# U. S. DEPARTMENT OF COMMERCE

ROY D. CHAPIN, Secretary

## **BUREAU OF STANDARDS**

LYMAN J. BRIGGS, Acting Director

# SURGEONS' LATEX GLOVES

# COMMERCIAL STANDARD CS41-32

[Issued September 8, 1932]

Effective date for New Production, July 6, 1932



# A RECORDED STANDARD OF THE INDUSTRY

UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON: 1932

# PROMULGATION STATEMENT FOR SURGEONS' LATEX GLOVES

Pursuant to a request from the American Hospital Association, in cooperation with the Rubber Manufacturers Association, the Department of Commerce submitted to the industry on April 26, 1932, a recommended commercial standard for surgeons' rubber gloves. The industry has since accepted and approved for promulgation by the Department of Commerce, through the Bureau of Standards, the standard as shown herein.

This recommendation became effective for new production on

July 6, 1932.

Promulgation recommended.

I. J. Fairchild, Chief, Division of Trade Standards.

Promulgated.

Lyman J. Briggs, Acting Director, Bureau of Standards.

Promulgation approved.

ROY D. CHAPIN, Secretary of Commerce.

# SURGEONS' LATEX GLOVES

# COMMERCIAL STANDARD

#### SCOPE

1. This specification covers minimum requirements for material and workmanship of surgeons' latex gloves.

#### WEIGHT AND SIZES

2. Surgeons' latex gloves shall be supplied in medium weight only and in sizes 6 to 9½, inclusive. (See Table 1.)

## MATERIAL AND WORKMANSHIP

3. Gloves shall be made directly from liquid latex. The surface shall be smooth and free from ingrained particles, thin spots, or other imperfections.

# GENERAL REQUIREMENTS

4. Gloves shall have a rolled edge at the wrist.

5. Tensile strength.—The tensile strength of fresh gloves shall be at least 3,500 pounds per square inch. Upon exposure in the standard Geer oven at 70° C. the gloves shall have a tensile strength of at least 3,000 pounds after 7 days, 2,500 pounds after 14 days, and 2,000 pounds after 21 days.

6. Elongation.—The ultimate elongation of fresh gloves shall be at least 820 per cent (1 to 9.2 inches). After 7 days in the standard Geer oven aging test the elongation shall be 800 per cent, and it shall remain so at the end of the 14 and 21 day periods in the Geer

7. Resistance to sterilization.—A sample shall be wrapped in gauze and subjected to 5 successive sterilizations in steam at 15 pounds' pressure for periods of 15 minutes each, with intervals of 20 minutes between sterilizations. Test strips shall remain at room temperature for 24 hours before being tested. The tensile strength after this test shall be not less than 2,500 pounds per square inch. After 10 sterilizations the tensile shall be not less than 2,000 pounds per square inch.

## DETAIL REQUIREMENTS

8. The length, width, and weight of gloves shall conform to Table 1.

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Table 1.—Measurements and weights of surgeons' latex gloves

Size No.	Length from tip of middle finger to end of gauntlet, minimum	Circumference of palm at a point between base of index finger and thumb (± 5 per cent)	Weight per dozen pairs (minimum)
6	Inches 10 10 10 10 10/2 10/2 10/2 10/2 10/2	8 81/2	$ \begin{array}{r} 9\\934\\1034\\11\frac{1}{2}\\12\frac{1}{4} \end{array} $

#### MARKING

- 9. Each glove shall be marked with the actual manufacturer's name or trade name.
- 10. Each package containing gloves conforming to this commercial standard shall carry a label which may read as follows:

These gloves are certified to conform to all requirements of the Commercial Standard for Surgeons' Latex Gloves CS41-32.

(Signed)

11. In lieu of the above certification the words "Conforms to CS41-32," or other identification which may later be approved by the industry, may be substituted to conserve space. The use of this inscription shall indicate that the manufacturer subscribes to the above guarantee.

