HINDUSTAN PETROLEUM CORPORATION LIMITED
Retail Lubes Division
A/1001, 10th Floor, Marathon Futurex, N.M. Joshi Marg,
Lower Parel (E), Mumbai - 400013

PACKAGING MATERIAL SPECIFICATIONS

PACKAGE : ROUND PPCP PAILS (Lube Oil) With HPCL Own Mould

Item no: 0935002
Revision : 000
Date : 05/12/2019

I DIMENTIONAL PARAMETERS

Sr No	Parameter	Unit	Standard	Tolerance
1	Capacity	liter	**20**	----
2	OFC	liter	22.5 to 23	----
3	Max.pail height with lid	mm	382	+/-10
4	Pail Top OD	mm	318	+/-10
5	Pail Bottom OD	mm	261	+/-10
6	Wall thickness	mm	1.5	+ 0.3
7	Weight			
a.	Pail Weight	gm	693	+/-10
b.	Lid with spout – Weight	gm	205	+/-10
c.	Metal handle Weight	gm	Min 60 (+ 10)	----
d.	Total weight of Pail	gm	958	----
8	Compression Strength	Kgf	Min 400	----
9	Printable Area	mm	850 X 270	+/- 5 %
10	No of Grades	Approximately 45 grades of different artwork / design of each size to be printed as per our requirement.		

II NON DIMENTIONAL PARAMETERS

Sr No	Parameter	Standard
1	Material of Construction	
a.	Pail & Lid Material	Only Virgin Poly propylene Co polymer - Impact Grade (PPCP) of RIL grade C080 MA or equivalent as approved by HPCL.
b.	Spout	It should be made from EVA & LDPE
c.	Handle	Chrome plated Steel with plastic grip as approved by HPCL. Gap between handle and bucket top edge should be minimum 3-4 mm from both side.
2	Master Batch	There will be 10 nos. of different colored master batches required. Master batch of "Clariant/Welset/Alok Master batch" should be used as approved by us. No other master batch supplier has been approved by HPCL.
3	Lid	The lid should facilitate easy stacking and should be tamper proof. The three way circumferential sealing for the entire lid along with pull out spout shall be possible.

PREPARED BY
NILESH ANGLE

RELEASED BY
SUNIL PATIL

http://packtrek.hpcl.co.in/PackTrek/

4	Pull out Spout	Pull out spout should be of good quality with tamper evident features. Spout should be in-mould type and not seperately crimped. It should be fitted in such a way that there should not be any leakage through spout. It should be fully re-tractable & reclosable. It should have gurgle free flow control system.
5	Printing/labelling on Pail	As per approved design Six color Screen Printing or HTL/IML as per tender.
6	Printing on Lid	Single colour printing of spout opening instructions with pictorial representation as per approved formate.
7	Recycling Instructions	There should be recycle logo embossed on bottom of bucket & lid.

III TESTING

Sr No	Parametres	Standards
1	Drop Test	Fill the pail with water to its maximum gross mass and properly seal the lid. Filled pail is subjected to drop test from a height of 1.0 metres at ambient temperature on the following a) vertical drop on the bottom b) horizontal drop on the side. An untested container shall be used for each drop. No cracking of the pail, lid or complete opening of the lid shall be noticed.
2	Stackability (Static load)	Containers filled to their maximum gross mass shall be stacked to a height of 2 mtr for 2 days (48 hrs) at ambient temperature. The container at the bottom of the stack shall not have leaked nor deformed to such an extent that it would cause instability in the stacks.
3	Closure Leakge test	Container filled with water to its nominal capacity and sealed is allowed to stand on its closure at the lowest point for 1 hour. No leakge shall be observed
4	Pull out Spout Test	Their should not be any leakage after 25 numbers of pull out of the spout.
5	Vibration Test	Fill two pails with oil & press fit the lid without air bump. Keep one pail each in horizontal position and vertically upright position on vibration table for ½ hour at frequently of 240 CPM. No leakage shall be noticed. One pail shall be used for one test position only.
6	QC Tests	The following test shall be carried out at our receving locations for every ssupply/ lot; a. Visual check b. Dimensions & Weight c. Lid fitment & Closure Leakage Test d. Drop Test e. Spout Pull out Test
7	Self Certificate	Supplier has to give the self certification (Certificate of Analysis) for the following test along with each lot. a. Visual Check b. Dimensions & Weight c. Drop Test d. Lid fitment & Closure Leakage test e. Spout Pull out Test

		Random samples shall be sent to approved laboratory for complete checking once in a quarter.

IV PACKING

Pails should be packed properly in appropriate Plastics transparent bags with thickness above 50 microns or as specified by Government or appropriate authority time to time to protect from dust and water and give support.The Plastics Bag should have guidelines to recycle or reuse these bags. The packing must offer adequate protection to the HDPE containers during transit & storage so that the material arrives at the HPCL facility in an undamage & stable condition. Packaging material shall be new, clean, dry, no off-odours to avoid damage or load destabilisation under normal handling condition. (Quoted rate shall include cost of packing for containers).

V PROCESS PARAMETERS RECOMMENDED FOR RUNNING 20L BOTTOM & LID MOULD

Sr No.	Particulars	20 L Bottom	20 L Lid
1	Mould size (inches)	30x28x31	21x21x16
2	Mould shape	Square	Square
3	Moulding machine capacity	450 T	250 T
4	Total cycle time (sec)	30	36
5	Injection time (sec)	6	5
6	Cooling time (sec)	10	10
7	Injection pressure (bar)	140	105
8	Speed RPM	70	70
9	Heating Zone Temperature (Degree Celcius)		
A	Zone 01	265	240
B	Zone 02	265	240
C	Zone 03	260	235
D	Zone 04	260	230
10	Hot Runner Temperature (Degree Celcius)	240	220
11	Cooling Tower	Yes	Yes
12	Only RO water for mould cooling	Yes	Yes
13	Mould Function	Fully auto	Semi auto
14	Production/shift of 8 Hr (Nos.)	960	800