

COMMERCIAL STANDARD **CS226-59**

**Laminated-Wall, Bituminized-Fibre
Drain And Sewer Pipe**

WITHDRAWN

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



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U.S. DEPARTMENT OF COMMERCE

Frederick H. Mueller, Secretary

OFFICE OF TECHNICAL SERVICES

Commodity Standards Division

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, Business and Defense Services Administration, and with the National Bureau of Standards. Their purpose is to establish quality criteria, 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.

Laminated-Wall, Bituminized-Fibre Drain and Sewer Pipe

[Effective July 15, 1959]

1. PURPOSE

1.1 The purpose of this Commercial Standard is to establish a nationally recognized standard for the information and guidance of producers, distributors, and consumers; to promote understanding between buyers and sellers; to provide a basis for fair competition among producers; to give the consumer confidence in the quality of these products; and to provide a means of identifying products conforming to this standard.

2. SCOPE

2.1 This standard covers uses, general requirements, dimensions, physical and chemical properties, and methods of testing of laminated-wall, bituminized-fibre drain and sewer pipe (including straight couplings and 5° angle couplings), in diameters ranging from 2 to 8 inches and in lengths of 4 feet or more. It also establishes a uniform method of guaranteeing compliance with the standard. Should fittings not covered by this standard be required, they may be offered as conforming to this standard when an equivalent test section of the material used in the fittings will meet the specification requirements for pipe, as covered in paragraphs 5.3 through 5.14 and 6.3 of this standard. Cast iron fittings shall conform to applicable sections of Standard Specifications for Cast Iron Soil Pipe and Fittings, ASTM Designation; A74-42,¹ or American Standard Specification ASA No. A40.1-1935, Cast Iron Soil Pipe and Fittings.²

3. USES

3.1 The requirements of this standard are intended to provide non-pressure pipe suitable for use in conducting liquids and for drainage where tight joints are necessary, and where resistance to corrosion, erosion, and disintegration is required, such as the following:

- a. House connections to sewers and septic tanks.
- b. Farm drainage and low-head irrigation conductor pipe.
- c. Downspouts and storm drains.
- d. Salt water disposal in oil well country.
- e. Industrial waste drainage, and other uses outside of buildings, as indicated by pipe characteristics.

¹ Available from American Society for Testing Materials, 1916 Race Street, Philadelphia, Pa.

² Available from American Standards Association, 70 East 45th Street, New York 17, N.Y.

4. GENERAL REQUIREMENTS

4.1 *Material.*—Pipe and couplings shall be composed of a coal tar pitch bituminous compound reinforced with a multi-ply laminated convolute or spiral fibrous structure, such laminations being adhered with a water-resistant adhesive. The fibrous material shall be thoroughly impregnated. The wall of the pipe shall be dense and shall have a smooth interior surface free from obstructions and rough or flaky areas. Bends, fittings, and adapters shall be of the same material as the pipe, or of a material having equal or better physical and chemical properties.

4.2 *Method of joining.*

4.2.1 Pipe and bends shall be provided with accurately machined or molded taper joints, and a taper sleeve coupling shall be provided for each length of pipe and for each bend. All joints for a given size shall be interchangeable and shall be watertight when properly assembled, as determined by test procedure, paragraph 6.3. Dimensions of the joint are given in table 1 and figure 1. (A hand operated tapering tool can be obtained for cutting joints on the job when necessary.)

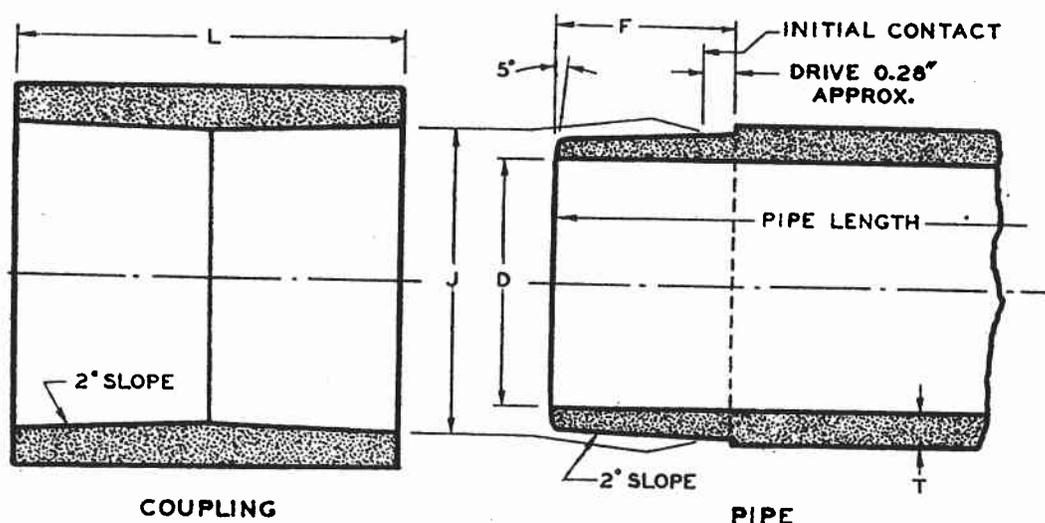


FIGURE 1. Taper joint, pipe, and coupling.

