
- c. Minimal damage/defect rates
- d. ISTA 3 – Amazon Test Compliant

The SIOC test process as per ISTA 3 is depicted here below –

RSC – Regular Slotted Container
CCNB – Clay Coated News back

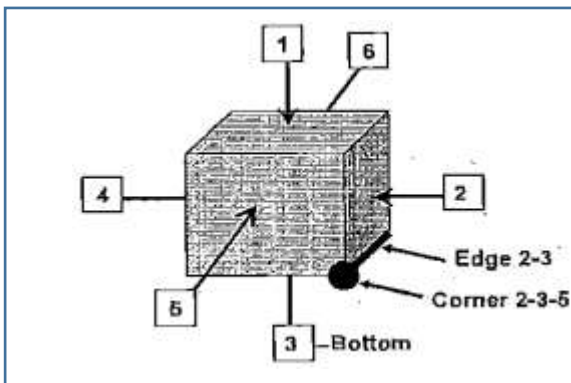
PP – Polypropylene
EPS – Expanded Polystyrene

Primary packaging improvement – Water Purifiers & Accessories

Sample Inspection

Select the ASIN and ensure it is sufficiently protected, not damaged and below conditions are met –

- No pre-existing damage (e.g. dents, broken parts, cracks, chips, wet surface etc.).
- The pack is closed properly by taping.



Before marking the carton, place the smallest flat surface of the carton facing you. Proceed to mark the sample as illustrated in the image here.

The following drops must be made onto a hard flat surface, like concrete -

Drop Order	Drop Height	Drop Orientation
1	18 in	Edge 3-4
2	18 in	Edge 3-6
3	18 in	Edge 4-6
4	18 in	Corner 3-4-6
5	18 in	Corner 2-3-5
6	18 in	Edge 2-3
7	18 in	Edge 1-2
8	36 in	Face 3
9	18 in	Face 3
10	18 in	Edge 3-4
11	18 in	Edge 3-6
12	18 in	Edge 1-5
13	18 in	Corner 3-4-6
14	18 in	Corner 1-2-6
15	18 in	Corner 1-4-5
16	36 in	Most fragile flat surface
17	18 in	Face 3

Acceptance Criteria (what is considered to be passed)

- The product is not physically damaged or broken
- The primary packaging is not ruptured exposing any of the contents to hazard
- Standard criteria for shipment via existing shipping companies is applicable
- Any acceptable damage of primary packaging as per FC damage standards (to be attached)
- Undamaged plastic blister or clamshell in case of blister and clamshell packaging respectively

A4. FFP (Frustration Free Packaging) Certified Packaging

In long-term the packaging for Water Purifier should be ideally converted into a FFP type packaging by respective brands where the packaging would follow below criteria –

- Use of Curbside Recyclable Packaging Materials
- Easy-to-open by the end customers
- Use of minimal packaging materials
- Shippable without any Amazon Over box

RSC – Regular Slotted Container

PP – Polypropylene

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Primary packaging improvement – Water Purifiers & Accessories

- e. No prep. Requirement by Amazon
- f. Minimal damage and defect rate &
- g. ISTA 6 -Amazon SIOC Test compliant

In order to develop FFP packaging, the brand needs to work with Amazon IN Packaging team closely. The packaging team would help to innovate the packaging structurally so that molded EPS is replaced by corrugated fitments appropriately to convert it into a FFP certified packaging. Once the packaging is redeveloped as per FFP requirements (as depicted above), this is sent to the certified lab (Intertek/PCRI/SIES) for FFP certification.

Here is the Test Protocol for FFP Certification -



FFP Packaging
Certification (Test Pr

A5: Contact details for the certified Labs

1. Intertek
Rajkumar (General Manager - Softlines)
Plot No. 290, Udyog Vihar, Phase-2,
Gurugram, 122016, India
Direct: 0124-4503455 / Mobile : 09535510005
Mail ID: rajkumar@intertek.com
2. Packaging Clinic & Research Institute / PCRI (Hyderabad)
Prof. Karna BK (Director)
Mobile: 7799771357
114, 1st floor, Amrutha ville, Opposite-Yashoda Hospital,
Rajbhavan, Road, Somajiguda, Hyderabad-500082, Telangana, India; www.pcri.co.in
3. SIES (Mumbai)
Plot No – 1C, Sector – 5 , Nerul , Navi Mumbai – 400706
Tel.- 022 – 61196433/35/27
Email – naratananp@sies.edu.in/shelys@sies.edu.in ; Website – www.siesedu.in

A5: Contact details for the Structural Packaging Design Service Providers

1. **More from Less**
Plot 277 Phase iv, Udyog Vihar, Gurgaon, Haryana 122016, India
Tel. : +91 124 6520232 ; Mail ID : aninditav@morefromlessglobal.com
Website : www.morefromlessglobal.com

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