



## Standard Testing Procedure for Carton

### 1.0 ACCEPTANCE QUALITY LEVEL (AQL):

#### Procedure:

Select the cartons for inspection as per the SOP of "SAMPLING OF PACKAGING MATERIALS". The classification of defects and Acceptable Quality Levels for each defect is also mentioned below:

ACCEPTANCE QUALITY LEVEL(AQL)		
<b>CRITICAL</b> <b>0.000 %</b>	<b>MAJOR</b> <b>0.4 %</b>	<b>MINOR</b> <b>1.0 %</b>

### 2.0 CLASSIFICATION OF DEFECTS:

#### Procedure:

S.No.	CRITICAL DEFECTS	S.No.	MAJOR DEFECTS	S.No.	MINOR DEFECTS
1.	Style of carton	1.	Dimensions	1.	Improper slitting
2.	Grammage variation	2.	Improper creasing	2.	Minor ink spots
3.	Punctured paper board	3.	Improper cutting	3.	Minor smudge printing
4.	Wrong text matters	4.	Illegible printing (readable)	4.	Minor print registration shifting
5.	Mixed – up cartons	5.	Major print registration shifting	5.	Minor paper shade variation
6.	Illegible printing (not readable)	6.	Major smudge printing	6.	Minor improper cutting
7.	Misprinting	7.	Major ink spots		
8.	Incomplete printed matter				
9.	Wrong grain direction				
10.	Major colour shade variation				

### 3.0 DESCRIPTION:

#### Procedure:

Check the cartons for the description, type of flaps, creasing, slitting and style etc.

### 4.0 PRINTING:

#### Procedure:

Printed text & design of sample should be checked by superimposing of transparency on the literature.

Colour shade of the sample should be same as the approved shade card.

### 5.0 GRAMMAGE:

#### Procedure:

Take minimum of three cartons and cut a specimen of 10 cm × 10 cm or any suitable size piece from them. Weigh the specimen in an electronic balance up to 3<sup>rd</sup> decimal place and note their respective weight. Calculate the Grammage (GSM) ( $\text{g/m}^2$ ) of the specimen having the highest and the lowest weight by the formula mentioned below and note their average result;



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$$\text{GSM (g/m}^2\text{)} = \frac{\text{Weight (in g)}}{\text{Area (in sq. cm)}} \times 10^4$$

### 6.0 DIMENSIONS:

#### Procedure:

Take minimum 3 cartons and measure the dimensions – length, width and height with the help of scale / Vernier caliper. Record the above dimensions and calculate the respective average result.

### 7.0 GRAIN DIRECTION:

#### Procedure:

Cut a suitable square shaped specimen of carton & check its grain direction by following methods:

- Keep the specimen into water; take it out after one minute. Specimen will get curly shape. Direction perpendicular to the curl will give the grain direction of carton. Observe the grain direction of the carton with respect to the perimeter of the carton.

**OR**

- Check the stiffness manually on both the sides of square shaped pieces. Stiffer side will be grain direction of carton. Observe grain direction of carton with respect to perimeter of the carton.

**Revision History:** STP No.: .....