

COMMERCIAL STANDARD CS206-57

**Solvent Welded (SWP Size)
Cellulose-Acetate Butyrate Pipe**

**A recorded
voluntary standard of the
trade published by
the U. S. Department
of Commerce**



**For sale by the Superintendent of Documents
U. S. Government Printing Office, Washington 25, D. C. Price 5 cents**

U. S. DEPARTMENT OF COMMERCE

SINCLAIR WEEKS, Secretary

Issued by

OFFICE OF TECHNICAL SERVICES

Commodity Standards Division

With the cooperation of
NATIONAL BUREAU OF STANDARDS

COMMERCIAL STANDARDS

Commercial Standards are developed by manufacturers, distributors, and users in cooperation with the Commodity Standards Division of the Office of Technical Services, and with the National Bureau of Standards. Their purpose is to establish standard methods of test, rating, certification, and labeling of manufactured commodities, and to provide uniform bases for fair competition.

The adoption and use of a Commercial Standard is voluntary. However, when reference to a Commercial Standard is made in contracts, labels, invoices, or advertising literature, the provisions of the standard are enforceable through usual legal channels as a part of the sales contract.

Commercial Standards originate with the proponent industry. The sponsors may be manufacturers, distributors, or users of the specific product. One of these three elements of industry submits to the Commodity Standards Division the necessary data to be used as the basis for developing a standard of practice. The Division, by means of assembled conferences or letter referenda, or both, assists the sponsor group in arriving at a tentative standard of practice and thereafter refers it to the other elements of the same industry for approval or for constructive criticism that will be helpful in making any necessary adjustments. The regular procedure of the Division assures continuous servicing of each Commercial Standard through review and revision, whenever, in the opinion of the industry, changing conditions warrant such action.

SIMPLIFIED PRACTICE RECOMMENDATIONS

Under a similar procedure the Commodity Standards Division cooperates with industries in the establishment of Simplified Practice Recommendations. Their purpose is to eliminate avoidable waste through the establishment of standards of practice for sizes, dimensions, varieties, or other characteristics of specific products; to simplify packaging practices; and to establish simplified methods of performing specific tasks.

Dimensions and Tolerances for Solvent Welded (SWP Size) Cellulose-Acetate Butyrate Pipe

[Effective January 10, 1957]

1. PURPOSE

1.1 The purpose of this Commercial Standard is to establish, on a national basis, standard dimensions and tolerances for SWP¹ size cellulose-acetate butyrate pipe (hereinafter referred to as butyrate pipe), and to promote understanding between producers and users.

2. SCOPE

2.1 The requirements of this standard are applicable to rigid, SWP size butyrate pipe made of cellulose-acetate butyrate conforming to type I, grade MH-3, molding compound specified in ASTM Designation D 707-55T (Eastman Chemical Co. cellulose acetate butyrate formulations 205-E, 265-E, 435-E, 460-E, or equivalent). It covers dimensions and tolerances for outside diameters and wall thicknesses for nine nominal sizes of pipe, and includes minimum and nominal weights per 100-foot lengths, and procedure for inspection. A suggested form for declaring compliance with the standard is also given.

3. REQUIREMENTS

3.1 *Dimensions, tolerances, and weights per 100 feet.*—Dimensions, tolerances, and weights per 100 feet of pipe conforming to this standard are given in table 1.

TABLE 1. *Dimensions, tolerances, and weights per 100 feet of butyrate pipe*

Nominal size	Outside diameter	Wall thickness	Weight per 100 feet	
			Minimum	Nominal
<i>Inches</i>	<i>Inches</i>	<i>Inch</i>	<i>Pounds</i>	<i>Pounds</i>
3/8	0.600 +0.010 - .000	0.050 ±0.003	4.2	4.5
3/4	.855 +.010 - .000	.053 ±.003	6.5	6.9
1	1.140 +.010 - .000	.070 ±.004	11.5	12.3
1 1/4	1.420 +.010 - .000	.085 ±.004	17.5	18.5
1 1/2	1.730 +.010 - .000	.115 ±.005	28.9	30.4
2	2.250 +.010 - .000	.125 ±.007	40.8	43.4
2 1/2	2.570 +.010 - .000	.125 ±.007	46.9	50.0
3	3.250 +.015 - .005	.125 ±.007	59.8	63.8
4	4.100 +.018 - .007	.150 ±.010	89.7	96.8

¹ Solvent welded pipe, intended for use where pipe is joined to fittings by solvent welding.