# HISTORY OF PROJECT

Under date of February 23, 1931, the American Hospital Association, represented by John M. Smith, requested the cooperation of the Bureau of Standards in the establishment of a commercial standard for surgeons' rubber gloves.

At a meeting of manufacturers of rubber gloves called by the Rubber Manufacturers Association and held at Akron, Ohio, on February 17, 1932, the manufacturers voted unanimously that, due to differences in physical and chemical characteristics and method of manufacture, a standard for surgeons' latex gloves should be established as distinct from the usual so-called brown-type glove.

Accordingly, upon representation to the committee on simplification and standardization of the American Hospital Association, the establishment of this standard was requested.

The above meeting of manufacturers supplied data for the formulation of this standard, which was circulated to the industry for acceptance.

## STANDING COMMITTEE

To represent the industry in the consideration of any suggested revisions and in other ways to promote adherence and enhance the value of the standard, the American Hospital Association and the Rubber Manufacturers Association have appointed a standing committee composed of representative users, distributors, and producers. The membership of this committee is given below.

Asa S. Bacon (chairman), superintendent Presbyterian Hospital, Chicago, Ill. Dr. George O'Hanlon, director, Jersey City Hospital, Jersey City, N. J. John M. Smith, director, Hahnemann Hospital, Philadelphia, Pa.

H. P. Croxton, Massillon Rubber Co., Massillon, Ohio.
F. T. Wilson, Wilson Rubber Co., Canton, Ohio.
R. C. Dabney, Miller Rubber Co., Akron, Ohio.
G. W. Wallerich, treasurer, V. Mueller & Co., Chicago, Ill.
H. F. Baer, president, A. S. Aloe & Co., St. Louis, Mo.
F. W. Reynolds, ex officio secretary, Bureau of Standards.

# EFFECTIVE DATE

The effective date for new production was set for July 6, 1932.



# ACCEPTANCE OF COMMERCIAL STANDARD

(Please sign and return this sheet to division of trade standards, Bureau of Standards, Washington, D. C.)

	Date
	Division of Trade Standards,
	Bureau of Standards,
	$Washington,\ D.\ C.$
	Gentlemen: We, the undersigned, do hereby accept the original draft of the commercial standard as our standard, practice in the distribution before the distribution of surgeons' latex gloves believe the distribution of surgeons' latex gloves gloves and surgeons' latex gloves gloves gloves gloves gloves gloves g
	ginning, and will use our best effort in securing
this line)	its general adoption.  To permit intelligent review of the effectiveness of the commercial standard every year by an accredited committee of all interests, working in cooperation with the Department of Commerce, we plan to supply all data, upon request, which may be necessary for the development of constructive revisions. It is understood that any suggested modifications will be submitted as soon as formulated, and shall not be promulgated until accepted in form similar to this recommendation.
(Cut on this	Signature(Above signature should be in ink)
	(Kindly typewrite or print the following lines:)
	Title
	Company
	Street address
	City and State
	We are members of the following associations or other organizations interested in the production, sale, or use of surgeons' latex gloves:

¹ Please designate which group you represent by drawing lines through the other two. In the case of related interests, trade papers, colleges, etc., desiring to record their general approval, the words "in principle" should be added after the signature.

# TO THE ACCEPTOR

In signing the acceptance blank, please bear the following points

clearly in mind:

1. Adherence.—The Department of Commerce has no regulatory powers to enforce adherence to the commercial standards. Instead, this program is based on voluntary cooperation and self-government in industry. To make this specific standardization operate as a satisfactory example of self-government it is highly desirable that it be kept distinct from any plan or method of governmental regulation or control. It will be successful according to the degree to which manufacturers, distributors, and purchasers adhere to its terms and conditions.

2. The industry's responsibility.—The department cooperates only on the request of the industry, and assumes no responsibility for industrial acceptance or adherence. This program was developed by the industry on its own initiative. Its success depends wholly on

the active cooperation of those concerned.

