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U. S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS
Washington

Letter
Circular
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PERFORMANCE TEST OF FLOOR COVERING MATERIALS

At the request of the Procurement Division of the U. S. Treasury Department, the National Bureau of Standards has undertaken an investigation of the relative behavior of various types of floor coverings under the action of platform trucks operated under conditions similar to those existing in post office work rooms.

A circular track 40 feet in diameter has been provided, and on this have been laid 20 test panels of different floor covering materials as follows:

1 Concrete (1 cement, 1 sand, 1 1/2 gravel)

2 Same as No. 1 with fine abrasive agent imbedded in the surface

3 Concrete with cement mortar finish (1 cement, 3 sand)

4 Same as No. 1 with cured and dried surface treated with a liquid floor hardener

5 Same as No. 1 with a metallic floor hardener imbedded in the surface

6 Asphalt blocks

7 Asphalt plank

8 Southern yellow pine (end grain strip flooring)

9 Douglas fir (" " " ")

10 Red oak (unit block)

11 Maple (edge grain)

12 Maple (unit block - no finish)

13 Maple (strips on sleepers - surface finished with varnish gum and wax)

14 Same as No. 13 with different treatment of varnish gum and wax

15 Same as No. 13 with surface treatment of linseed oil and turpentine

16 Magnesite (hard wood fibre)

17 Magnesite

18 Linoleum

19 Rubber tile

20 Rubber tile

The accompanying illustration shows the test equipment and sections of floor coverings, under test. The trucks are propelled at a speed of 2 miles per hour by a wheel 4 feet in diameter which is chain driven from a motor on one of the trucks. The wheel is shod with eight wooden blocks (6" x 12" x 1 1/2") which are covered with leather, the arrangement being such as to produce a bumping and slipping action between the wheel and the floor. The direction of travel around the track may be reversed and provision is made for varying the position of the trucks on the track by means of adjustable spring action guide bars carrying 4" rollers. These are mounted at the front and rear of each truck to make contact with a metal shod curbing on either side of the track.

The axle load on the drive wheel is 150 pounds.

The power truck carries a load of 500 pounds on each of its two metal wheels.

The front truck carries a load of 1500 pounds equally divided between the two center wheels, the small swivel wheel at the front carrying practically no load.

The test has not progressed sufficiently to justify conclusions at this time and no report will be issued until further progress has been made.