TABLE 1.—Dimensions of pipe and couplings (see fig. 1)

Nominal size (in.)	2	3	4	5	6	8
Minimum inside diameter (inches), D	2.00	3.00	4.00	5.00	6.00	8.00
Minimum wall thickness (inches), T	0.25	0.28	0.32	0.41	0.46	0.57
Minimum length of coupling (inches), L	2.90	3.42	3.92	3.92	3.92	5.00
Diameter inside large end of coupling and at point of initial contact on pipe taper (inches), J ¹	2.470	3.448	4.493	5.726	6.782	9.110
Length of pipe joint (inches), F ²	1.43	1.69	1.94	1.94	1.94	2.48

¹ Joint dimension and taper are checked by gaging at time and place of manufacture.

² Pipe lengths are given in pars. 5.1.1 and 5.1.2.

4.2.2 *Taper.*—The slope of the taper in both pipe and couplings shall be 2° (4° included angle).

4.3 *Bore.*—The bore of the pipe and couplings shall be circular in cross section when tested in accordance with paragraph 6.4.

5. DETAIL REQUIREMENTS

5.1 *Dimensions* of pipe and couplings shall be as specified in figure and table 1.

5.1.1 Standard lengths shall be 4 feet or more, depending on the manufacturer's standard practice. Length measurements shall include the tapered ends of the pipe, and a tolerance of ± 1 inch shall be allowed in ordered lengths.

5.1.2 In any one shipment, up to 20 percent of the specified footage may be supplied in lengths shorter than the manufacturer's standard. Not more than two different short lengths shall be allowed in any one shipment, and these short lengths shall differ from standard lengths only in multiples of $\frac{1}{2}$ foot. No lengths shorter than 4 feet shall be furnished.

5.2 *Dimensions of 5° angle couplings.*—These dimensions are shown in figure 2 and table 2.

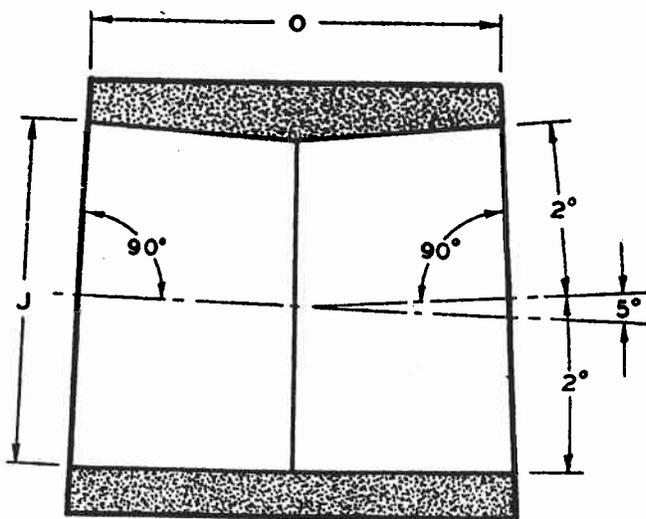


FIGURE 2. Five-degree angle coupling.

TABLE 2.—Dimensions of 5° angle couplings (inches) (see fig. 2)

Nominal size (in.)	2	3	4	5	6	8
(min.)	2.980	3.500	4.000	4.000	4.000	5.000
	2.470	3.448	4.493	5.726	6.782	9.110

3 *Chemical resistance.*—Bituminized-fibre pipe and fittings shall be resistant to corrosive soils and to the acids, alkalies, salts, and oleum wastes which may occur in raw sewage, as evidenced by compliance with the test described in paragraphs 6.5.1 and 6.5.2. Following the tests the specimens shall show no evidence of softening or integration.

4 *Water absorption.*—Pipe shall not exceed a gain in weight of 5 percent when tested in accordance with paragraph 6.6.

5 *Resistance to boiling water.*—Pipe shall show resistance to boiling water as determined by test procedure, paragraph 6.7. Upon removal the specimens shall show no significant evidence of disintegration or separation into laminations. In the crushing test that fol-

lows, the specimens shall retain at least 90 percent of the dry crushing strength specified in table 3.