4. INSPECTION PROCEDURE

4.1 Any measured length of pipe may be checked for dimensions and weight. Measurements shall be made at a temperature of $23^{\circ} \pm 1^{\circ} \text{ C}$ ($73.4^{\circ} \pm 1.8^{\circ} \text{ F}$) by a micrometer accurate to ± 0.001 inch, a balance accurate to $\pm \frac{1}{10}$ of 1 percent and a tapered plug which can be inserted into the pipe for purposes of rounding it out to facilitate measuring the outside diameter of the pipe. Pipe shall be within the size and weight limitations given herein; otherwise, it shall be subject to rejection.

5. IDENTIFICATION OR LABELING

5.1 In order that purchasers may be assured that the dimensions of the rigid SWP size butyrate pipe actually comply with all requirements of this Commercial Standard, it is recommended that manufacturers include the following statement in conjunction with their name and address on labels, invoices, sales literature, etc.:

The dimensions of this SWP size cellulose-acetate butyrate pipe are in accordance with Commercial Standard CS206-57, as developed by the trade under the procedure of the Commodity Standards Division, and issued by the U. S. Department of Commerce.

6. EFFECTIVE DATE

6.1 Having met all procedural requirements of the Commodity Standards Division, including approval by the acceptors hereinafter listed, this Commercial Standard was issued by the United States Department of Commerce, effective from January 10, 1957.

EDWIN W. ELY,
Chief, Commodity Standards Division.

HISTORY OF PROJECT

Under date of November 8, 1955, the Society of the Plastics Industry, Inc., requested the cooperation of the Commodity Standards Division, Office of Technical Services, in the establishment of a Commercial Standard for dimensions and tolerances for solvent welded (SWP size) cellulose-acetate butyrate pipe, and submitted a proposed draft of a specification prepared by the Thermoplastics Pipe Division of the Society.

After a few minor adjustments, based on comments received from other interests, had been made, a recommended Commercial Standard was circulated to the trade on June 18, 1956, for written acceptance.

On December 10, 1956, the Commodity Standards Division announced that a sufficient number of acceptances had been received to indicate acceptability to those concerned, and to represent a volume of business sufficient to insure successful application of the standard. Accordingly the Commercial Standard, designated CS206-57, became effective beginning January 10, 1957.

Project Manager: F. W. Reynolds, Commodity Standards Division, Office of Technical Services.

Technical Adviser: Dr. Irvin Wolock, Plastics Section, Organic and Fibrous Materials Division, National Bureau of Standards.

STANDING COMMITTEE

The following individuals comprise the membership of the standing committee, which is to review, prior to circulation for acceptance, revisions proposed to keep the standard abreast of progress. Comments concerning the standard and suggestions for revision may be addressed to any member of the committee or to the Commodity Standards Division, Office of Technical Services, United States Department of Commerce, which acts as secretary for the committee.

JOHN H. SCHROEDER, Jr., Crescent Plastics, Inc., 955 Diamond Ave., Evansville, Ind. (Chairman).

JOHN BUSADA, Busada Manufacturing Corp., 58-99 54th St., Maspeth, L. I., N. Y.

WILLIAM L. HESS, Plastic Pipe & Tube Division of Anesite Co., 224 South Milpas St., Santa Barbara, Calif.

E. W. BREESE, Hajoca Corp., Philadelphia, Pa.

GUY CORFIELD, Southern California Gas Co., 810 South Flower St., Los Angeles, Calif.

G. F. POE, The Ohio Oil Co., Findlay, Ohio.

ACCEPTORS

The organizations listed below have individually accepted this standard for use as far as practicable in the production, distribution, testing, purchase, or use of solvent welded cellulose-acetate butyrate pipe. In accepting the standard they reserved the right to depart from it as they individually deem advisable. It is expected that products which actually comply with the requirements of this standard in all respects will be regularly identified or labeled as conforming thereto, and that purchasers will require such specific evidence of conformity.

ASSOCIATIONS

(General Support)

Mechanical Contractors Association of America, Inc., Charlotte, N. C.
Society of the Plastics Industry, Inc., New York, N. Y.

FIRMS

American Brass & Iron Foundry, Plastics Division, Newark, Calif.
American Plastic Pipe Corp., Paramount, Calif.
Atlas Mineral Products Co., Mertztown, Pa.
Collins, Caldwell & Dague, Paramount, Calif.
Crane Co., Chicago, Ill.
Crescent Plastics, Inc., Evansville, Ind.
Dow Chemical Co., Midland, Mich.
Eastman Chemical Products, Inc., Kingsport, Tenn.
Eastman Kodak Co., Rochester, N. Y.
Easton Plastic Products Co., Inc., Easton, Pa.
Eclipse Plastic Industries, Inc., Sarasota, Fla.
Goodrich, B. F., Co., Marietta, Ohio
Hajoca Corp., Philadelphia, Pa.

