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DEPARTMENT OF COMMERCE

BUREAU OF STANDARDS

S. W. STRATTON, Director

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SPECIFICATIONS FOR LIME-FLINT GLASS TUMBLERS

ABSTRACT

Specifications are herein given including the designation, measurements, material, quality, tolerance in size and weight, shock test, boiling test, acceptance, and sampling. (The specifications have been accepted by the Army, Navy, and Marine Corps, Panama Canal, Public Health Service, and General Supply Committee.)

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1. DESIGNATION

The material desired according to these specifications is a plain pressed hotel tumbler made from what is generally known as a lime-flint glass.

2. MEASUREMENTS

The capacity of these tumblers shall be 10 fluid ounces, weight 12 avoirdupois ounces, height $4\frac{1}{4}$ inches, outside diameter at top $2\frac{7}{8}$ inches, at bottom $2\frac{3}{4}$ inches. Tumblers shall be nonnesting,

shall be slightly rounded at the inside of bottom, have a recessed bottom five-sixteenths inch thick at the center and one-half inch thick at the edge, forming a foot, which shall be smooth and level. The tumbler shall be lettered in relief on underside of bottom.

3. MATERIAL

Tumblers may be made of either pot or tank lime-flint glass, may be either hand or machine made, and may be hand or machine fire polished.

4. QUALITY

Glass showing faint color or showing a few scattered bubbles (not larger than five one-hundredths inch in diameter) is admissible if such defects do not damage the appearance of the article. Glass shall be fire polished enough to eliminate dullness of the surface.

Samples picked at random from shipments to be acceptable shall be free from stones, cords, and fine cracks. They shall be so well annealed that they will withstand the quenching test described below and be reasonably insoluble in water so that they will withstand the boiling test described below.

5. TOLERANCES IN SIZE AND WEIGHT

Tumblers may vary in size and weight but shall not have less than the minimum or more than the maximum sizes indicated in the following table:

Tumblers	Minimum		Maximum	
	U. S. customary	Metric	U. S. customary	Metric
Capacity	9.7 fluid ounces	287 cm ³	10.3 fluid ounces	305 cm ³
Weight	11.3 avoirdupois ounces	320 g	12.7 avoirdupois ounces	360 g
Height	4.15 inches	105 mm	4.35 inches	110 mm
Outside diameter at top	2.80 inches	71 mm	2.95 inches	75 mm
Outside diameter at bottom	2.70 inches	69 mm	2.85 inches	72 mm
Thickness of bottom at side	0.40 inch	10 mm	0.60 inch	15 mm
Thickness of bottom at center	0.25 inch	6 mm	0.40 inch	10 mm

6. METHOD OF TESTING

(a) SHOCK TEST.—Boiling water shall be poured into the sample at room temperature (20 to 25° C.) until full. An acceptable tumbler must not crack when subjected to this test repeated five times.

(b) BOILING TEST.—Tumblers, when completely immersed in distilled water in a closed vessel having a small steam vent, and boiled continuously for six hours (water being occasionally added to compensate for evaporation losses), shall show no signs of corrosion, scumming, chipping, or cracking.

7. ACCEPTANCE

A shipment shall be acceptable if at least 95 per cent of the samples tested pass all the tests and comply with the specifications for size and weight.

8. SAMPLING

In shipments of 20 barrels or less 2 tumblers shall be selected for test from each barrel.

In shipments of from 21 to 50 barrels 1 tumbler from each barrel shall be selected for test.

In shipments of more than 50 barrels the shipment shall be sampled in groups containing an equal number of barrels but not to contain more than 50 barrels, and each group shall be accepted or rejected according to the resulting tests on samples from that group.

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