

BELIZE NATIONAL STANDARD

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BELIZE NATIONAL STANDARD SPECIFICATION FOR BREWERY PRODUCTS (BEER, STOUT, SHANDY, MALTA)

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CENTRAL AMERICA**

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**BELIZE NATIONAL STANDARD SPECIFICATION
FOR BREWERY PRODUCTS
(BEER, STOUT, SHANDY, MALTA)**

Committee Representation

The preparation of this standard for the Standards Advisory Council established under the Standards Act 1992, was carried out under the supervision of the Bureau's Technical Committee for Food and Food Related Products, which at the time comprised of the following members:

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0. Foreword

- 0.1** This standard has been prepared through the Caribbean Community Secretariat and is amended through the CARICOM Regional Organisation for Standards and Quality (CROSQ).
- 0.2** Beer, stout and other brewery products are produced in many of the countries of the Caribbean Community and trade within the region is increasing. This standard is intended to set levels of quality that are generally acceptable to consumers in the region, meet the requirements of regulatory authorities and enables brewers to compete with products from outside the region.
- 0.3** Presently, brewery products are packed in containers having sizes and quantities which vary from country to country within the region, in accordance with differing legal requirements or established practices. While these differences remain as non-tariff trade barriers it is anticipated that there will be harmonisation in the near future.
- 0.4** This Standard is adopted from the Caribbean Community Standard Specification for Brewery Products CCS 0047: 2003, Amendment 1:2007, approved by the Caribbean Council of Ministers for implementation as a mandatory regional standard with effect from May 26, 2003.

1. Scope

- 1.1 This standard specifies requirements for brewery products to be sold in the Caribbean Common Market.
- 1.2 It does not cover beverages sold under common names including the words "beer", "ale", that are not derived from cereals (for example, ginger beer, ginger ale, root beer).

2. Terms and Definitions

For the purposes of this standard the following shall apply.

- 2.1 **Alcohol content** means the percentage, by volume, of ethyl alcohol at 20°C, which is contained in the brewery products and which is determined by an approved method.
- 2.2 **Ale, Stout, Porter, Malt Liquor** means a beverage produced by the alcoholic fermentation by yeast (*Saccharomyces cerevisiae*) of a wort prepared from potable water, malted barley, wheat, or other cereal, with hops, hop pellets, or hop extract, with or without other added ingredients, which has been brewed in such a manner so as to have the aroma, flavour, and other characteristics that are commonly recognised in ale, stout, porter, or malt liquor.
- 2.3 **Average System** means the system of weights and measures or "the average weight system". It is a system of weights and measures control for packaged products under which the supplier of packaged products is responsible for ensuring that consumers receive on average, the declared quantity as shown on the label.
- 2.4 **Beer** means a beverage produced by the alcoholic fermentation by yeast (*Saccharomyces cerevisiae*) of a wort prepared from malted barley, wheat or other cereal, sugar, hops, hops pellets, or hops extract, with or without other added ingredients, which has been brewed in such a manner as to have the aroma, flavour, and other characteristics that are commonly recognised in beer.
- 2.5 **Brewery products** include beverages derived from cereals that are manufactured and sold under the following common names:
 - (a) ale;
 - (b) beer;
 - (c) lager or lager beer;
 - (d) malta;
 - (e) malt liquor;
 - (f) shandy;
 - (g) stout, (or porter).
- 2.6 **Hops** means the hop plant (*Humulus lupulus*).

- 2.6.1 **Extract** means an extract prepared from hops by a process using carbon dioxide or ethyl alcohol, in accordance with good manufacturing practice.
- 2.6.2 **Pre-isomerised Hop Extract** means a hop extract made from hops using carbon dioxide or ethyl alcohol from which the alpha-acids have been isolated and isomerised with dilute acid and heat.
- 2.6.3 **Hop Pellets** means pellets produced by hammering or milling hops to a fine powder and then running the powder through a high pressure pelletising disc. The pellets are then cooled and vacuum packed. No additives are used in this process.
- 2.7 **Inadequate package** means a package whose negative error exceeds twice the tolerable negative error.
- 2.8 **Lager Beer** means a beer produced from wort, fermented by yeast (*Saccharomyces cerevisiae* or *Saccharomyces carlsbergensis*), which has been stored under cold conditions during clarification and maturation, and which has been brewed in such a manner as to have the aroma, flavour, and other characteristics that are commonly recognised in lager beer.
- 2.9 **Malta** means a beverage produced by combining wort, sugar, hops, and carbon dioxide, to which yeast flavour, and or other flavour may be added, which has the aroma, flavour, and other characteristics that are commonly recognised in malta.
- 2.10 **Mash** means a mixture of milled malted barley, milled malt, milled wheat, or other milled cereal, with potable water, with or without other ingredients or processing aids, which is fermentable.
- 2.11 **Milk Stout** means a stout, which includes lactose.
- 2.12 **Negative error** means the difference between the actual quantity and the nominal declared quantity, given that the actual quantity is less than the nominal declared quantity. Refer to Annex A.
- 2.13 **Nominal declared quantity** means the amount of the commodity, which any package is expected to contain or which is stated on the label.
- 2.14 **Non-standard packages** means packages with negative errors larger than the tolerable negative error (TNE) specified for the declared quantity. Refer to Annex A.
- 2.15 **Original Gravity** means density or specific gravity as it relates to wort and is a measure of the strength of the wort.