5.6 *Heat resistance.*—Pipe shall show resistance to heat as determined by test procedure, paragraph 6.8. As a result of this test, there shall be no appreciable exudation of pitch or flattening of the pipe.

5.7 *Resistance to flattening.*—The pipe shall have resistance to flattening when loaded and subjected to heat. Decrease in diameter at point of application of load shall not exceed 2 percent when determined in accordance with paragraph 6.9.

5.8 *Dry and wet crushing strength.*—The pipe shall have crushing strength not less than that specified in table 3 when tested in accordance with paragraphs 6.10 and 6.11

TABLE 3.—Crushing strength (ultimate)

Nominal pipe size (in.)	2	3	4	5	6	8
Crushing strength (lb./foot).....	1, 250	1, 250	1, 250	1, 450	1, 450	1, 800

5.9 *Beam strength.*—The pipe shall have beam strength not less than that specified in table 4, when tested in accordance with paragraph 6.12.

TABLE 4.—Beam strength (ultimate)

Nominal pipe size (in.)	2	3	4	5	6	8
Beam strength (lb.).....	1, 000	1, 000	2, 200	4, 200	4, 400	7, 000

5.10 *Crushing strength of couplings.*—The crushing strength of couplings, when tested in accordance with paragraph 6.13, shall be not less than those given in table 5.

TABLE 5.—Crushing strengths of couplings

Nominal size (in.)	2	3	4	5	6	8
Crushing strength (lb. minimum)...	300	350	420	480	480	750

5.11 *Axial compression crushing strength.*—The pipe shall have axial crushing strength not less than that specified in table 6 when tested in accordance with paragraph 6.14.

TABLE 6.—Axial crushing strength (ultimate)

Nominal pipe size (in.)	2	3	4	5	6	8
Crushing strength (lbs.).....	6, 000	10, 000	13, 000	20, 000	30, 000	39, 000

5.12 *Surge pressure strength.*—A specimen of pipe shall be subjected to internal hydrostatic surge pressure in accordance with paragraph 6.15 and as shown in figure 6. The specimen shall exhibit no indication of bursting or leakage of water through the walls, and shall not rupture at a pressure less than specified in table 7.

TABLE 7.—*Surge pressure strength*

Nominal pipe size (in.)	2	3	4	5	6	8
Surge pressure minimum (p.s.i.).....	600	600	600	600	500	500

5.13 *Hydrostatic pressure strength*.—A specimen of pipe shall be subjected to a minimum internal hydrostatic pressure as specified in table 8 and paragraph 6.16 as shown in figure 6. The specimen shall exhibit no indication of bursting or leakage of water through the walls.

TABLE 8.—*Hydrostatic pressure strength*

Nominal pipe size (in.)	2	3	4	5	6	8
Hydrostatic pressure (p.s.i.).....	350	350	350	350	300	300

5.14 *Longitudinal permeability seepage*.—The pipe shall be tested for longitudinal permeability of the pipe wall as described in paragraph 6.17. When so tested, no appreciable amount of water shall emerge from the ends of the pipe.

6. SAMPLING AND TEST PROCEDURES

6.1 *Method of sampling*.—Samples to be tested shall be selected at random from manufacturer's stock or from shipment. Undamaged samples only are to be used. Couplings shall be tested for crushing strength only (see pars. 5.10 and 6.13). Samples of pipe with couplings shall be selected for tests in accordance with the following procedure, and compliance of these samples shall be accepted as evidence of compliance of the entire lot. Three samples shall be selected. If all three samples meet requirements, the lot shall be accepted. If two samples fail to meet requirements, the lot shall be rejected. If one sample fails to meet requirements, six additional samples shall be selected. If one or more of the six additional samples fail to meet requirements, the lot shall be rejected.

6.2 *Material requirements (see par. 4.1)*.—These requirements shall be determined by visual inspection of specimens cut from pipe.

6.3 *Joint tightness*.—One 10-foot assembly of pipe and one short length (approximately 6 to 12 inches) shall be joined with a taper sleeve coupling until the pipe joints shoulder on the coupling. The whole assembly shall be tested in vertical position with the bottom end sealed by any suitable method, and with the 10-foot assembly uppermost. The pipe shall be filled with water to the top and shall be loosely covered to prevent evaporation, thus maintaining the lower joint under a 10-foot head of water. Over a period of 24 hours there shall be no appreciable drop in the water level and no evidence of leakage at the joint.

6.4 *Bore and length dimensions*.—Samples of pipe shall be calipered for diameter and wall thickness and measured for length to determine compliance with dimensional requirements.

