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T E X T I L E S

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Number	Title	Price
T19*	Physical Testing of Cotton Yarns, by W. S. Lewis. April 1, 1913. 31 pp.	
C45*	The Testing of Materials (textiles included) November 1, 1913.	
T57*	Difference in Weight between Raw and Clean Wools, by W. S. Lewis, September 28, 1915. 5 pp.	
T68*	Standardization of Automobile Tire Fabric Testing, by W. S. Lewis and C. J. Cleary. March 17, 1916. 18 pp.	
M19	Proceedings of the Second Annual Textile Conference, held at the Bureau of Standards, Washington, May 21-22, 1917. 87 pp.	
T96*	Comparative Tests of Stitches and Seams, by W. S. Lewis. June 25, 1917. 7 pp.	
C41	Testing and Properties of Textile Materials. September 20, 1918, 3d edition. 15 pp.	5¢
T331	Tentative Standard Test Methods and Percentages of Oil and Moisture in Hair Press Cloths, by F. R. McGowan and C. W. Schoffstall. March 15, 1923. 20 pp.	5¢

Hair press cloth is used in the oil-pressing industries in the extraction of the oil from the pulpy matter. Hair fibers are more generally used than others on account of the resiliency required. Since the fabric is bought on a weight basis, the moisture and oil which are added to permit efficient manufacturing become important items. This paper outlines means of ascertaining the various contents. The petroleum ether extraction method is used for

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obtaining the oil content. The results of testing 37 samples are given. The standard percentages obtained are as follows: Moisture, 11 per cent; oil, 5 per cent; water-soluble material, 2 1/2 per cent.

C136 Specifications for Numbered Cotton Duck for Government and Commercial Use. January 12, 1924, 2d edition. 4 pp. . . . . 5¢

C149 A Standardized Method of Measuring the Size of Hosiery. February 1, 1924. 5 pp. . . . . 5¢

As a result of cooperation of the National Association of Hosiery and Underwear Manufacturers, methods of measuring the size of hosiery were investigated, and a standard method based on the suggestions of the Bureau of Standards was selected by a committee of manufacturers. Inquiries to a number of manufacturers and users brought out the fact that no large class of them used the same method of measuring. This resulted in a great confusion of marked sizes on hosiery. The standard method described in this paper has been adopted by the manufacturers, and the Government departments through the Federal Specifications Board, and is being introduced to the retailers and consumers.

T253 Standardization of Hosiery Box Dimensions, by Charles W. Schoffstall and E. M. Schenke. March 1, 1924. 13 pp. 10¢

Hosiery boxes in use at the present time are represented by photographs and a series of graphs which show waste, defects in packing, breakage, etc. A list of the proposed standard dimensions is given for men's, ladies', and children's hosiery boxes. It is estimated that a reduction of 76 to 83 per cent of the number of present sizes will result from the adoption of these standards. A new method of packing men's hosiery is shown. The results to be obtained from the adoption of standard hosiery boxes are discussed.

C167 U. S. Government Master Specification for Tent Duck. July 12, 1924. 5 pp. . . . . 5¢

C166 U. S. Government Master Specification for Light Weight Duck (Army Duck), Grey. September 18, 1924. 5 pp. . . 5¢

Number	Title	Price

C169 Methods of Calculating Hosiery Shipping Case Dimensions. August 12, 1924. 37 pp. . . . . 10¢

Methods for calculating the dimensions of the most suitable arrangement of hosiery boxes which will require a minimum surface area of the shipping case, using both the proposed standard inside dimensions of hosiery boxes and boxes of other dimensions, are given. The development of the equations of a minimum surface of a hexahedron for a given volume is shown in the Appendix to be, when with sides a, b, and c, where k and c are constants, $c = \frac{2k}{k+1}$. Use is made of this in selecting the most economical case. The minimum areas are grouped and, in addition, the most common sizes are listed for the use of the manufacturer of all styles of hosiery. Considerations for the use of these dimensions are discussed. The saving resulting from the reduction of the surface area in the design of the case is the feature brought out by this paper.

T264 Development of the Standard Numbered Cotton Duck Specification, by Charles W. Schoffstall and Russell T. Fisher. September 26, 1924. 21 pp. . . . . 10¢

This investigation was carried on by the Bureau of Standards in cooperation with the Cotton Duck Association through its technical committee. A study of various samples of numbered duck, ranging for the medium texture from 2/0 to 6, and for the hard texture from 2/0 to 12 was made. The various test methods are shown. For breaking strength, the strip and three types of grab methods were used, 1 by 1 by 3 inches, 1 by 2 by 3 inches, and 1 by 1 by 1 inch. The 1 by 1 by 3 inch grab method was selected for the standard breaking strength method of test. The results are listed in construction and breaking strength tables with various graphs to illustrate the significance of the data. The study of the results shows how the specifications were formulated. There is given the final specification for numbered cotton duck.

T273 Performance Tests of a Liquid Laundry Soap Used With Textile Materials, by F. R. McGowan, F. W. Smither, and C. W. Schoffstall. October 8, 1924. 26 pp. . . . . 10¢

This study was made to compare the properties of a liquid laundry soap with other washing and scouring agents with respect to shrinkage in weight and dimen-

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sions, fading of dye, and changes in construction and feel. Tests were run on various textile materials, including knitted fabrics, wool fabrics, mohair yarns, and wool fleeces. The laundry practice was both mild and severe to cover the range of usual practices in laundry operations. It was found that the liquid laundry soap was superior in each of the tests

T366 Measurement of Heat Insulation and Related Properties of Blankets, by P. D. Sale and A. F. Hedrick. December 5, 1924. 17 pp. . . . . 10¢

The principal factors influencing the heat insulation of fabrics are discussed. Apparatus is described and methods proposed for the measurement of this and other related properties of blankets, viz., permeability to air and water vapor. Standard test conditions are recommended simulating those to which fabrics are subjected in service. Data illustrative of the several tests made on new blankets, typical of the variety to be obtained in the trade, are presented. The heat-insulating value of blankets is correlated with thickness, weight, and density of the specimens. It is planned to supplement this paper by a following publication, Specifications for Constructing and Operating the Heat Transmission Apparatus, and later by a more thorough analysis of experimental data, only a part of which has been presented herein.

T368 A Study of Silk Waste Used for Cartridge Bag Cloth, with an Appendix on the General Classification of Waste Silk, by F. R. McGowan, Charles W. Schoffstall, and A. A. Mercier. December 4, 1924. . . . . 15¢

A study was made of the waste silk used in the spun silk industry in comparison with the waste silk purchased by the Government for the manufacture of cartridge bag cloth, in order to find if the surplus of this cartridge bag waste silk which remained on hand after the war was of use in connection with the normal textile requirements of the country. It was shown that this cartridge bag waste silk was not suitable for use in the usual spun silk processes of manufacture. Since this necessitated a continuance of the manufacture of this material on a system which combined the cotton and woolen systems of manufacture as was the case during the war, a commercial use adaptable to the normal requirements of the country was extremely desirable. A fabric was woven using this material as a single yarn

in the warp direction, unsized, with a wool yarn as the filling. Tests showed the resulting fabric to be suiting material well balanced in regard to wear. The general types of spun silk are given and the system of grading is outlined in the appendix. Figures show the various grades of spun silk and the waste silk used for cartridge bag cloth.