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WITHDRAWAL

January 2012

Plastic Garbage Bags

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Janvier 2012

Sacs à déchets en plastique

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Supersedes CAN/CGSB-156.1-M87

Plastic Garbage Bags

Withdrawn/Retirée



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SPECIFICATION
PLASTIC GARBAGE BAGS

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PREFACE

This CGSB specification addresses federal government procurement needs. A specification is a published document that may lack any one or a combination of the following: broad application, committee balance, representation of all vital interests and consensus approval.

This specification has been developed using the consensus process. It places no undue constraints on trade.

CANADIAN GENERAL STANDARDS BOARD

SPECIFICATION

PLASTIC GARBAGE BAGS

1. SCOPE

- 1.1 This specification applies to plastic garbage bags for domestic and commercial uses.
- 1.2 Bags to this specification are intended for use as receptacles for household, office and light industrial garbage and common waste. They are not intended for food packaging, food storage or biohazardous waste.
- 1.3 The testing and evaluation of a product against this specification may require the use of materials and/or equipment that could be hazardous. This document does not purport to address all the safety aspects associated with its use. Anyone using this specification has the responsibility to consult the appropriate authorities and to establish appropriate health and safety practices in conjunction with any existing applicable regulatory requirements prior to its use.

2. REFERENCED PUBLICATIONS

- 2.1 The following publications are referenced in this specification:
- 2.1.1 Industry Canada
The Consumer Packaging and Labelling Act
The Competition Act
Principles and Guidelines for Environmental Labelling and Advertising.
- 2.1.2 American Society for Testing and Materials (ASTM)
D 882 – Test Methods for Tensile Properties of Thin Plastic Sheeting
D 1922 – Test Method for Propagation Tear Resistance of Plastic Film and Thin Sheeting by Pendulum Method.
- 2.2 A reference to a regulation is always to the latest issue. A dated reference is to the issue specified. An undated reference is to the latest issue, unless otherwise specified by the authority applying this specification. The sources are given in the Notes section.

3. CLASSIFICATION

- 3.1 Plastic garbage bags shall be supplied in the following tear class and toughness grade, as specified (par. 8.1).
- 3.1.1 *Tear Class*
A – Low Tear Resistance
B – Regular Tear Resistance
C – High Tear Resistance.
- 3.1.2 *Toughness Grade*
1 – Light Tensile Energy to Break (TEB)
2 – Moderate Tensile Energy to Break (TEB)
3 – Heavy Tensile Energy to Break (TEB)
4 – Very Heavy Tensile Energy to Break (TEB).

4. GENERAL REQUIREMENTS

4.1 **Material** – The bags shall be made of plastic film.

4.1.1 **Raw material** – The raw material used to produce the plastic garbage bags shall have no limitations imposed on the amount of reprocessed materials (post-consumer and/or post-industrial material) or on the amount of virgin resin. Plastic garbage bags are not intended for contact with food.

4.2 **Colour** – Bags shall be the commercially available colour or colourless as specified (par. 8.1).

5. DETAILED REQUIREMENTS

5.1 **Physical Properties** – The garbage bags shall conform to the following:

5.1.1 **Tear Resistance** – When determined in accordance with ASTM D 1922 in each of two directions, the lesser of the two average tear resistance values shall meet the following:

Tear Class	Tear Resistance, g
A	not less than 2
B	not less than 100
C	not less than 200

5.1.2 **Film Tensile Energy to Break (Film TEB)** – When determined in accordance with ASTM D 882 and Appendix A of this specification, in each of two directions, the lesser of the two average tensile energy to break values of the film shall meet the following:

Toughness Grade	Film TEB, J
1	not less than 0.10
2	not less than 1.0
3	not less than 2.0
4	not less than 3.0

5.1.3 **Seal Tensile Energy to Break (Seal TEB)** – When determined in accordance with ASTM D 882 and Appendix A of this specification, the average tensile energy to break value of each seal shall meet the following unless otherwise specified (par. 8.1)¹.

Toughness Grade	Seal TEB, J*
1	not less than 0.08
2	not less than 0.80
3	not less than 1.6
4	not less than 2.4

* Based on 80% of minimum requirement for the film TEB of each particular grade.

¹ Material composition and type of seal (butterfly, star seal) are but two variables that may impact on the seal TEB.

6. PREPARATION FOR DELIVERY

- 6.1 **Labelling** – Retail packaging and shipping containers for plastic garbage bags shall be labelled with the following, keeping in mind the Principles and Guidelines for Environmental Labelling and Advertising, The Consumer Packaging and Labelling Act, and the Competition Act:
- a. the name of the manufacturer
 - b. the tear class (letter) and toughness grade (number) in accordance with par. 3.1
 - c. the size of garbage bag
 - d. when applicable, the Mobius loop in accordance with the Principles and Guidelines for Environmental Labelling and Advertising
 - e. when applicable, the statement, “This garbage bag contains a minimum of _% post-consumer and _% post-industrial plastic.”, where the percent amount is to be stipulated by the manufacturer
 - f. the statement, “Plastic garbage bags are not intended for use as food packaging.”

7. INSPECTION

- 7.1 **Sampling** – Sampling for inspection and testing shall be left to the discretion of the inspection authority, unless a specific sampling plan is specified (par. 8.1).

