

DEPARTMENT OF COMMERCE  
BUREAU OF STANDARDS

**REGAIN OF  
MERCERIZED COTTON YARNS**

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COMMERCIAL STANDARD CS11-29



**ELIMINATION OF WASTE**  
Through  
**SIMPLIFIED COMMERCIAL PRACTICE**

Below are described some of the series of publications of the Department of Commerce which deal with various phases of waste elimination.

**Simplified Practice Recommendations.**

These present in detail the development of programs to eliminate unnecessary variety in sizes, dimensions, styles and types of over 100 commodities. They also contain lists of associations and individuals who have indicated their intention to adhere to the recommendations. These simplified schedules, as formulated and approved by the industries, are indorsed by the Department of Commerce.

**Commercial Standards.**

These are developed by various industries under a procedure similar to that of simplified practice recommendations. They are, however, primarily concerned with considerations of grade, quality, and such other characteristics as are outside the scope of dimensional simplifications.

**American Marine Standards.**

These are promulgated by the American Marine Standards Committee, which is controlled by the marine industry and administered as a unit of the division of simplified practice. Their object is to promote economy in construction, equipment, maintenance, and operation of ships. In general, they provide for simplification and improvement of design, interchangeability of parts, and minimum requisites of quality for efficient and safe operation.

Lists of the publications in each of the above series can be obtained on application to the Commercial Standardization Group, Bureau of Standards, Washington, D. C.

**UNITED STATES DEPARTMENT OF COMMERCE**

R. P. LAMONT, *Secretary*

**BUREAU OF STANDARDS**

GEORGE K. BURGESS, *Director*

**REGAIN OF  
MERCERIZED COTTON YARNS**

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**COMMERCIAL STANDARD CS11-29**

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## COMMERCIAL STANDARD CS11-29

### ACCEPTED BY

#### ASSOCIATIONS

National Association of Hosiery & Underwear Manufacturers.  
National Association of Purchasing Agents.  
National Knitted Outerwear Association.

#### INDIVIDUALS

Aberfoyle Manufacturing Co., Chester, Pa.  
Acadia Mills, Boston, Mass.  
American Textiles (Inc.), Bay City, Mich.  
American Yarn & Processing Co., Mount Holly, N. C.  
Bernat & Sons Co., Emile, Jamaica Plain, Mass.  
Boger & Crawford, Philadelphia, Pa.  
Boggs & Buhl (Inc.), Pittsburgh, Pa.  
Bon Marché, The, Seattle, Wash.  
Buffums', Long Beach, Calif.  
B. Z. B. Knitting Co., Rockford, Ill.  
Cacoosing Knitting Co. (Inc.), Sinking Spring, Pa.  
Cannon Mills (Inc.), Philadelphia, Pa.  
Cooper-Kenworthy (Inc.), Providence, R. I.  
Dixie Mercerizing Co., Chattanooga, Tenn.  
Ewing-Thomas Converting Co., Chester, Pa.  
Excelsior Mills, Union, S. C.  
Forrest Mercerizing Co., Gloucester, N. J.  
Franklin Process Co., Providence, R. I.  
Globe Dye Works Co. (Frankford), Philadelphia, Pa.  
Globe Knitting Works, Grand Rapids, Mich.  
Hampton Co., Easthampton, Mass.

Harding, Tilton & Co., Boston, Mass.  
Holmes Manufacturing Co., New Bedford, Mass.  
Louisville Textile Co., Louisville, Ky.  
Macy & Co. (Inc.), R. H., New York, N. Y.  
Minneapolis Knitting Works, Minneapolis, Minn.  
Moorhead Knitting Co. (Inc.), Harrisburg, Pa.  
National Yarn & Processing Co., Rossville, Ga.  
New York Tube & Spool Cotton Co., New York, N. Y.  
Oneita Knitting Mills, Utica, N. Y.  
Parsons & Baker Co., The, Phoenixville, Pa.  
Potter Fine Spinners (Inc.), Pawtucket, R. I.  
Real Silk Hosiery Mills (Inc.), Indianapolis, Ind.  
Southern Mercerizing Co., Tryon, N. C.  
Standard-Coosa-Thatcher Co., Philadelphia, Pa.  
Worcester Bleach & Dye Works Co., Worcester, Mass.

#### GOVERNMENT

Department of Agriculture:  
Bureau of Agriculture Economics, Washington, D. C.  
Bureau of Home Economics, Washington, D. C.  
District of Columbia, government of, Washington, D. C.  
Federal Specifications Board, Washington, D. C. (In principle.)  
United States Shipping Board Merchant Fleet Corporation, Washington, D. C.



