

**First Draft**

**أكياس التسوق القابلة لإعادة الإستخدام  
والمصنوعة من البولي ايثيلين  
Polyethylene Reusable Shopping  
Bags**

المديرية العامة للمواصفات والمقاييس  
وزارة التجارة والصناعة

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### تقديم

المديرية العامة للمواصفات والمقاييس جهاز التقييس الوطني بالسلطنة أنشئت بموجب المرسوم السلطاني رقم 1976/39, ومن مهامها إعداد المواصفات القياسية العمانية واللوائح الفنية إستناداً للمرسوم السلطاني رقم 87 / 1

وقد قامت دائرة المواصفات بالمديرية بإعداد المواصفة القياسية العمانية رقم OS----/2020، الخاصة بـ" أكياس التسوق القابلة لإعادة الإستخدام والمصنوعة من البولي ايثيلين"، وقد تم إعداد المشروع بعد إستعراض المواصفات القياسية العربية والأجنبية والدولية والمؤلفات المرجعية، والقوانين ذات الصلة.

وقد اعتمدت هذه المواصفة كمواصفة قياسية عمانية ملزمة , بتاريخ // هـ، الموافق / /

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## **Polyethylene Reusable Plastic Shopping Bags**

### **1.Scope**

This standard is concerned with the requirements for reusable plastic shopping bags and does not include biodegradable or single use bags.

### **2.Cmoplemantry References**

**2.1** GSO ISO 14024 "Environmental labels and declarations -- Type I environmental labelling -- Principles and procedures"

**2.2** GSO 572 "Polyethylene Bags for Multi-purposes"

- 2.3 ISO 1421 “Rubber- or plastics-coated fabrics — Determination of tensile strength and elongation at break”
- 2.4 ASTM D1238 Standard Test Method For Melt Flow Rates Of Thermoplastics By Extrusion Plastometer”
- 2.5 ASTM F88 “Standard Test Method For Seal Strength Of Flexible Barrier Materials”
- 2.6 GSO ISO 7765-1 “Plastics film and sheeting — Determination of impact resistance by the free-falling dart method — Part 1: Staircase methods”
- 2.7 ASTM D3354 “Standard Test Method for Blocking Load of Plastic Film by the Parallel Plate Method”
- 2.8 GSO ISO 8296 “Plastics — Film and sheeting — Determination of wetting tension”

2.9 ASTM F2338 “Standard Test Method for Nondestructive Detection of Leaks in Packages by Vacuum Decay Method”

### 3. Definitions

**3.1 Reusable bags:** bags made of plastic and have reusable properties that are different from single use or biodegradable bags.

**3.2 Bag length:** The vertical dimension between the open top and bottom of the bag, including any bottom gusset (a fold at the bottom intended to increase the bag capacity).

**3.3 Bag width:** The lateral dimension between the two sides of the bag, including any side gussets (folds at the sides intended to increase the bag capacity).

**3.4 Bag thickness:** The thickness of a single layer polyethylene film used in making the bag.

**3.5 Blocking:** The adhesion between the touching sides of the bag.

### 4. Requirments

**Reusable polyethylene plastic bags shall meet the following requirements:**

**4.1** The materials used in manufacture of the bag shall be free from toxic materials or those expected to cause health hazards to users or those generally unsuitable for human use. **They shall not be included as prohibited hazardous materials in the ministerial decree No. 25/2009 for Regulation of Organization of Handling and Using of Chemicals issued by ministry of environment and climate affairs.**

**4.2** The reusable plastic bags shall be complied with GSO standard mentioned in item (2.2).

**4.3** The reusable plastic bags shall be able to be used at least 125 times. They may be able to be recycled at the end of their using.

**4.4** As for foodstuffs, the reusable plastic bags shall not be used for packaging of fresh food. They shall not come into direct contact with the foodstuff, but rather prepacked foodstuffs or previously packaged with food grade materials.

**4.5** The thickness of the reusable plastic bag shall not be less than 50 µm.

**4.6** Reusable plastic bag should not be painted, tagged, packed, or otherwise treated to prevent recycling after consumption.

