

20-GP-19a
October 1968
CANCELLATION
May 1972

CANADIAN GOVERNMENT SPECIFICATIONS BOARD

Standard
for

ADHESIVE, RUBBER: OFFICE TYPE

This standard is hereby cancelled because it has been
superseded by CGSB 71-GP-2 Adhesive, Rubber: Office Type.



CANADIAN GOVERNMENT SPECIFICATIONS BOARD

STANDARD

FOR

ADHESIVE, RUBBER: Office Type

20-GP-19a

11 OCTOBER 1968

SUPERSEDES 20-GP-19P

1 SEPTEMBER 1967

THIS STANDARD APPLIES TO RUBBER-BASE SOLVENT-TYPE ADHESIVE FOR GENERAL
OFFICE USE.

DEPARTMENT OF DEFENCE PRODUCTION, OTTAWA, CANADA

COMMITTEE ON MECHANICAL RUBBER GOODS AND AUTOMOTIVE RUBBER PARTS

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Department of National Defence

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CANADIAN GOVERNMENT SPECIFICATIONS BOARD

Standard
for

ADHESIVE, RUBBER: Office Type

1. DEFINITION

- 1.1 This standard applies to a rubber-base solvent-type adhesive for general office use.

2. APPLICABLE PUBLICATIONS

- 2.1 The following publications are applicable to this standard:

2.1.1 Canadian Government Specifications Board (CGSB)
9-GP-1, Paper, Bond

2.1.2 American Society for Testing and Materials (ASTM)

D1545, Methods of Test for Viscosity of Transparent Liquids by Bubble Time Method
D1644, Methods of Test for Nonvolatile Content of Varnishes.

- 2.2 Reference to the above publications, or to test methods therein, is to the issues in effect on the date of invitation to tender, unless otherwise specified.

3. GENERAL REQUIREMENTS

- 3.1 Rubber adhesive in accordance with this standard shall consist of natural rubber dissolved in aliphatic solvents containing not more than 10 per cent aromatic hydrocarbons.

- 3.2 The rubber adhesive shall be suitable for application with a dauber or brush and shall have characteristics that will allow it to be spread easily on paper. It shall be free from lumps, undissolved material or grit.

4. DETAIL REQUIREMENTS

- 4.1 Viscosity — The viscosity of the adhesive shall be not less than 22.7 and not more than 63.4 stokes.

ASTM D1545

- 4.2 Adhesive Strength — The rubber adhesive shall have an adhesive strength of not less than 2.0 pounds per inch width when the adhesive is applied to both surfaces, and not less than 1.5 pounds per inch width when applied only to one surface.

Par. 6.2.1

4.3 **Nonvolatile Content** — The nonvolatile content of adhesive from an unopened bottle shall be not less than 14.0 per cent.

ASTM D1644 Method A*

4.4 **Aging of Glued Specimens** — The rubber adhesive shall retain at least 50 per cent of its original adhesive strength.

Par. 6.2.2

4.5 **Oozing at the Edges** — The rubber adhesive shall not show any appreciable oozing at the edges.

Par. 6.2.3

4.6 **Color and Staining** — When spread by an applicator having an opening of 0.020 inch, in the center of a sheet of bond paper, the rubber adhesive shall dry to a colorless film and shall show no tendency to stain or discolor the paper when rubbed off with the finger tips or a clean cloth.

4.7 **Wrinkling** — When spread by an applicator having an opening of 0.020 inch, in the center of a sheet of "onion skin" paper, the rubber adhesive shall show no tendency to cause wrinkling of the paper during and after drying.

4.8 **Accelerated Aging** — After accelerated aging the rubber adhesive shall meet all the requirements of this standard.

Par. 6.2.4

4.9 **Drying Time** — The drying time required, at $73 \pm 3.5^\circ\text{F}$ and 50 ± 2 per cent R.H., to give a minimum adhesion strength of 1.5 pounds per inch width, shall be in the range of 3 to 5 minutes.

Par. 6.2.5

5. PREPARATION FOR DELIVERY

5.1 **Packaging** — The adhesive shall be supplied in commercial containers, containing 4 ounces or 40 ounces, or other quantity as specified by the purchaser. Four-ounce bottles shall be equipped with brush-type or felt, dauber-type applicator caps, as specified by the purchaser. All caps shall be screw-type, designed to prevent evaporation of solvent from the adhesive.