# REGAIN OF MERCERIZED COTTON YARNS

## COMMERCIAL STANDARD CS11-29

On January 15, 1929, a joint conference of representative manufacturers, mercerizers, general interests, and users drafted a commercial standard for regain of mercerized cotton yarns. The industry has since adopted, and approved for promulgation by the Department of Commerce, the specification as shown herein.

### I. GENERAL

The following definitions and values for moisture content and regain are recommended as standard for mercerized cotton yarns.

### II. DEFINITION

**MOISTURE CONTENT.**—The difference between the weight of the material as is (*a*) and the weight of the material in a bone-dry condition (*b*) expressed as a percentage of the original weight (*a*).

**REGAIN.**—The difference between the weight of the material as is (*a*) and the weight in a bone-dry condition (*b*) expressed as a percentage of the bone-dry weight.

$$\frac{a-b}{a} \times 100 = \text{per cent moisture content.}$$

$$\frac{a-b}{b} \times 100 = \text{per cent regain.}$$

### III. REGAIN AND MOISTURE CONTENT

Mercerized yarns having a regain below 7½ or above 9½ per cent shall be adjusted by the seller or buyer, as the case may be, on the regain basis of 8½ per cent. Such yarns with a regain between 7½ and 9½ per cent shall not call for adjustment between buyer and seller.

A regain of 8½ per cent is equivalent to 7.83 per cent moisture content.

This recommendation is to be effective from July 1, 1929, and is subject to regular annual revision by the standing committee.

Promulgation recommended.

R. M. HUDSON,  
*Assistant Director for Commercial Standards.*

Promulgated.

GEORGE K. BURGESS,  
*Director, Bureau of Standards.*

APPROVED.

R. P. LAMONT,  
*Secretary of Commerce.*

## HISTORY OF PROJECT

E. M. Schenke, research associate at the Bureau of Standards for the National Association of Hosiery & Underwear Manufacturers, after a careful scientific study of moisture content and regain of mercerized cotton yarns, offered a report in 1927 to that association recommending a standard regain of 7.53 per cent (7 per cent moisture content). No definite action was taken by the industry until October 30, 1928, when the National Association of Hosiery & Underwear Manufacturers requested that this report be established as a commercial standard to eliminate constant confusion and dispute as to proper weight of mercerized yarns for the computation of buying and selling price.

## GENERAL CONFERENCE

Pursuant to a request from the National Association of Hosiery & Underwear Manufacturers, a general conference of representative producers, mercerizers, users, and general interests was held on January 15, 1929, at the Department of Commerce, Washington, D. C., to consider the establishment of a commercial standard for moisture content and regain of mercerized cotton yarns.

The conference was directed by I. J. Fairchild, who reviewed briefly the procedure and the function of the Bureau of Standards in promoting such commercial standards as are adopted and accepted by industry.

E. M. Schenke presented the commercial standard for moisture content and regain of mercerized cotton yarns as indorsed by the National Association of Hosiery & Underwear Manufacturers and outlined the chief purpose which is to provide a definite basis for weight adjustment between buyer and seller.

It was claimed that moisture content as measured on samples conditioned in the laboratory does not represent the values found in the normal course of trade, and that the English standard of 8½ per cent regain would react against the American producer if a lesser figure were adopted here.

The conference, after full discussion, decided to modify the proposed standard, and the wording as revised was unanimously adopted.

It was also voted to request the Bureau of Standards to operate the certification plan and prepare a list of willing-to-certify manufacturers on the basis of this standard.



Hon. William F. Whiting, then Secretary of Commerce, arriving for a brief period, offered the conference renewed assurance of the services of the Department of Commerce toward the establishment of commercial standards. He stated that he considered the work of the industries in cooperation with the department along these lines as being of "the greatest importance in raising the standards for the buying public."

### EFFECTIVE DATE

July 1, 1929, was set as the date upon which the standard is to become effective, if supported by the required written acceptances.

It was the consensus of opinion that the revision interval should be one year from effective date.

The following individuals were present:

