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### General Rules for Restricting Excessive Packaging for Commodities

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Quarantine of the People's Republic of China and Standard Administration of  
the People's Republic of China**

## **Preface**

Article 5.1 of this standard is mandatory while the rest are recommended.

Appendix A and Appendix B to this standard are specification appendices, while Appendix C is an information appendix.

This standard was proposed by China Standard Administration.

This standard is under the jurisdiction of the National Packaging Standardisation Technical Committee.

The main drafting organisations of this standard included the China Standardisation Research Institute, China Packaging Federation, Machinery Science Research Institute, China Packaging Science Research Test Centre, China Export Packaging Research Institute, China National Research Institute of Food & Fermentation Industries and Shiseido Liyuan Cosmetics Co. Ltd.

The main drafters of this standard were Yang Yiaoxiang, Tang Wanjin, Wang Li, Huang Xue, Xian Kuitung, Niu Shumei, Wang Yuande and Chen Yan.

# **General Rules for Restricting Excessive Packaging for Commodities**

## **1 Scope**

This standard sets the requirements for restricting excessive packaging for commodities and the limit requirements and calculation methods for the sales packaging of certain commodities.

This standard applies to commodities sold on the market.

## **2 Normative References**

The provisions of the following documents become provisions of this Standard after being referenced. For dated reference documents, all later amendments (excluding corrigenda) and versions do not apply to this Standard; however, any parties that come to an agreement under this standard are encouraged to consider adopting the latest versions of these document. For undated reference documents, the latest versions apply to this Standard.

GB/T 4122.1            Packaging terms - Basic terms

GB/T 17204            Classification of Alcoholic Beverages

## **3 Terms and Definitions**

The following terms and definitions defined in GB/T 4122.1 and GB/T 17204 are applicable to this standard.

### **3.1 Excessive Packaging**

Packaging that exceeds the needs of the functionalities of normal packaging and that is excessive of the required packaging interspace ratio, number of layers and cost.

### **3.2 Original Package**

Packaging in direct contact with the product.

### **3.3 Package Layers**

Total number of layers of packaging wrapped around the product.

### **3.4 Interspace Ratio**

The ratio between the interspace volume in a sales package and the volume of the commodity's packaging.

## **4 Requirements**

### **4.1 Basic requirements**

Under the precondition of meeting the requirements for the normal functionality of the packaging, the materials, structure and cost of the package should be adequate to the quality and standard of the packed commodity.

**4.2 Adequacy requirement for materials**

The packaging materials should be adequately selected according to the features and quality of the commodity. Single materials or easily separable materials are preferred for the commodity package. Materials with abundant resources and recyclable materials should be favoured as packaging materials.

**4.3 Material dowgauging requirement**

Under the precondition of meeting the requirements for the normal functionality of the packaging, the package should be reasonably designed and the use of the packaging materials should be evaluated where appropriate so as to reduce the amount of packaging materials used.

**4.4 Structure simplification requirement**

Under the precondition of meeting the requirements for the normal functionality of the packaging, the structure and function of the package should be simplified. Overlapping and complex packaging structures should be avoided and any unnecessary extra functions should not be added.

**4.5 Cost requirements for packaging**

Effective measures should be taken as according to Articles 4.2, 4.3 and 4.4 to directly control packaging costs. Any extra costs incurred due to improper material selection, large interspaces and complicated structures should be avoided.

**5 Packaging restriction requirements for certain commodities**

**5.1 The interspace ratio and package layers of certain commodities should conform to the rules stipulated in Table 1.**

Table 1

Category of Commodity	Restriction Requirement	
	Interspace Ratio	Layer
Alcoholic Beverages	• 55%	• 3 layers
Pastries	• 55%	• 3 layers
Cosmetics	• 50%	• 3 layers
Health Foods	• 50%	• 3 layers
Teas	• 25%	• 3 layers
Grains	• 10%	• 2 layers

Note 1: the interspace and package layer requirements may be exempt if the net content in the package is less than 30ml or 30g.  
 Note 2: the interspace restriction requirement can be relaxed up to 60% for packaging with a net content of between 30ml and 50ml or 30g and 50g.  
 Note 3: the Moon Cake is exempt from the requirement for pastries.  
 Note 4: 0.6 shall be taken as the necessary space coefficient<sup>k</sup> in the interspace calculation.