Hardware & Supply Co., Akron, Ohio
Interwest Merchandising Co., Los Angeles, Calif.
Johnson Plastic Corp., Chagrin Falls, Ohio
Klenk, Ludwig, Eisengrosshandlung, Heilbronn, West Germany
Meyer, F. & J., New York, N. Y.
Mueller Co., Decatur, Ill.
Ohio Oil Co., Findlay, Ohio
Patzig Testing Laboratories, Des Moines, Iowa
Pittsburgh Gage & Supply Co., Pittsburgh, Pa.
Plastex Co., Columbus, Ohio
Plastic Pipe & Tube Division of Anesite Co., Santa Barbara, Calif.
Republic Steel Corp., Cleveland, Ohio
Skyline Plastic Pipe, Inc., Titusville, Pa.
Southern Machinery Co., El Cajon, Calif.
Southwestern Plastic Pipe Co., Mineral Wells, Tex.
Triangle Conduit & Cable Co., Inc., New Brunswick, N. J.
Union Oil Company of California, Los Angeles, Calif.
Western Plastics Corp., Hastings, Nebr.
Western Plastics Corp., Tacoma, Wash.
Yardley Plastics Co., Columbus, Ohio

Other Commercial Standards

A list of all effective Commercial Standards may be obtained from the Commodity Standards Division, Office of Technical Services, U. S. Department of Commerce, Washington 25, D. C. These publications may be purchased at the prices indicated on the list, which also includes directions for ordering copies.

ACCEPTANCE OF COMMERCIAL STANDARD

If acceptance has not previously been filed, this sheet properly filled in, signed, and returned will provide for the recording of your organization as an acceptor of this Commercial Standard.

Date_____

Commodity Standards Division
Office of Technical Services
U. S. Department of Commerce
Washington 25, D. C.

Gentlemen :

We believe that Commercial Standard CS206-57 constitutes a useful standard of practice, and we individually plan to utilize it as far as practicable in the

production¹ distribution¹ purchase¹ testing¹

of solvent welded cellulose-acetate butyrate pipe. We reserve the right to depart from it as we deem advisable.

We understand, of course, that only those products which actually comply with the standard in all respects can be identified or labeled as conforming thereto.

(Cut on this line)

Signature of authorized officer_____ (In ink)

(Kindly typewrite or print the following lines)

Name and title of above officer_____

Organization_____ (Fill in exactly as it should be listed)

Street address_____

City, zone, and State_____

¹ Underscore the one that applies. Please see that separate acceptances are filed for all subsidiary companies and affiliates which should be listed separately as acceptors. In the case of related interests, trade associations, trade papers, etc., desiring to record their general support, the words "General support" should be added after the signature.

TO THE ACCEPTOR

The following statements answer the usual questions arising in connection with the acceptance and its significance:

1. *Enforcement.*—Commercial Standards are commodity specifications voluntarily established by mutual consent of those concerned. They present a common basis of understanding between the producer, distributor, and consumer and should not be confused with any plan of governmental regulation or control. The United States Department of Commerce has no regulatory power in the enforcement of their provisions, but since they represent the will of the interested groups as a whole, their provisions through usage soon become established as trade customs, and are made effective through incorporation into sales contracts by means of labels, invoices, and the like.

2. *The acceptor's responsibility.*—The purpose of Commercial Standards is to establish, for specific commodities, nationally recognized grades or consumer criteria, and the benefits therefrom will be measurable in direct proportion to their general recognition and actual use. Instances will occur when it may be necessary to deviate from the standard and the signing of an acceptance does not preclude such departures; however, such signature indicates an intention to follow the standard, where practicable, in the production, distribution, or consumption of the article in question.

3. *The Department's responsibility.*—The major function performed by the Department of Commerce in the voluntary establishment of Commercial Standards on a nationwide basis is fourfold: first, to act as an unbiased coordinator to bring all interested parties together for the mutually satisfactory adjustment of trade standards; second, to supply such assistance and advice as past experience with similar programs may suggest; third, to canvass and record the extent of acceptance and adherence to the standard on the part of producers, distributors, and users; and fourth, after acceptance, to publish and promulgate the standard for the information and guidance of buyers and sellers of the commodity.

4. *Announcement and promulgation.*—When the standard has been endorsed by a satisfactory majority of production or consumption in the absence of active, valid opposition, the success of the project is announced. If, however, in the opinion of the standing committee or of the Department of Commerce, the support of any standard is inadequate, the right is reserved to withhold promulgation and publication.