- ATCHISON, J. C., Fairchild Publications.
- BOGER, ROBERT C., Boger & Crawford.
- CRAWFORD, ALFRED, Boger & Crawford.
- EICHLIN, ARTHUR S., National Association of Dyers & Cleaners.
- ELLIS, GEORGE H., Dixie Mercerizing Co.
- EMLEY, W. E., American Society for Testing Materials.
- FETROW, DR. WARD W., Division of cotton marketing, Bureau of Agricultural Economics, Department of Agriculture.
- FISHER, RUSSELL T., National Association of Cotton Manufacturers.
- GREEN, ADDISON B., Hampton Co.
- HAMLIN, CHARLES H., Associated Knit Underwear Manufacturers.
- HOLT, J. P., Mercerizers Association of America.
- KING, RAYMOND B., Hampton Co.
- KLUMPP, J. J., Cannon Mills (Inc.).
- MCGOWAN, F. R., Cotton-Textile Institute, (Inc.).
- MERCIER, A. A., Cotton-Textile Institute, (Inc.).
- O'BRIEN, RUTH, American Home Economics Association.
- PEDLER, WILLIAM A., Acadia Mills.
- SAUNDERS, R. E., Textile World.
- SCHENKE, E. M., National Association of Hosiery & Underwear Manufacturers.
- WEBB, DR. R. W., Division of cotton marketing, Bureau of Agricultural Economics, Department of Agriculture.
- DEPARTMENT OF COMMERCE:
  - APPEL, WILLIAM D., Textile section, Bureau of Standards.
  - CROSBY, EDGAR C., Textile division, Bureau of Foreign and Domestic Commerce.
  - FAIRCHILD, I. J., Division of trade standards, Bureau of Standards.
  - M McNABB, JOHN D., Knit goods section, Bureau of Foreign and Domestic Commerce.
  - MILLER, JOSHUA, Textile section, Bureau of Standards.
  - STEIDLE, HARRY H., Division of trade standards, Bureau of Standards.

## STANDING COMMITTEE

The following standing committee was appointed with unanimous consent to recommend revisions in the standard and to keep it abreast with progress in the industry:

- W. A. PEDLER, chairman, Acadia Mills.
- Dr. R. W. WEBB, United States Department of Agriculture.
- J. P. HOLT, Mercerizers Association of America.
- D. L. GALBRAITH and JOHN NASH McCULLAUGH, National Association of Hosiery & Underwear Manufacturers.
- E. J. HANSEN, Associated Knit Underwear Manufacturers.
- CHAS. H. HAMLIN, Associated Knit Underwear Manufacturers.
- F. R. MCGOWAN, Cotton-Textile Institute (Inc.).
- RUSSELL T. FISHER, National Association of Cotton Manufacturers.

## PROMOTION OF EXPORT TRADE

J. D. McNabb, representing the textile section of the Bureau of Foreign and Domestic Commerce, read a report relative to export trade conditions in 1927 indicating the methods by which the industry might have the above commercial standard translated into foreign languages as a means of promoting foreign trade in this commodity.

The conference decided to try out the commercial standard for regain in the domestic market for at least one year before publishing it in foreign languages.

## COMMERCIAL STANDARDS PROCEDURE

Industry has long sensed the need for a wider application and use of specifications developed and approved by nationally recognized organizations. To assist these bodies and the producers and consumers in securing this result and as a natural outgrowth of the movement toward elimination of waste through simplified practice, the Bureau of Standards has set up a procedure under which specifications, properly indorsed, may be printed as official publication of the Department of Commerce and promulgated as "commercial standards." This service parallels that of simplified practice in many respects and is available only upon request.

Broadly speaking, the aim is to continue the same character of cooperative service in this field that is being rendered in simplification. The division of trade standards is not designed to act as a standardizing body, nor will it engage in the preparation of specifications. Its service is mainly promotional in character, since its chief mission is to get behind a standard or a specification which any industry or its related groups may want to promulgate on a nationwide basis; to determine its eligibility for promulgation; to publish and broadcast it in the event the prerequisites of procedure have been

met, including a satisfactory majority acceptance; to facilitate the application of the certification plan for the assurance and convenience of the small purchaser; to provide means for periodical audits of adherence; and to cooperate with the Bureau of Foreign and Domestic Commerce in determining the desire of industry relative to translation and promulgation of such specifications as a basis for foreign commerce.

In general, it may be said that a simplification covers types, sizes, and varieties of a commodity which are retained by industry on the basis of demand, whereas a commercial standard establishes definite requirements as to grade, quality, or dimensional tolerances in addition to any limitation of variety desired and accepted by the industry.

### ORGANIZATION AND DUTIES OF STANDING COMMITTEE

At the close of its session each general conference appoints a permanent standing committee, composed of not more than three representatives from each phase of the industry; for example, producers, distributors, and consumers.

The proper functioning of the committee requires that its members be able to attend in person meetings held at some central place. They must also be prepared to devote the necessary time and to accept such assignments and responsibilities as may be found requisite to the success of the program.

Because the department in no case assumes the prerogative of taking final action in connection with a commercial standard, it is essential that there be some avenue through which the industry can be consulted promptly and can, in turn, make known its wishes. This function is best performed by a representative standing committee. For this reason the chairman, in accepting his appointment, places his services and those of his committee at the disposal of the Bureau of Standards for the prompt and careful consideration of all questions which may arise when the program is put into actual use.