3. The acceptor's responsibility.—You are entering into an entirely voluntary arrangement, whereby the members of the industry—the distributors and consumers of the product, and others concerned—hope to secure the benefits inherent in commercial standardization. Those responsible for this standard realize that instances may occur in which it will be necessary to supply or purchase items not included therein. The purpose is, however, to secure wider support for nationally recognized standards covering grade, quality, and other characteristics of products. Consumers can make the program a success if in their purchasing they will make a definite and conscientious effort to specify in terms of this commercial standard.

4. The department's responsibility.—The function performed by the Department of Commerce is fourfold: First, to act as a coordinator to insure adequate consideration of the needs of all interests; second, to supply such assistance and advice in the development of this program as past experience with similar programs may suggest; third, to solicit and record the extent of adoption and adherence to the standard; and fourth, to add all possible prestige to this standardization movement by publication and promulgation if and when it is adopted and accepted by all elements directly

concerned.

#### ACCEPTORS

#### ASSOCIATIONS

Allentown Hospital Association, Allentown, Pa.

American Hospital Association, Chicago, Ill. American Association,

Sanatorium New York, N. Y.

Englewood Hospital Association, Englewood, N. J.

French Hospital Association, Los Angeles, Calif.

Hospital Association of Pennsylvania, Sayre, Pa. National Association of Retail Drug-

gists, Chicago, Ill. National Wholesale Druggists Asso-

ciation, New York, N. Y. Northern Pacific Beneficial Associa-

tion, Tacoma, Wash.

St. Lukes Hospital Association, Denver, Colo. Santa Fe Coast Lines Hospital Asso-

ciation, Los Angeles, Calif.

### FIRMS, HOSPITALS, AND PHYSICIANS

Abington Memorial Hospital,, Abington. Pa.

Agnews State Hospital, Agnew, Calif. Akron, The City Hospital of, Akron, Ohio.

Alabama, State of, Convict Department, Montgomery, Ala.

Allegheny General Hospital, Pittsburgh, Pa.

Aloe Co., A. S., St. Louis, Mo. American Hospital Supply Corporation, Chicago, Ill.

Ancker Hospital, St. Paul, Minn. Arnot-Ogden Memorial Hospital, El-

mira, N. Y. Auburn City Hospital, The, Auburn, N. Y.

Aultman Hospital, Canton, Ohio. Avent, J. K., M. D., Grenada, Miss. Baltimore City Hospitals, Baltimore, Md.

Baptist State Hospital, Little Rock, Ark.

Beekman Street Hospital, New York,

Beth Moses Hospital, Brooklyn, N. Y. Binghamton State Hospital, Binghamton, N. Y.

Birmingham Baptist Hospital, Birmingham, Ala.

Blodgett Memorial Hospital, Grand Rapids, Mich.

Institutions Department, (Boston) Boston, Mass.

Bradford Hospital, Bradford, Pa. Bridgeport Department of Public Welfare, Bridgeport, Conn.

Brigham Hospital, Peter Bent, Boston, Mass.

Brigham Hospital, Robert Breck, Boston, Mass. Bronx Hospital and Dispensary, The,

Bronx, N. Y.

Bryn Mawr Hospital, Bryn Mawr, Pa. Buhl Hospital, The Christian H., Sharon, Pa.

California Hospital, The, Los Angeles, Calif.

California, State of, Sacramento, Calif. Canton Rubber Co., The, Canton, Ohio. Central State Hospital, Lakeland, Ky. Charleston General Hospital, Charleston, W. Va.

Chester County Hospital, The, West

Chester, Pa. Children's Hospital, The, Denver, Colo. Children's Hospital of Philadelphia, Philadelphia, Pa.

Church Home and Infirmary, The, Baltimore, Md.

Cincinnati General Hospital, Cincinnati, Ohio.

Clarkson Memorial Hospital, Bishop, Omaha, Nebr. (in principle). Cleveland City Hospital, Cleveland,

Ohio.

Cleveland State Hospital, Cleveland, Ohio.

Codman and Shurtleff (Inc.), Boston, Mass.