NOTE: The "original", or "real wort extract", may be used for calculation of excise or other fiscal charges.

- 2.16 Package** includes anything in which any food, drug, cosmetic or device is wholly or partly contained, placed or packed.
- 2.17 Shandy** means a beverage made by mixing beer or lager beer with a fruit or vegetable juice or extract, or flavour, sugar, carbon dioxide, and potable water.
- 2.18 Trade** means the selling, purchasing, exchanging, consigning, leasing or providing of any commodity, right, facility or service on the basis of measure, and includes the business of providing facilities for measuring as well as the collecting of tolls, duties and taxes on the basis of measurement.
- 2.19 Verification mark** means a sticker, an imprint or stamp applied to a weighing or measuring device by a Weights and Measures Inspection Authority to indicate that it is fit for use in trade.
- 2.20 Wort** means an extract of malted or un-malted barley with potable water to which may be added, one or more of the following which is capable of being fermented:
- (i) Extracts of wheat or other cereal (malted or un-malted); and
 - (ii) Sugar or other soluble carbohydrates;

3. Classification of Brewery Products

- 3.1** The common names listed in column 1 (common name of product) of Table 1 shall be used to describe brewery products which have Percentage alcohol by volume in the ranges set out in Column 2.

Table 1 - Classification of Brewery Products by Alcohol Content

(1) Common Name of Product	(2) Alcohol by Volume Percentage (%)
*Near Beers/Non-alcohol Beer, Non-alcohol Ale, Non-alcohol Stout, Non-alcohol Porter	0.0 – 0.5
*Low Alcohol Beer, Low Alcohol Ale, Low Alcohol Stout, Low Alcohol Porter	More than 0.5 – 1.2
Extra Light Beer, Extra Light Ale, Extra Light Stout, Extra Light Porter	More than 1.2 – 2.5
Light Beer, Light Ale, Light Stout, Light Porter	More than 2.5 – 4.0
Beer/Ale/Stout/Porter	More than 4.0 – 5.5
Strong Beer/Strong Ale/Strong Stout/Strong Porter/Malt Liquor	More than 5.5 - 8.5
Extra Strong Beer/Extra Strong Ale/Extra Strong Stout/Extra Strong Porter/Malt Liquor	More than 8.5

*These are additional and/or revised Common Names.

3.1.1 Shandy means a mixture containing not less than 0.5% alcohol by volume and not more than 1.2% alcohol by volume

3.1.2 Malta shall have no detectable alcoholic content.

4. Ingredients

4.1 The following ingredients may be used in brewery products in accordance with the provisions of the most recent revision of the Codex Alimentarius General Standard for Food Additives:

- (a) cereal grain, including rice, maize;
- (b) common salt (sodium chloride);
- (c) hops and its derivatives;
- (d) Irish moss, or an extract of sea weed, *Chondrus crispus*, carrageenan;
- (e) carbon dioxide;
- (f) caramel;
- (g) dextrin;
- (h) food enzymes;
- (i) stabilising agents;
- (j) acidity regulating agents;
- (k) ascorbic acid, isoascorbic acid and/or their salts, and potassium and sodium metabisulphite;
- (l) benzoic, sorbic, phosphoric acids and/or their salts;
- (m) yeast nutrients;
- (n) flavouring agents;
- (o) Other permitted optional ingredients.

5. Processing Aids

5.1 The following filter aids and clarifying agents can be used in the brewing industry, i.e. acacia gum, activated carbon, bentonite, calcium silicate, magnesium and aluminium silicate, cellulose, china clay, nylon 66, diatomaceous earth, gelatine, silica gel, isinglass, perlite, sodium alginate, tannic acid, tannin and polyvinylpyrrolidone;

6. Health

6.1 Contaminants

6.1.1 When tested by methods mentioned in clause 11.2, the concentration of the metals listed in Column 1 of Table 2 shall not exceed the maximum levels specified in Column 2.