6.5 *Chemical resistance.*

6.5.1 Six-inch lengths of pipe shall be immersed for 30 days in solutions of 0.1 normal sulfuric acid, sodium carbonate, and sodium sulfate.

6.5.2 *Kerosene test.*—A 12-inch length of pipe (6-inch length optional) shall be cleanly sawed from the pipe and immersed in at least 1 gallon of clean, high-aniline-point kerosene at 73° F. $\pm 3\frac{1}{2}^\circ$ for 10 days. The length of pipe shall be removed, wiped off, and tested to meet the dry crushing strength requirements of paragraph 5.8.

6.6 *Water absorption.*—Twelve-inch lengths of pipe (6-inch lengths optional) shall be cleanly sawed from the pipe, wiped clean and dry, and accurately weighed, then immersed in water at 73° F. $\pm 3\frac{1}{2}^\circ$ for 48 hours. The specimens shall then be removed, wiped clean and dry, and immediately reweighed. Gain in weight shall be expressed as a percentage of the original weight. (These same specimens may then be used in the test for wet crushing strength, pars. 5.8 and 6.11.)

6.7 *Resistance to boiling water.*—Twelve-inch lengths of pipe (6-inch lengths optional) shall be cleanly sawed from pipe and then immersed in boiling water for 6 hours. They shall then be placed in cold water at 73° F. $\pm 3\frac{1}{2}^\circ$ for 3 hours (or they may be conditioned overnight in air at 73° F. $\pm 3\frac{1}{2}^\circ$), and the crushing test described in paragraph 6.10 made upon them. They shall retain at least 90 percent of the dry crushing strength specified in table 3.

6.8 *Heat resistance.*—Any convenient length of pipe shall be laid horizontally on a flat surface in an oven maintained at 180° F. $\pm 2^\circ$ for 8 hours.

6.9 *Resistance to flattening.*—Two 3-inch lengths shall be accurately and cleanly sawed from the pipe and accurately measured for inside diameter, and the points at which measurements are taken shall be marked for identification. These two pieces shall be placed in an oven on a common flat base with their axes parallel, and with the measured diameter in a vertical direction (see fig. 3). They shall be bridged symmetrically with a flat plate, and the plate shall be symmetrically loaded to produce a total load, or load per piece, according to table 9.

The oven shall be maintained at 150° F. $\pm 2^\circ$ for 48 hours. At the end of 48 hours, the two pieces shall be unloaded and removed from the oven and allowed to cool for at least 1 hour at 73° F. $\pm 3\frac{1}{2}^\circ$ in air, after which the inside diameters shall again be measured. Change in diameter shall be expressed as a percentage of the original diameter.

TABLE 9.—*Flattening loads*

Nominal pipe size (in.)	2	3	4	5	6	8
Total load (lbs.).....	55	55	55	65	65	80
Load per piece (lbs.).....	27.5	27.5	27.5	32.5	32.5	40
Load (lb. per ft.).....	110	110	110	130	130	160

6.10 *Dry crushing strength.*—A 12-inch length (6-inch optional) not including a tapered end, cleanly sawed from each test sample, shall be kept in air at a temperature of 73° F. $\pm 3\frac{1}{2}^\circ$ for 24 hours. The specimen shall be laid horizontally between three-edge bearings in a testing machine having a head speed of 0.5 inch per minute.

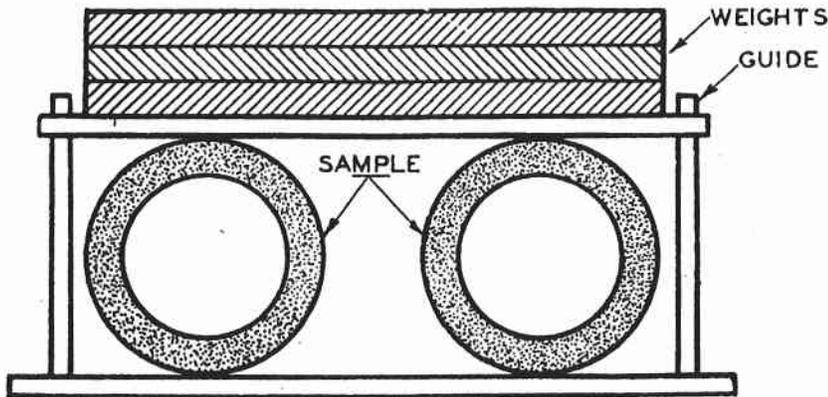
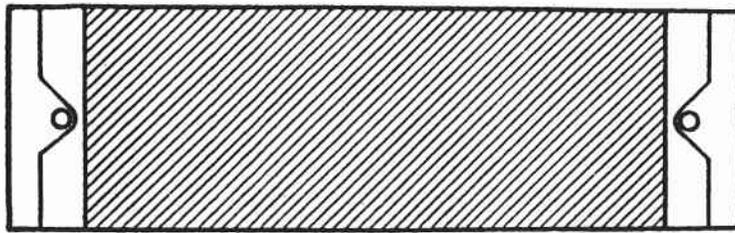


FIGURE 3. Flattening test.