**4.7** The reusable plastic bag shall be designed in a way that ensures ease of use in terms of bag handles, size and shape. The base and handle of the bag can be made of non-plastic materials such as cardboard or other materials that are not harmful to the environment.

**4.8** If a mixture of plastic waste is used to manufacture the reusable bag, all products made from it that come into direct contact with soil and water shall not have any negative impact on the environment.

**4.9** The reusable plastic bag shall be free from foreign materials and from any bad manufacturing defects such as tears, pin holes, un-melted or carbonized gels or undesirable surface finish such as dye lines or other defects.

**4.10** The seal at the sides of the reusable plastic bag shall be suitable, clean and free from any obvious defects. The seal strength of the bag shall be not less than 75% of the ultimate strength of polyethylene film from which the bag is made, in two principal directions (vertical and horizontal).

**4.11** The reusable plastic bag seal shall be resistant to leakage when tested with water. The mass of the test water used shall be equivalent to that of the shopping item intended to be placed in the bag, or when tested using compressed air.

**4.12** The reusable plastic bag shall open easily without any obvious blocking upon placing an object weighing 5 kg over them for 12 hours and under a temperature of 60 °C.

**4.13** The reusable plastic bag shall not be subjected to tear when packed with materials normally used for their packaging, according to the weight specified on the bag's label, and made to fall from a height of 1.2 m on a solid level surface.

**4.14** In case of any environment claims on reusable plastic bag, it shall be complied with item (2.1).

**4.15** The minimum tensile strength and elongation at break for heavy, medium and light duty reusable plastic bag materials, depending on their thickness shall be in accordance with table (1):

**Table (1): Tensile strength and elongation at break**

	Tensile strength at break vertical/lateral direction (mega pascal)			Elongation at break vertical/lateral direction (%)		
	Classification			Classification		
Thickness ( $\mu\text{m}$ )	Heavy duty	Medium duty	Light duty	Heavy duty	Medium duty	Light duty
50-60	27/25	23/21	19/18	650/550	450/350	400/300
>60	26/24	22/20	18/17	700/600	500/400	450/350

**4.16** The minimum dart drop impact strength for heavy, medium and light duty bags, depending on their thickness, shall be in accordance with table (2).

**Table (2): Dart drop impact resistance**

Sheeting thickness (micron)	Impact resistance (gram / micron)		
	Classification		
	Heavy duty	Medium duty	Light duty
50-60	5.5	3.5	2.5
>60	5	3	2

## 5. Sampling

Samples shall be drawn at random either as separate bags or as packages and shall include all types and sizes. The number of withdrawn bags shall not be less than (10).

## 6. Test Methods

The following tests shall be conducted on the test samples drawn in accordance to item (5):

**6.1** Visual inspection.

**6.2** Determination of melt flow rate in accordance to item (2.4).

**6.3** Determination of tensile strength and elongation at break in accordance to item (2.3).

**6.4.** Determination of seal strength in accordance to item (2.5).

**6.5** Determination of dart drop impact in accordance to item (2.6).

**6.6** Determination of drop resistance in accordance to item (4.13).

**6.7** Determination of leakage resistance in accordance to item (2.9).

**6.8** Determination of blocking strength in accordance to item (2.7).

**6.9** Determination of wetting tension in accordance to item (2.8).

## 7. Packaging

Reusable Bags shall be packed in suitable containers to ensure adequate protection against external factors and from damage during transportation under normal conditions between the manufacturer and the purchaser and during storage. Bags shall be packed either in form of rolls or singles. Rolls of bag shall be uniform and smoothly wound on suitable cores. The length of the cores shall be longer than the width of the roll by 5 mm on each side.

## 8. Labeling

Each package shall be legibly and indelibly marked, in Arabic or both Arabic and English, with the following information:

- 8.1** Name of product (reusable plastic bag).
- 8.2** Name of manufacturer and/or his trademark
- 8.3** Number of bags per package
- 8.4** Size of the bags
- 8.5** Country of origin
- 8.6** Maximum weight for portable materials
- 8.7** Any warnings needed
- 8.8** Date of production