Table 2 – List of Maximum Residues Levels for Toxic Metals

Toxic Metal (1)	Maximum Level (mg per kg) (2)
Arsenic (As)	0.20
Copper (Cu)	1.50
Lead (Pb)	0.50
Mercury (Hg)	0.05
Zinc (Zn)	5.00

- 6.1.2 Brewery products shall be pasteurized or sterilized so as to prevent the growth of micro-organisms that are pathogenic or that may produce spoilage in the product during its expected shelf life.
- 6.1.3 Cereals used in manufacturing brewery products shall not contain residues of fumigants or other pesticides in concentrations that exceed the maximum acceptable levels set by national legislation or by the FAO/WHO Codex Alimentarius Commission, whichever is lower.
- 6.1.4 Cereals and cereal products used as ingredients shall be free from insects, rodent hairs, and other filth or foreign matter.
- 6.1.5 Cereals and other ingredients used to manufacture brewery products shall be inspected before use, and any that are found unsuitable in accordance with 6.1.3 and 6.1.4 shall be separated from those selected for processing.
- 6.1.6 Ingredients shall be stored in conditions of temperature, humidity and ventilation which will prevent deterioration before use.
- 6.1.7 All water used in manufacturing brewery products and in washing equipment shall be of potable quality, and any steam used in sterilizing or cleaning equipment shall be generated from potable water and be free from chemicals used in boiler water treatment.

6.2 Construction of Buildings

A factory or brewery manufacturing the brewery products mentioned in this standard shall conform to the requirements of the National Authority responsible for food safety.

6.3 Sanitation

A factory or brewery manufacturing the brewery products covered by this standard shall operate a sanitation programme that is acceptable to the National Authority responsible for food safety.

6.4 Processing

- 6.4.1 Processing shall be carried out under a Food Safety Management System, which is based on the principles of HACCP, as elaborated by the Codex Alimentarius Commission.
- 6.4.2 The manufacturer of brewery products shall ensure that all instruments on processing equipment are regularly calibrated and are maintained in good working order.
- 6.4.3 The manufacturer of brewery products shall maintain records of the processing conditions, calibration checks, and of any test applied to each batch of product and keep such records for at least one year after the date of production. These records shall be available for inspection by the authority responsible for food hygiene or the National Standards Body.

7. Packaging

- 7.1 The materials used for containers and their closures shall not alter the flavour, colour, aroma, or other characteristics of the brewery product, or render it harmful to health.
- 7.2 Retail containers may be made from glass (clear or coloured), metal (aluminium or tinplate) or plastic, of grades that are generally accepted or authorized for use in the brewing industry.
- 7.3 All new glass containers shall be rinsed and/or washed with potable water immediately before filling.
 - 7.3.1 All returnable glass containers which have been previously used, shall be cleaned prior to use in such a manner that no viable micro-organisms or detectable chemical residues remain on the surface with which the contents will come into contact.
- 7.4 Metal or plastic containers shall be rinsed and/or washed with potable water immediately before filling.
- 7.5 Empty containers shall be inspected visually or otherwise for defects, and defective containers removed from the filling line.
- 7.6 Closures used on containers shall be stored so as to be protected from dust contamination, and shall be inspected before use.
- 7.7 Containers shall be filled by equipment that is maintained and operated in a clean state, and the mouths of containers on the filling equipment shall not be touched by hand.

7.7.1 Filled and closed containers shall be inspected for leaks, defects, foreign matter, and for the correct level of fill, by visual or other means, and any containers found defective shall be separated and not distributed for sale to the public.

7.8 The quantity of a brewery product contained in a closed container shall be in accordance with the legal requirements or common trade practice in the country of sale, and may be stated as the average (nominal declared) quantity.

7.9 Brewery products may be distributed or sold in bulk containers that conform to the general requirements above, and are cleaned and filled in accordance with good manufacturing practice.

7.10 Containers shall be protected by the use of suitable shipping cases during transport, storage, and handling which will guard against hazards of shock, temperature, or corrosion.

8. Labelling Requirements

8.1 The labelling of retail packages of brewery products shall conform to the requirements of relevant CARICOM Labelling Standard(s).