The bearings shall conform to figure 4. Test loadings obtained at rupture, in pounds per linear foot, shall meet the requirements of paragraph 5.8.

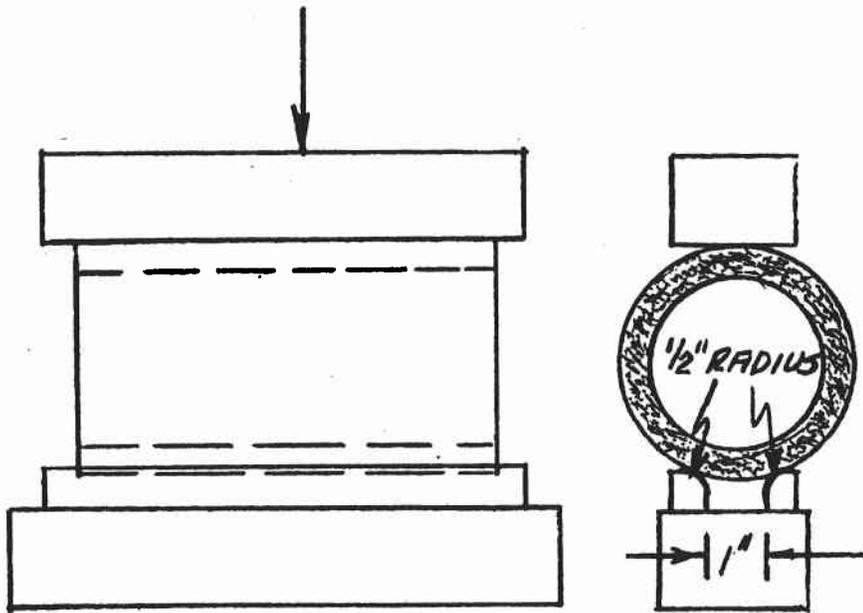


FIGURE 4. Three-edge bearing.

6.11 *Wet crushing strength.*—Specimens like those used for tests in paragraph 6.10 shall be kept in water at $73^{\circ}\text{F.} \pm 3\frac{1}{2}^{\circ}$ for 48 hours. (Specimens used for water absorption test, par. 6.6 may be used for this test.) Within $\frac{1}{2}$ hour after removal from the water, they shall be tested in accordance with paragraph 6.10.

6.12 *Beam strength.*—Specimens for this test shall be cleanly sawed from pipe to the lengths given in table 10. These specimens shall be maintained at a temperature of $73^{\circ}\text{F.} \pm 3\frac{1}{2}^{\circ}$ for 24 hours before the test is run. The testing fixture shall consist of V-blocks and a flexible strap for applying load as shown in figure 5, and the test shall be made by a machine having a head speed of 0.5 inch per minute. Spans shall be as given in table 10. Breaking loads in pounds shall be reported.