Cole, A. V., M. D., Indiana Harbor, Ind.

Colorado State Hospital, Pueblo, Colo. Connecticut State Hospital, Middletown. Conn.

Cook County Hospital, Chicago, Ill. Cooley Dickinson Hospital, Northampton, Mass.

Danvers (Mass.) State Hospital, Hathorne P. O., Danvers, Mass.

Davol Rubber Co., Providence, R. I. Hospital, Delaware County Drexel Hill, Pa.

Delaware Hospital, The, Wilmington, Del.

Delray General Hospital, Detroit. Mich.

Dixon State Hospital, Dixon, Ill. Duval County Hospital, Jacksonville, Fla.

Eastern Oklahoma Hospital, Vinita, Okla.

Eastern State Hospital, Williamsburg, Va.

El Paso City-County Hospital, El Paso, Tex.

Emanuel Hospital, Portland, Oreg. University Hospital, Emory Emory University, Ga.

Fairview Hospital, Minneapolis, Minn.

Fifth Avenue Hospital of the City of New York, New York, N. Y.

Flower Hospital, The, Toledo, Ohio. W. Foote Memorial Hospital, Jackson, Mich.

Ford Hospital, Henry, Detroit, Mich. Fort Sanders Hospital, Knoxville, Tenn.

Franklin Square Hospital, Baltimore,

Germantown Dispensary and Hospital,

Philadelphia, Pa.
Gillette State Hospital for Crippled

Children, St. Paul, Minn.
Grace Hospital, New Haven, Conn.
Gross Co., Wm. M., Sharon, Pa.
Groves Latter-Day Saints Hospital,

Dr. W. H., Salt Lake City, Utah. Hackley Hospital, Muskegon, Mich.

Hamot Hospital, Erie, Pa.

Hankins Rubber Co., The, Massillon, Ohio.

Harrisburg Hospital, Harrisburg, Pa. Harrisburg Polyclinic Hospital, Harrisburg, Pa. Hermann Hospital, Houston, Tex.

Hospital Bureau of Standards and

Supplies, New York, N. Y. Hospital for Children and Training School for Nurses, San Francisco,

Calif. for Joint Diseases, Hospital New

York, N. Y. Hospital Import Corporation, New

York, N. Y. Hospital Management, Chicago, Ill.

(in principle). Hospital of St. Barnabas, Newark,

N. J. Hospital of the Good Samaritan, Los

Angeles, Calif. Hospital of the University of Penn-

sylvania, Philadelphia, Pa.

Hurley Hospital, Flint, Mich. Indiana State Soldiers' Home Hospital, La Fayette, Ind.

Indiana University School of Medicine and Hospitals, Indianapolis, Ind.

Institution for Feeble Minded, Columbus, Ohio. Iowa Training School for Boys, El-

dora, Iowa.

Jamison Sample Co., New York, N. Y. Jefferson Davis Hospital, Houston,

Jewish Hospital, Cincinnati, Ohio. Jewish Memorial Hospital, New York,

Justice Drug Co., Greensboro, N. C. Knoxville General Hospital, Knoxville, Tenn.

Lankenau Hospital, The, Philadelphia, Pa.

Los Angeles County General Hospital, The, Los Angeles, Calif. (in principle).

Louisville City Hospital, Louisville, Ky.

Lutheran Hospital, St. Louis, Mo. Madison General Hospital, Madison, Wis.

Mary Day Nursery and Children's Hospital, The, Akron, Ohio.

Massillon Rubber Co., The, Massillon, Ohio.

McKesson-Western Wholesale Drug Co. (Ltd.), Los Angeles, Calif.

Memorial Hospital, The, Pawtucket, R. I.

Memorial Hospital, The, Worcester, Mass.

Mercer Hospital, Trenton, N. J.

Mercy Hospital, Wilkes-Barre, Pa. Methodist Hospital of Southern California, Los Angeles, Calif.

Michigan Farm Colony for Epileptics, Wahjamega, Mich.