8. NOTES

- 8.1 **Options** – The following options must be specified in the application of this specification:
- a. Classification of bag – tear class and toughness grade (par. 3.1)²
 - b. Colour (or colourless) if the supplier’s commercially available colour is not acceptable (par. 4.2)
 - c. The average tensile energy to break of the seal shall be at least 80% of the determined Film TEB. (par. 5.1.3)
 - d. Sampling, if a specific plan is required (par. 7.1).
- 8.2 **Sources of Referenced Publications**
- 8.2.1 The publications referred to in par. 2.1.1 may be obtained from the Canada Communication Group, Publishing, Ottawa, Canada K1A 0S9. Telephone (819) 956-4802.
- 8.2.3 The publications referred to in par. 2.1.2 may be obtained from the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, U.S.A., telephone (610) 832-9585, or from the Standards Council of Canada, Standards Sales Branch, 45 O’Connor Street, Suite 1200, Ottawa, Ontario K1P 6N7.

² See also Appendix B, User Classification Guide.

TENSILE ENERGY TO BREAK (TEB)

(Note: This appendix is a mandatory part of 156.1, Plastic Garbage Bags.)

- A1. ASTM D 882 describes the calculation of tensile energy to break (TEB) per unit volume from the stress strain curve. This is a property of the material. Since this specification addresses properties of the bag, the tensile energy to break the bag film is not normalized by unit volume (i.e. the thickness of the film will not enter the calculation).
- A2. The test shall be carried out on specimens having a width of 25 ± 5 mm and a distance between the jaws of $50 \text{ mm} \pm 5\%$. The rate of grip separation shall be 500 mm/min.
- A3. The tensile energy to break may be calculated from the area under the stress strain curve without consideration of specimen thickness, using any of the methods suggested in Annex A1 of ASTM D 882.

Useful Conversion Factors

To Convert	Into	Multiply By
1 foot pound-force	Joules	1.356
1 kilogram metre	Joules	9.807
1 gram centimetre	Joules	9.807×10^{-5}

USER CLASSIFICATION GUIDE

(Note: This appendix is a non-mandatory part of 156.1, Plastic Garbage Bags.)

Typical End Use	Tear Class	Toughness Grade			
		1	2	3	4
For materials not inclined to puncture the bag	A	light TEB low tear resistance	moderate TEB low tear resistance	heavy TEB low tear resistance	very heavy TEB low tear resistance
For normal garbage	B	light TEB regular tear resistance	moderate TEB regular tear resistance	heavy TEB regular tear resistance	very heavy TEB regular tear resistance
For materials inclined to puncture (e.g., twigs, etc.)	C	light TEB high tear resistance	moderate TEB high tear resistance	heavy TEB high tear resistance	very heavy TEB high tear resistance

For example, a bag classified as 2B would be used typically for normal garbage and would have a moderate tensile energy to break and a regular tear resistance. The tear class and/or toughness grade is selected to meet end-user requirements.

ENVIRONMENTAL CHOICE PROGRAM

(Note: This appendix is a non-mandatory part of 156.1, Plastic Garbage Bags.)

- C1. The Environmental Choice Program is designed to support a continuing effort to improve and/or maintain environmental quality by reducing energy and materials consumption and by reducing energy and materials generated by the production, use and disposal of goods and services available to Canadians.
- C2. A draft guideline ECP-69-94 Polyethylene Plastic Film Products is in the process of being developed. The sub-categories of polyethylene plastic film products addressed in the guideline are:

- | | |
|-----------------------------|----------------------------|
| - garbage bags | - industrial stretch wrap |
| - grocery carry-out sacks | - drum and other liners |
| - retail sacks | - construction films |
| - industrial shipping sacks | - agricultural films |
| - shrink film case wrap | - agricultural mulch films |

C3. DEFINITIONS

Referring to the guideline, the following definitions are of interest:

C3.1 Consumer

A household, industrial commercial establishment or institutional facility.

C3.2 Garbage Bags

Film bags or sacks manufactured for intended use as a container to hold, store or transport materials to be discarded, composted or recycled, including, but not limited to, garbage bags, composting bags, lawn and leaf bags, can-liner bags, kitchen bags, compactor bags, and recycling bags.

C3.3 Household Post-Consumer Recycled (HPCR) Material

Material collected from curbside and depot collection programs serving individual households and apartments.

C3.4 Industrial Scrap

By-products of an industrial process that can be, and regularly are, used in the same process. Such materials are excluded from the standard definition of recycled material.

C3.5 Post-Consumer Material

A product that has served its end-use at the consumer level, has been discarded by the consumer, and would, unless diverted, enter the waste stream.

C3.6 Pre-Consumer Material

Materials generated by an industrial process that would, unless diverted, enter the waste stream. This includes, but is not limited to, damaged or defective materials, overstock or obsolete inventories from manufacturers, distributors, and wholesalers. It does not include industrial scrap.

C3.7 Recycled Material

Post-consumer material and pre-consumer material. It does not include industrial scrap, except that proportion of the scrap which originated as post-consumer material and pre-consumer material.

C4. PRODUCT SPECIFIC REQUIREMENTS FOR GARBAGE BAGS

- C4.1 The polyethylene plastic film product must meet the criteria specific to its subcategory. In the case of garbage bags, the reader is requested to refer to the latest edition of the guideline. Contact the Environmental Choice Program, Environment Canada, 107 Sparks Street, Ottawa, Ontario K1A 0H3.

- C4.2 It is anticipated that manufacturers or importers of polyethylene plastic film products that conform to the guideline will apply to the Environmental Choice Program.