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BUREAU OF STANDARDS

George K. Burgess, Director

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UNITED STATES GOVERNMENT MASTER SPECIFICATION FOR HECTOGRAPH RIBBONS

FEDERAL SPECIFICATIONS BOARD SPECIFICATION No. 168

This specification was officially promulgated by the Federal Specifications Board on June 30, 1924, for the use of the Departments and Independent Establishments of the Government in the purchase of hectograph ribbons.

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I. TYPES

The ribbons shall be of the following types: (*a*) Single color—1. Purple. (*b*) Two color—1. Purple and red.

II. MATERIAL AND WORKMANSHIP

1. FABRIC

The cloth shall be made of cotton thoroughly cleaned, combed, and free from waste. It shall be evenly woven and free from an excessive number of avoidable imperfections of manufacture. The weave shall be plain and the yarn single ply.

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The thread count shall be not less than 140 threads per inch in warp and filling and the thickness not more than 0.0057 inch. The difference between the warp and filling counts shall not exceed 10 threads.

The edges shall be cut and properly gummed to prevent fraying and shall be without tendency to waviness.

2. INKING

The ribbon shall be coated on one side only with ink suitable for typewriting on paper. The typed writing shall be transferable to a gelatin-glycerin film or to hectograph clay, so that copies on paper can be produced therefrom.

III. GENERAL REQUIREMENTS

1. DIMENSIONS

The length shall be not less than 9 yards for machines requiring ribbons wider than nine-sixteenths inch and not less than 12 yards for machines requiring ribbons up to and including nine-sixteenths inch, unless shorter ribbons are specifically called for. The width shall be as required for the machine specified in ordering.

IV. DETAIL REQUIREMENTS

Shall be as described above.

V. METHOD OF INSPECTION AND TESTS

1. METHOD OF TAKING SAMPLES

One ribbon shall be sent to the testing laboratory in an original unopened container bearing all of the manufacturer's marks.

2. TESTS

The fabric shall be examined according to the following methods: Visual examination shall be made of the sample to determine the nature of the edge and the character of the cloth in regard to its freedom from waste and avoidable imperfections of manufacture and to ascertain if the cotton had been combed.

The actual number of threads in 1 inch shall be counted in the filling direction at three different places and the results averaged. The total number of warp threads shall be counted and calculated to a basis of 1 inch.

The width shall be determined by laying the material on a flat surface without tension, then measuring the distance perpendicular to the length between the edges. Three measurements shall be taken at different places in the sample and the results averaged.

The thickness of the deinked ribbon shall be measured at five different points by means of any suitable gauge and the results averaged.

The ribbon as received shall be tested on a typewriter or suitable automatic testing machine. If the ribbon as received is on a spool that will not fit the machine used for testing, it shall be transferred to a suitable spool.

Place the ribbon in the machine and wind 2 yards of its free end upon the empty spool. This is done so that the ribbon will shift a definite distance while making the following tests.

A sentence about 30 letters in length shall be written 25 times. At the beginning of each line the ribbon shall be reeled back to the starting point.[1] The first line shall be clear and clean, with no blurring of any of the letters. The last line of the 25 shall be distinct and easy to read. The ribbon shall be allowed to stand at rest for one hour, after which another line shall be written. This line shall be as clear and distinct as the third line of the preceding 25.

The writing produced in the above test shall be transferred to a hectograph pad and 25 copies made from it in the usual manner. All of the copies of the first line of writing shall be easily legible.

VI. PACKING AND MARKING

No requirements specified.

VII. ADDITIONAL INFORMATION

No requirements specified.

VIII. GENERAL SPECIFICATIONS

No requirements specified.

[1] This is easily done by making a pencil mark across the ribbon at the point where it leaves the spool holder or at any other convenient fixed point on the machine. The test can not be made by reversing the direction of the ribbon feed at the end of each line, because the ribbon does not travel the same distance in both directions With some machines it is possible to prevent travel of the ribbon by raising the ribbon-feed pawl. If this can be done, it is preferable to reeling back the ribbon each time.

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