Michigan State Administration Board, Medical Supply Depot, Lansing, Mich.

Miller Drug Sundry Co., Baltimore, Md. (in principle).

Miller Glove Co., Massillon, Ohio. Miller Rubber Products Co. (division of the B. F. Goodrich Co.), Akron, Ohio.

Misericordia Hospital, Philadelphia, Pa.

Montana Deaconess Hospital, Great Falls, Mont.

Montefiore Hospital, Pittsburgh, Pa. Morningside Hospital, Tulsa, Okla. Morristown Memorial Hospital, The, Morristown, N. J.

Mueller & Co., V., Chicago, Ill.

Nebraska Institution for Minded, Beatrice Nebr.

New England Sanitarium and Hospital, Melrose P. O., Stoneham, Mass. New Rochelle Hospital, New Rochelle,

N. Y. New York Homeopathic Medical College and Flower Hospital, New York,

N. Y. New York Hospital, New York, N. Y. New York Post Graduate Hospital,

New York, N. Y. Niagara Falls Memorial Hospital,

Niagara Falls, N. Y. North Dakota State Hospital, James-

town, N. Dak. Northern Wisconsin Colony and Train-

ing School, Chippewa Falls, Wis. Oak Park Hospital and School for

Nurses, Oak Park, Ill. Oklahoma State University Hospital

Crippled Children's Hospital, Oklahoma City, Okla.

Ohio Valley General Hospital, Wheeling, W. Va.

Orthopædic Hospital-School, Los Angeles, Calif.

Packer Hospital, Robert, Sayre, Pa. Paterson General Hospital, Paterson, N. J.

Patton State Hospital, Patton, Calif. Pennsylvania Hospital, Philadelphia, Pa.

People's Hospital Co., Akron, Ohio. Peoples Hospital, New York, N. Y. Peralta Hospital, Oakland, Calif.

Physicians' Supply Company of Philadelphia, The, Philadelphia, Pa. Piedmont Hospital, Atlanta, Ga.

Pioneer Rubber Co., The, Willard, Ohio. Pownal State School, Pownal, Me. Presbyterian Hospital of the City of

Chicago, The, Chicago, Ill.

Preston School of Industry Hospital, Ione. Calif.

Reading Hospital, The, West Reading,

Receiving Hospital, Detroit, Mich. Research Hospital, Kansas City, Mo. Retreat Mental Hospital, Retreat, Pa. Rhode Island State Public Welfare Commission, Howard, R. I.

Riverside County Hospital, Arlington,

Calif.

Rochester General Hospital, Rochester, Pa.

Rockefeller Institute for Medical Research, The, New York, N. Y.

Ross (Inc.), Will, Milwaukee, Wis. Saginaw General Hospital, Saginaw, Mich.

St. Elizabeths Hospital, Covington, Ky. John's Hospital of the Church Charity Foundation of Long Island, Brooklyn, N. Y.

Louis Children's Hospital, Louis, Mo.

St. Luke's Hospital, Aberdeen, S. Dak. St. Luke's Hospital, Bethlehem, Pa.

St. Luke's Hospital, Boise, Idaho. St. Luke's Hospital, Cleveland, Ohio. St. Luke's Hospital, Utica, N. Y. St. Luke's Hospital of Newburgh,

N. Y., Newburgh, N. Y.

Santa Barbara Cottage Hospital, Santa Barbara, Calif.

Scranton State Hospital, Scranton, Pa.

Seaside Hospital, Long Beach (Ltd.), Long Beach, Calif.

Seattle Department of Health and Sanitation, The City of, Seattle, Wash.

Smith-Faus Drug Co., Salt Lake City. Utah.

Speed, Kellogg, M. D., Chicago, Ill. Springfield City Hospital, Springfield, Ohio.

Springfield Hospital, The, Springfield, Mass.

Stanford University Hospitals, Francisco, Calif.

Strong Memorial Hospital, Rochester, N. Y.