9. Quality Assurance

9.1 Brewery products should be manufactured under an approved quality assurance programme, which conforms to the general requirements of ISO 9001 : 2000 – Quality Management Systems – Requirements published by the International Organization for Standardization.

9.2 Brewery products, which conform to the requirements of this standard and are manufactured as described in clause 9.1, are eligible for a license to use the CARICOM Standards Mark.

9.3 Data derived from tests, which are mandated by law for the computation of excise or import duties, may be utilized in the quality assurance programme.

10. Sampling

10.1 *Sampling of Retail Packages*

10.1.1 Where there are several batches of products, which can be identified and separated, each batch shall be treated as a separate lot. Samples shall be taken from each lot to ascertain if they conform to the standard.

10.1.2 Where the packages are packed in cases, multipacks, containing for example 6, 12, 24 retail packages, a case may be treated as a unit for the purpose of sampling.

10.1.3 Samples shall be taken from the lot by random selection using random number tables. If such tables are not available, start counting the retail packages or cases in a systematic manner, "1, 2, 3, ...r", and take the rth unit as a sample, where $r = N/n$, or the integral part of N/n , and **N** is the number of units in the lot, and **n** the units to be sampled, in accordance with Table 3. One retail package shall be taken from each case so selected.

Table 3 - Acceptance Criteria

Number of Units in Lot (N)	Number of Units in Sample	Acceptance (n) Number	Rejection Number
2 to 50	2	0	1
51 to 500	8	1	2
501 - 3200	13	2	3
3201	20	3	4

Table 3 applies to the testing of parameters other than the quantity of fill.

10.1.4 The quantity of brewery products needed for testing will depend on the number of tests to be done. Where acceptable, tests may be performed on a composite sample made by mixing equal quantities taken from each unit.

10.1.5 Composite samples shall be prepared in a clean, dry sampling container that will not affect the characteristics of the product.

10.1.6 All samples shall be marked for identification and kept under conditions, which will not affect the product, until required for testing.

10.1.7 When testing for "quantity of fill" or "net contents", samples shall be taken as set out in Table 3. The net contents in each package taken in the sample shall be measured and the average net contents determined. The lot shall be rejected if the average net content is less than the declared net contents, or if more than 2.5% of the packages sampled are non-standard packages. Please refer to Appendix A.

10.2 Sampling of Bulk Packages

10.2.1 Each bulk package shall be treated as a batch or lot for purposes of sampling.

11. Approved Test Procedures

11.1 Determination of Alcoholic Content

- 11.1.1 Alcohol content, Specific Gravity Method ; AOAC 935.21, VOL 11, 17th. Edition.
- 11.1.2 Alcohol content, Pycnometer Method; AOAC 935 30B (i), VOL 11, 17th Edition.
- 11.1.3 Alcoholic content, Gas Chromatographic Method; AOAC 984.14, VOL II, 17th Edition.

11.2 Determination of Toxic Elements

- 11.2.1 The Methods of Analyses contained in the 17th Edition (2000) Vol. II, published by the AOAC, shall be used for analysis of toxic elements mentioned in Table 2 (sub-clause 6.1.1.) and for tests of other characteristics such as:

- (a) pH;
- (b) residual carbohydrate;
- (c) protein
- (d) ash;
- (e) carbon dioxide content;
- (f) foam collapse rate;

which were developed in collaboration with the American Society of Brewery Chemists.

12. Weights and Measures

- 12.1 Calibration and certification of weighing and measuring devices, used in the production of brewery products, shall comply with the requirements set out in national legislation.

APPENDIX A
THE AVERAGE QUANTITY SYSTEM

- A-1** The declared quantity of a package should accurately reflect the quantity being supplied, so that the average net contents of the packages in a lot (production run) may not be less than the declared quantity; and
- A-2** No more than 2.5% of the packages in a lot (production run) may have negative errors more than the prescribed tolerable negative error; and
- A-3** No packages shall have a negative error, which exceeds twice the prescribed tolerable negative error.

TABLE 4
TOLERANCE NEGATIVE ERRORS (TNEs)

(Extracted from OIML R87)

Nominal quantity (QN) (g or ml)	Tolerable negative error (TNE)	
	As % of Qn	g or ml
5 to 50	9	-
50 to 100	-	4.5
100 to 200	4.5	-
200 to 300	-	9
300 to 500	3	-
500 to 1 000	-	15
1 000 to 10 000	1.5	-
10 000 to 15 000	-	150
Above 15000	1	-

(TNEs shown as percentages should be rounded up to the nearest 1/10 g or ml above when calculated in units of weight or volume.)