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CANCELLATION
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CANADIAN GOVERNMENT SPECIFICATIONS BOARD

STANDARD

for

PAPER: AMMUNITION

This standard is hereby cancelled because it is no longer
required for government procurement.



NADA

CANADIAN GOVERNMENT SPECIFICATIONS BOARD

SPECIFICATION

FOR

PAPER; AMMUNITION

9 - GP - 6A

27 FEBRUARY 1959

SUPERSEDES 9 - GP - 6

4 NOVEMBER 1954

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THIS SPECIFICATION APPLIES TO PAPER SUITABLE FOR USE AS A FILLING
COMPONENT IN THE MANUFACTURE OF AMMUNITION

NATIONAL RESEARCH COUNCIL, OTTAWA, CANADA

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9-6-2

CANADIAN GOVERNMENT SPECIFICATIONS BOARD

Specification
for

PAPER; AMMUNITION

1. DEFINITION

This specification applies to paper suitable for use as a filling component in the manufacture of ammunition. (See 8.3).

2. APPLICABLE PUBLICATIONS

The following publication contains requirements applicable to this specification:

Standard Methods of the Technical Section of the Canadian Pulp and Paper Association (CPPA)

Reference to the above publication and to the pertinent parts thereof is to the issues in effect on the date of the invitation to tender, unless otherwise specified.

3. CLASSIFICATION

Paper according to this specification shall be of the following types, as specified by the purchaser:

3.1 Type A - paper, pure bleached, super-calendered

3.2 Type B - paper, foiling, machine finish

3.3 Type C - paper, onionskin

4. GENERAL REQUIREMENTS

4.1 Reference Samples - Reference samples, as a guide to manufacture, may be seen on application to the Supply Department, Filling Division, Canadian Arsenals Limited, St. Paul l'Ermite, P. Q., and a sample may be obtained upon request.

5. DETAIL REQUIREMENTS

5.1 Physical Requirements

5.1.1 Thickness - The paper thickness, according to type, shall comply with Table I, thickness measurement being in accordance with CPPA Method D.4.

5.1.2 Basis Weight - The basis weight shall comply with Table I, within a tolerance of ± 5 per cent, when determined according to CPPA Method D. 3.

5.1.3 Bursting Strength - The average of at least 20 determinations of bursting strength according to CPPA Method D. 8 shall be not less than the values given in Table I. The mean deviation of the 20 tests shall not exceed 10 per cent of the average figure.

5.1.4 Finish - of the paper shall be as follows, according to type:

Type A - Super Calendered

Type B - Machine Finish

Type C - Machine Glaze

TABLE I

Physical Requirements of Ammunition Papers

Type	Thickness (in.)	Basis Weight (gm/sq. metre)	Bursting Strength (lb/sq. in.) (min.)
A	$0.0018 \pm 10\%$	44	16
B	$0.0035 \pm 10\%$	68.5	20
C	0.0015 ± 0.0005	28	12

5.2 Chemical Requirements - (Moisture-Free Basis)

5.2.1 Acidity - When determined in accordance with 7.3.1, titrating potentiometrically to a pH of 8.3, the acidity of a water extract of the material shall not exceed 0.1 per cent.

5.2.2 Alkalinity - When determined in accordance with 7.3.1, titrating potentiometrically to a pH of 4.0, the alkalinity of a water extract of the material shall not exceed 0.1 per cent.

6. PREPARATION FOR DELIVERY

6.1 Packaging and Packing - of ammunition papers shall be as specified in the invitation to tender.

6.2 Marking - Each package of paper shall be marked with the manufacturer's initials or trade mark, the contract number, date of supply, description of the paper, and serial number of the package.

7. INSPECTION

7.1 Sampling - of ammunition paper for testing shall be in accordance with CPPA Method A. 3.

7.2 Conditioning - Samples for physical testing shall be conditioned prior to test by exposure for not less than 16 hours in an atmosphere maintained at $73^{\circ} \pm 3.5^{\circ}\text{F}$ and 50 ± 2 per cent relative humidity, as specified in CPPA Method A. 4.

7.3 Testing - Except for the chemical method described below, the methods of testing shall be those of the Technical Section, Canadian Pulp and Paper Association (CPPA), using the method specified in each requirement.

7.3.1 Acidity and Alkalinity - Cut 15 grams of material into small pieces, and add to 620 ml. of boiling distilled water (equivalent to 600 ml. at $15 - 20^{\circ}\text{C}.$) Stir the material well, cover the beaker, and allow to stand 16 to 18 hours in an acid-free atmosphere.

Stir the material and allow to stand a further hour. Decant two 200 ml. quantities of solution into 400 ml. beakers, filtering if necessary through a dry filter paper (Whatman #41 or equivalent), discarding the first 25 ml. of filtrate.

Titrate the contents of the two beakers, (each representing 5 grams of sample) potentiometrically using a glass electrode, with N/10 sodium hydroxide solution to a pH value of 8.3 or with N/10 hydrochloric acid to a pH value of 4.0, as may be necessary.

Carry out a blank test through the whole procedure under identical conditions and apply the necessary corrections. If the initial pH of the blank is outside the range 6.3 to 7.3, discard the test and carry out a second test under more rigorous conditions, employing redistilled or deionized water of suitable purity.

Calculate the percentage of acidity as sulphuric acid, as follows:

$$\text{Acidity (\% H}_2\text{SO}_4) = \frac{4.904 (A - B) N}{W}$$

where A = ml. of sodium hydroxide solution used to titrate the sample.

B = ml. of sodium hydroxide solution used to titrate the blank.

N = normality of sodium hydroxide solution.

W = weight of sample.

Calculate the percentage of alkalinity as sodium carbonate as follows:

$$\text{Alkalinity (\% Na}_2\text{CO}_3) = \frac{5.300 (A - B) N}{W}$$

where A = ml. of hydrochloric acid solution used to titrate the sample.

B = ml. of hydrochloric acid solution used to titrate the blank.

N = normality of hydrochloric acid solution.

W = weight of sample

8. NOTES

8.1 Ordering Data - Invitations to tender for ammunition paper according to this specification should state the following:

(a) Type

(b) Packaging and packing required.

8.2 Intended Uses - The intended uses for the types of ammunition papers covered by this specification are as follows:

8.2.1 Type A - Paper, Pure, Bleached, Super-Calendered - For use in the manufacture of primers, detonators, fuses, gaines, tracers, and exploders.

8.2.2 Type B - Paper, Foiling, Machine Finish - For use in the manufacture of primers, color burst units, tracers, exploders, and pyrotechnic stores.

8.2.3 Type C - Paper, Onionskin - For use in the manufacture of shutters, rotors, time rings, and fuses.

8.3 Additional Specifications for Paper Suitable for Use in the Manufacture of Ammunition - The following specifications of the Canadian Government Specifications Board apply to papers that are suitable for use in some applications of ammunition manufacture:

9-GP-1a:	Paper; Bond and Ledger
9-GP-5:	Paper; Kraft, Wrapping
9-GP-9:	Paper; Tissue, Acid-Free
9-GP-10:	Paper; Kraft, Wrapping, Acid-Free

Correspondence regarding this specification should be addressed to the Secretary, Canadian Government Specifications Board, National Research Council, Ottawa, Canada.