5.2 **Labelling, Packing and Marking**

5.2.1 Unless otherwise specified, commercial labelling, packing and marking shall be acceptable.

5.2.2 The label shall include:

- (a) A cautionary note to indicate that the product is to be used with adequate ventilation.
- (b) A note to indicate that type cleaner meeting CGSB 53-GP-46 may be used for thinning the adhesive.
- (c) A note to indicate that the material is flammable.

6. INSPECTION

6.1 **Sampling** — Sampling shall be at the discretion of the inspecting authority, unless a specific sampling plan has been specified in the contract or order.

* Except that it is recommended that 2.4 ± 0.1 g of sample be used rather than 1.2 ± 0.1 g as specified in D1644.

6.2 **Test Methods** — All tests described in this standard shall be conducted in a conditioned room having a temperature of $73 \pm 3.5^{\circ}\text{F}$ and a relative humidity of 50 ± 2 per cent. Materials used in the tests are to be conditioned for at least 24 hours before the test is run.

6.2.1 **Adhesive Strength**

6.2.1.1 **Adhesive Applied on Two Surfaces** — Half of each of two sheets of 32M bond paper, $8\frac{1}{2} \times 14$ inches, conforming to CGSB standard 9-GP-1, No. 7 Bond Paper, shall be coated with an even layer of the rubber adhesive using an applicator* having an opening of 0.020 inch. The coated sheets of paper shall be allowed to dry 5 minutes and the coated surfaces shall then be pressed together with the finger tips, care being taken to prevent the formation of air pockets. Five 1-inch wide strips shall be cut across the free and adhered portions of the specimens. One free end of each specimen shall be fastened in the upper jaw of the testing machine.** The other free end shall be doubled back and fastened in the other jaw of the testing machine. The strips shall be pulled apart at a rate of 12 ± 2 inches per minute. On the stress-strain curve the best average line between the maximum and minimum values shall be drawn. Curves showing large sudden variations shall be discarded. The results on the five specimens shall be averaged. The test shall be repeated using fresh sheets of bond paper and the results for the five specimens averaged. The higher average shall be reported.

6.2.1.2 **Adhesive Applied on One Surface Only** — The test described in par. 6.2.1.1 shall be carried out except that only one of the two sheets of 32M bond paper shall be coated for half of its width with an even layer of the rubber adhesive.

6.2.2 **Aging of Glued Specimens** — Test specimens shall be prepared as in par. 6.2.1.2 by coating one surface only. One-inch strips shall be cut and placed in an air-circulating oven for 48 hours at 105°F (40.5°C). The strips shall be conditioned at $73^{\circ} \pm 3.5^{\circ}\text{F}$ and 50 ± 2 per cent R.H. for one hour and the adhesive strength determined as in par. 6.2.1.1.

6.2.3 **Oozing at the Edges** — A sheet of 32M bond paper shall be coated with an even layer of rubber adhesive using an applicator having an opening of 0.020 inch. One-inch strips shall be cut from the sheet and shall be placed between two $8\frac{1}{2} \times 14$ inch sheets of 32M bond paper, glued side down. A $4\frac{1}{2}$ lb. roller shall be rolled three times on the top bond paper over the area covering the one-inch strips. After one hour the top bond paper shall show no significant adhesion to the bottom bond paper indicating no oozing of the rubber adhesives.

6.2.4 **Accelerated Aging** — The adhesive shall be placed in an air-circulating oven for 14 days at 120°F (49°C). The adhesive shall then be tested for conformance with the requirements of this standard.

6.2.5 **Drying Time** — Conduct one series of adhesive strength tests (par. 6.2.1.2) based on a 3-minute open time and another series based on a 5-minute open time.

7. **NOTES**

7.1 **Ordering Data** — Procurement documents shall specify the following:

- (a) Container size and type of applicator (par. 5.1).
- (b) Packaging, labelling, packing and marking required if commercial practice is not acceptable (Section 5).

* The Gardner Film Coating Knife applicator with an opening of 0.020 inch has been found satisfactory for this test.

** A testing machine of the pendulum type with a constant rate of traverse has been found satisfactory for this test.

7.2 The publication listed in par. 2.1.1 may be obtained from the Canadian Government Specifications Board.

7.3 The publications listed in par. 2.1.2 may be obtained from the American Society for Testing and Materials, 1016 Race Street, Philadelphia, Pa., 19103, U.S.A.

Withdrawn/Retirée