Suburban General Hospital, Bellevue,

Sutter Hospital, Sacramento, Calif. Sydenham Hospital, New York, N. Y. Toledo Hospital, Toledo, Ohio. Touro Infirmary, New Orleans, La.

Truesdale Hospital (Inc.), The, Fall

River, Mass. Union Hospital, Terre Haute, Ind. United States Rubber Co., Providence,

Universal Hospital Supply Co., Chi-

cago, Ill.

University Hospital, Augusta, Ga. University Hospital, Baltimore, Md. University Hospital, The, Cleveland, Ohio.

University of Colorado School Medicine and Hospitals, Denver, Colo.

University of California Hospital, San Francisco, Calif.

University of Pennsylvania, Philadelphia, Pa.

Washington County Hospital, Hagerstown, Md

Waterbury Hospital, Waterbury, Conn. Wesley Memorial Hospital, Chicago, Ill.

West Baltimore General (Inc.), Baltimore, Md.

Westwood Hospital, Westwood, Calif. Wilson Rubber Co., The, Canton, Ohio. Woonsocket Hospital, Woonsocket, R. I.

### GOVERNMENT

Interior, Department of, Washington, D. C.

Treasury Department, Washington. D. C.

United States Marine Hospital, San Francisco, Calif.

United States Soldiers' Home Hospital, Washington, D. C.

Veterans' Administration Home, Johnson City, Tenn.

Administration Veterans' Hospital. Marion. Ind.

St. Elizabeths Hospital, Washington, D. C.

Freedman's Washington, Hospital, D. C.

Station Hospital, Fort Benning, Ga. Veterans' Administration, Washington, D. C.

War Department, Washington, D. C.

## COMMERCIAL STANDARDS

CS No. CS No. 20-30. Staple vitreous china plumbing fix-0-30. The commercial standards service and its value to business. tures. 21-30. Interchar 22-30. Builders' 1-32. Clinical thermometers. (First Interchangeable ground glass joints. vision.) hardware (nontemplate). 22-30. Buttuers 23-30. Feldspar. 24-30. Standard screw threads. 25-30. Special screw threads. 26-30. Aromatic red cedar closet lining. 27-30. Plate glass mirrors. 2-30. Mopsticks. 3-28. Stoddard solvent. 4-29. Staple porcelain (all-clay) ing fixtures. plumb--29. Steel pipe nipples. 28-32. Cotton fabric tents, tarpaulins, and 6-31. Wrought-iron pipe nipples. (First covers. 29-31. Staple seats for water-closet bowls. 30-31. Colors for sanitary ware. 31-31. Red cedar shingles. 32-31. Cotton cloth for rubber and pyroxyrevision.) 7-29. Standard weight malleable iron or steel screwed unions. 8-30. Plain and thread plug and ring gage lin coating. blanks. 33-32. Knit underwear (exclusive rayon).
34-31. Bag, case, and strap leather.
35-31. Plywood (hardwood and eastern red 9-29. Builders' template hardware. 10-29. Brass pipe nipples. 11-29. Regain of mercerized cotton yarns. 12-29. Domestic and industrial fuel oils. 13-30. Dress patterns. 14-31. Boys' blouses, button-on waists, cedar). 36-31. Fourdrinier wire cloth.
37-31. Steel bone plates and screws.
38-32. Hospital rubber sheeting.
39-32. Wool and part wool blankets. (In preparation.)
40-32. Surgeons' rubber gloves.
41-32. Surgeons' latex gloves.
42-32. Fiber insulating board (in preparation.) shirts, and junior shirts. 15-29. Men's pajamas. 16-29. Wall paper. 17-32. Diamond core drill fittings. (First revision.)
18–29. Hickory golf shafts.
19–32. Foundry patterns of wood. tion).

Notice.—Those interested in commercial standards with a view toward accepting them as a basis of every-day practice in their industry, may secure copies of the above standards, while the supply lasts, by addressing the Division of Trade Standards, Bureau of Standards, Washington, D. C.