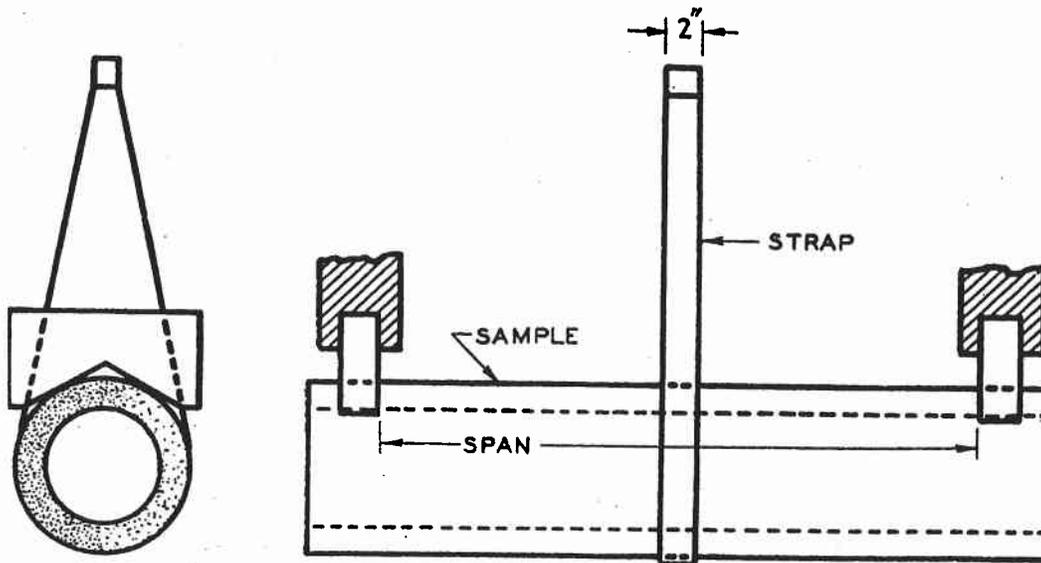


FIGURE 5. Beam test.

TABLE 10.—*Beam strength test specimens*

Nominal pipe size (in.)	2	3	4	5	6	8
Lengths (in.).....	20	30	30	30	42	56
Span (in.).....	12	24	24	24	36	48

6.13 *Crushing strength of couplings.*—The entire coupling shall be tested after being conditioned in air at $73^{\circ}\text{F.} \pm 3\frac{1}{2}^{\circ}$ for 24 hours. Tests for dry strength only are made. Testing machine and operation shall be as described in paragraph 6.10. The load in pounds at rupture of the coupling shall be reported.

6.14 *Axial compression crushing strength.*—A specimen 6 inches long shall be cleanly sawed from the sample of pipe with its end surfaces accurately parallel and shall be kept in air at $73^{\circ}\text{F.} \pm 3\frac{1}{2}^{\circ}$ for 24 hours prior to testing. The specimen shall be placed vertically between flat plates covering the entire cross section of the pipe ends in a testing machine having a head speed of 0.5 inch per minute and crushed; to reduce the effects of unequal loading, a spherical seat shall be employed. The load at rupture shall be reported in pounds.

6.15 *Surge pressure strength.*—A 30-inch length cleanly sawed from the pipe shall be kept in air at $73^{\circ}\text{F.} \pm 3\frac{1}{2}^{\circ}$ for 24 hours. The specimen shall be sealed internally with seals spaced approximately 26 inches apart, end thrust being sustained by central tie rod or rods as necessary. See figure 6. The space between the seals shall be filled

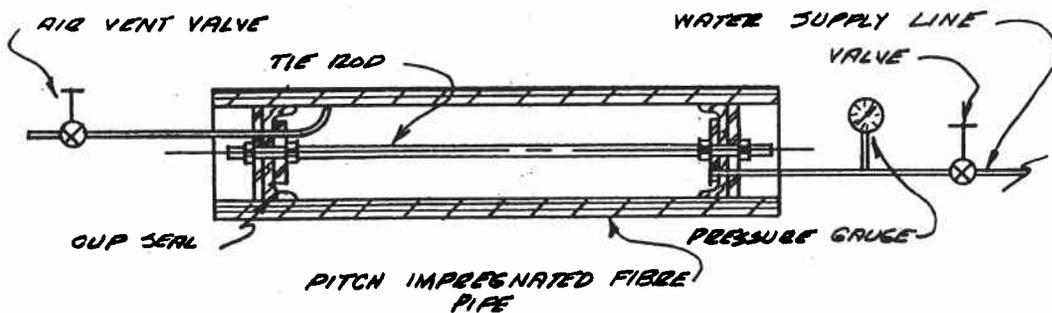


FIGURE 6. Surge and hydrostatic pressure test.

with water at room temperature, all air being removed. The internal water pressure shall be raised at a rate of not less than 100 p.s.i. per second up to or above the specified minimum pressure as shown in table 7. The test must be completed within $\frac{1}{2}$ hour after the water has been introduced to the specimen.

6.16 *Hydrostatic pressure strength.*—A 30-inch length, cleanly sawed from the pipe, shall be kept in air at $73^{\circ}\text{F.} \pm 3\frac{1}{2}^{\circ}$ for 24 hours. The pipe shall be sealed internally with seals approximately 26 inches apart, end thrust being sustained by a central tie rod or rods, as necessary. See figure 6. The space between the seals shall be filled with water at room temperature, all air being removed. The internal water pressure shall be raised at a rate of not less than 100 p.s.i. per second to the pertinent value specified in table 8 and held for 10 minutes.