- 5.2 For the commodities found in Table 1, with the exception of primary packaging, the total cost of packaging should not exceed 15% of the commodity's factory selling price.**
  
- 6 Calculation methods for restrictions to the commodity's sales packaging**
- 6.1 See Appendix A for the packaging interspace ratio calculation method.**
- 6.2 See Appendix B for the package layer calculation method.**
- 6.3 See Appendix C for the method for calculating the ratio between the cost of packaging and the factory selling price.**

**Appendix A**  
(specification appendix)

**Package Interspace Ratio Calculation Method**

**A.1** The formula for calculating the package interspace ratio is as follows:

$$X(\%) = \frac{[V_0 - (1+k)V_n]}{V_0} \times 100\% \dots\dots\dots (A.1)$$

In the formula:

$X$  – package interspace ratio;

$V_0$  – volume of the commodity’s sales packaging that refers to the minimum circumscribed cubic volume of the package on sale (excluding any accessories such as handle, fastener, strings, etc);

$V_n$  – total volume of the commodity’s primary package or total volume of each commodity’s primary package. The commodity’s primary package refers to the minimum circumscribed cubic volume of the commodity’s primary package;

$k$  – commodity’s necessary coefficient. The commodity’s necessary spatial volume refers to the space needed to protect and fix each product’s primary package.

**A.2** If two or more pieces of merchandise are provided within the commodity’s sales packaging, the volume of the labelled products or of the primary package (in the case of a primary package) shall be counted as the total primary package volume of the commodity. Merchandise found in the package that has not been labelled shall not be counted in the volume of the total primary package. In order for the commodity to function normally, the volume of any accessories in the commodity’s sales packaging shall be counted in the total primary package of the commodity, such as the primary package’s opening tools, product descriptions or other accessories.

**Appendix B**  
(specification appendix)

**Package Layer Calculation Method**

- B.1** Entire wrapping refers to the layer of the commodity's packaging that holds the commodity in place and prevents it from becoming loose.
- B.2** When calculating the number of package layers, the primary package is counted as the 'zero' layer, the wrapping that is in contact with the primary package is counted as the first layer and the other layers shall be counted in the same way. The outmost layer of the sales package is the N layer and N is the number of layers of the package.
- B.3** If merchandises with different numbers of layers within the same sales package are found, only the layers of the merchandise that meets the correct package layer restriction requirements shall be counted. Each layer of merchandise that meets the package layer restriction requirement shall be counted respectively, and it shall be determined whether the commodity's package layers meet the requirements as according to sales package layer restrictions.

**Appendix C**  
(information appendix)

**Method for Calculating the Ratio Between the Cost of Packaging and the  
Factory Selling Price.**

**C.1** The formula for calculating the ratio between the cost of packaging and the factory selling price is as follows:

$$Y = \frac{C}{P} \times 100\% \dots\dots\dots (C.1)$$

In the formula:

*Y* – ratio between the cost of packaging and the factory selling price;

*C* – cost of packaging;

*P* – factory selling price.

**C.2** Package cost auditing method

**C.2.1** The manufacturer of the commodity should verify the calculation of the cost of packaging.

**C.2.2** The cost of packaging is the total package cost from layer 1 to layer N.

**C.2.3** Auditing of the cost of packaging should be verified according to the price stipulated in the sales contracts between the commodity manufacturer and the package suppliers or the average selling price of this commodity on the market.

**C.3** Factory selling price auditing method

**C.3.1** The audit of the factory's selling price should be verified according to the price stipulated in the sales contracts between the commodity manufacturer and the retailers or the average selling price of this commodity on the market.

**C.3.2** The average selling price of the commodity should be calculated according to the average price of the commodity on the local area's market.