A committee that quickly and accurately reflects the wishes of the majority of its industry and, through its chairman, promptly disposes of matters referred to it is a practical insurance against any serious difficulty in the adoption of a commercial standard.

The standing committee must recognize that the Department of Commerce has no "police powers" to compel the acceptors to adhere strictly to the letter of the recommendation. Unanimous adoption by the general conference indicates a recognition of the benefits inherent in standardization. If this fact is properly emphasized, the acceptors should be equally willing to follow the program in all cases where it is applicable.

While the recommendation is in effect, the standing committee is to receive all information showing departures and to apply such corrective measures as appear to be in the best interest of all concerned.

### YOUR COOPERATION

As a producer, distributor, or consumer of some of the commodities which have already been standardized, you are in a position to add impetus to this method of eliminating waste. The first step in that direction is to record your intention to adhere, as closely as circumstances will allow, to one or more of the commercial standards other than those you have already accepted.

You will, of course, want to examine these before signing. The commercial standardization group will, therefore, furnish a copy of any commercial standard which you wish to consider with a view to its adoption. Fill in the form on page 9 and check the recommendations desired from the list appearing on page 10, detach the sheet and mail to the commercial standardization group, Bureau of Standards, Washington, D. C. (We will furnish detailed price list on request.)

The receipt of your signed acceptance will permit the listing of your organization in new editions of the recommendations you have checked. Any proposed revisions will be submitted to you for approval prior to publication.

This support is entirely voluntary and applies to stock items. It is not meant to interfere with the purchase or sale of such special sizes and types as are sometimes required to meet unusual conditions.

Trade associations and individual companies often distribute large numbers of the printed booklets for the information and guidance of their business contacts. In such cases it is possible to extend the scope and degree of adherence by urging each recipient to send in an acceptance. Bear in mind that the practical value of any simplification or standardization project is measured by the observance it receives. A number of the simplified practice recommendations have already secured an adherence of more than 90 per cent, by volume, of annual output. If each producer, distributor, and consumer will do his part toward discarding nonessentials and specify simplified lines when buying, adherence will approach 100 per cent. Obviously, the higher the adherence to each specific standardization the greater will be the benefits to all concerned.

Note.—The information requested in footnote 1 is essential to the proper listing of your organization in future editions of the printed bulletins.

### ACCEPTANCE OF COMMERCIAL STANDARD

Date.....

COMMERCIAL STANDARDIZATION GROUP,

*Bureau of Standards, Washington, D. C.*

SIRS: We, the undersigned, hereby accept the commercial standard, CS11-29, for Regain of Mercerized Cotton Yarns, as our standard of practice beginning.....

(date)  
in the production,<sup>1</sup> distribution,<sup>1</sup> and consumption<sup>1</sup> of mercerized cotton yarns.

We will use our best effort to secure its general adoption.

Signed.....

Title <sup>2</sup>.....

Company <sup>2</sup>.....

Street address <sup>2</sup>.....

City and State <sup>2</sup>.....

<sup>1</sup> Please designate by drawing lines through those which do not apply.

<sup>2</sup> Kindly typewrite or print.

(Cut on this line)



**REQUEST FOR COMMERCIAL STANDARDS**

Date.....

COMMERCIAL STANDARDIZATION GROUP,

*Bureau of Standards, Washington, D. C.*

DEAR SIRs: The undersigned wishes to examine the commercial standards checked on the reverse side of this page, with a view to accepting them as our standard of practice in the production, distribution, or consumption of the standardized lines.

Signed.....

Title.....

Kindly typewrite or print the following lines:

Company.....

Street address.....

City and State.....

## COMMERCIAL STANDARDS

CS. No.	Item
1-28.	Clinical thermometers.
2-29.	Surgical gauze (preparation postponed).
3-28.	Stoddard solvent.
4-29.	Staple porcelain plumbing fixtures.
5-29.	Steel pipe nipples.
6-29.	Genuine wrought-iron pipe nipples.
7-29.	Standard weight malleable iron or steel union (in preparation).
8-29.	Plain and thread plug limit gage blanks (in preparation).
9-29.	Template hardware (in preparation).
10-29.	Brass pipe nipples.
11-29.	Regain of mercerized cotton yarns.
12-29.	Domestic and industrial fuel oils.
13-29.	Dress patterns.
14-29.	Boys blouses, waists, and shirts (in preparation).
15-29.	Men's pajamas (in preparation).
16-29.	Wall paper.
17-30.	Diamond Core Drill Fittings (in preparation).
18-29.	Hickory golf shafts (in preparation).