6.17 *Longitudinal permeability test.*—Two specimens, each 3 feet long, shall be cut from the given sample of pipe and shall have the ends machined for joining with the standard taper coupling. The specimens shall then be joined with a coupling and shall be plugged internally on each side of the joint with a central tie rod or rods and seals as shown in figure 7. The space between the seals shall be filled

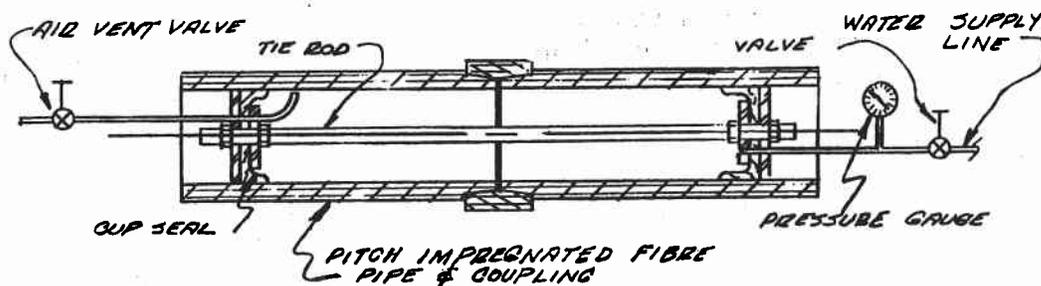


FIGURE 7. Longitudinal permeability test.

with water at room temperature, all air being removed. The pressure of the water between the seals shall then be raised to 5 p.s.i. and shall be held for 1 hour.

7. MARKING OF PRODUCT

7.1 Each length of pipe shall be marked with the name of the manufacturer or his brand name and the number of this Commercial Standard, CS226-59, shall be stamped under the brand. This shall constitute a guaranty of conformance with this standard.

8. IDENTIFICATION

8.1 In order that purchasers may be assured that laminated-wall, bituminized-fibre drain and sewer pipe purchased actually complies 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.:

This laminated-wall, bituminized fibre drain and sewer pipe complies with Commercial Standard CS226-59, as developed by the trade under the procedure of the Commodity Standards Division, and issued by the U.S. Department of Commerce.

8.2 When available space on labels is insufficient for the full statement in legible type, an abbreviated statement, as follows, is recommended:

Complies with CS226-59, as developed by the trade, and issued by the U.S. Department of Commerce.

9. EFFECTIVE DATE

9.1 Having been passed through the regular procedure of the Community Standards Division, and approved by the acceptors hereinafter listed, this Commercial Standard was issued by the U.S. Department of Commerce, effective from July 15, 1959.

EDWIN W. ELY,
Chief, Commodity Standards Division.

10. HISTORY OF PROJECT

In March 1957, a manufacturer of laminated bituminized-fibre pipe proposed a revision of Commercial Standard CS116-54 which would eliminate those portions of the standard referring specifically to homogeneous pipe and others which prevented laminated pipe from meeting the limitations of the standard. Substantiating proof in the way of test data from a recognized commercial laboratory indicated that laminated pipe surpassed all requirements and test of CS116-54.

The proposed revision was submitted to the Standing Committee for CS116-54 and was rejected on the basis that laminated pipe had no history of satisfactory service and that the general public would not recognize the distinction between the two types if both were covered in one standard.

The Commodity Standards Division then called a meeting of all interested organizations in an attempt to resolve the problem. This meeting was held on June 12, 1958, in the main building of the U.S. Department of Commerce. As a result the two branches of the industry agreed to combine their engineering talent in providing a draft of a proposed standard for laminated pipe.

Copies of the proposed standard were distributed in December 1958 to the organizations represented at the June 12 meeting for review and comment. Where practicable, adjustments were made in the proposal in accordance with the comment. The Recommended Commercial Standard was circulated for acceptance on April 21, 1959, and subsequently a cross section of manufacturer, distributor and user interests accepted it. On June 15, 1959, the establishment of the standard, designated Laminated-Wall, Bituminized-Fibre Drain and Sewer Pipe, Commercial Standard CS226-59, effective from July 15, 1959, was announced.

Project Manager: H. A. Bonnet, Commodity Standards Division, Office of Technical Services.

Technical Advisers: Dr. H. R. Snoke and Mr. R. S. Wyly, National Bureau of Standards.

STANDING COMMITTEE

The function of the standing committee is to review, prior to circulation for acceptance, changes proposed to keep the standard abreast of progress. Comments concerning the standard and suggestions for revision may be addressed to the Commodity Standards Division, Office of Technical Services, U.S. Department of Commerce, which acts as secretary for the committee, or to any of its members listed below:

LEWIS H. JENKINS, Jenkins Wholesale Supply Co., Inc., North Wilkesboro, N.C.
DONALD M. PARMELEE, Engineer, Alloway, N. J.
J. B. PLATT, Jr., Stone Paper Tube Co., 900 Franklin Street NE., Washington, D.C.
M. S. PURCEL, Coplan Pipe & Supply Co., Inc., Miami, Fla.
E. S. REID, Manager, Construction Products Division, Sonoco Products Co., Hartsville, S.C.
W. J. SULLIVAN, Southern Heating Company, Raleigh, N.C.
G. D. WILLIAMSON, P.O. Box 609, Yuba City, Calif.
LESTER WINGARD, Wingard Company, P.O. Box 1506, Forth Worth, Tex.

ACCEPTORS

The organizations listed below have individually accepted this standard for use as far as practicable in the production, distribution, purchase, or use of laminated-wall, bituminized-fibre drain and sewer pipe. In accepting this standard they reserve 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)

American Specifications Institute, Chicago, Ill.
National Fibre Can & Tube Association, New York, N.Y.

FIRMS AND OTHER INTERESTS

Atlantic Coast Line Railroad Co., Wilmington, N.C.
Atlas Supply Co., Winston-Salem, N.C.
Blake-Rounds Supply Co., Portland, Maine
Blodgett Supply Co., Inc., Burlington, Vt.
Blue Diamond Co., Dallas, Tex.
Brown Co., Berlin, N.H. (General Support)
Brust & Brust, Milwaukee, Wis.
Burke, W. J., & Co., San Francisco, Calif.
Camlet J. Thomas, Garfield, N.J.
Carolina Power & Light Co., Raleigh, N.C.
Conrad & Cummings, Binghamton, N.Y.
Fall River Steam & Gas Pipe Co., Corp., Fall River, Mass.
Flannagan, Eric G., & Sons, Henderson, N.C.
Fleck Bros. Co., Camden, N.J.
Florida Steel Corp., Tampa, Fla.
Gateway Engineering Co., Chicago, Ill.
Gateway Engineering Company of Maryland, Baltimore, Md.
Gateway Company of Ohio, Cincinnati, Ohio
Harmon, G. Thos., Columbia, S.C.
Hospital Center at Orange, Orange, N.J. (General Support)

Jenkins Wholesale Supply Co., Inc., North Wilkesboro, N.C.
Koppers Co., Inc., Pittsburgh, Pa. (General Support)
McKee Plumbing Supply Co., Cleveland, Ohio
Miller, Vrydagh & Miller, Terre Haute, Ind.
Mooser, William, San Francisco, Calif.
Patzig Testing Laboratories, Des Moines, Iowa
Pilot Engineering Service, Milwaukee, Wis.
Pittsburgh Testing Laboratory, Pittsburgh, Pa.
Ritchie, James H., & Associates, Boston, Mass.
Roberts, J. T., & Bro., Inc., Baltimore, Md.
Robischung-Kiesling Contracting Corp., Houston, Tex.
Ruffing, Frank J., Pittsburgh, Pa.
Sears, Roebuck & Co., Chicago, Ill.
Severud-E l s t a d-Krueger-Associates, New York, N.Y.
Sonoco Products Co., Hartsville, S.C.
Specification Record, Chicago, Ill.
Stetson Building Products, Des Moines, Iowa
Sullivan Hardware Co., Anderson, S.C.
Thorne, Henry Calder, Ithaca, N.Y.
United States Testing Co., Inc., Hoboken, N.J.
Waldo Bros. Co., Boston, Mass.
Wingard Co., Ft. Worth, Tex.
Witten Supply Co., Gastonia, N.C.
Woolcock Plumbing & Heating Co., Inc., Niagara Falls, N.Y.

OTHER COMMERCIAL STANDARDS

A list of Commercial Standards may be obtained from the Commodity Standards Division, Office of Technical Services, U.S. Department of Commerce, Washington 25, D.C. This list includes the purchase price of each publication and gives directions for ordering copies.

ACCEPTANCE OF COMMERCIAL STANDARD

CS226-59, Laminated-Wall, Bituminized-Fibre Drain and Sewer Pipe

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 this Commercial Standard constitutes a useful standard of practice, and we individually plan to utilize it as far as practicable in the

production¹ distribution¹ purchase¹ testing¹
of this commodity.

We reserve the right to depart from the standard as we deem advisable.

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

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 applicable words. 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 interest, trade associations, trade papers, etc., desiring to record their general support, the words "General support" should be added after the signature.

(Cut on this line)

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.

DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS
Notice of Intent To Withdraw Certain Standards

In accordance with § 10.12 of the Department of Commerce Procedures for the Development of Voluntary Product Standards (15 CFR Part 10, as revised; 35 F.R. 8349, dated May 28, 1970), notice is hereby given of the Department's intent to withdraw the nine standards identified below. It has been tentatively determined that each of these standards, Commercial Standard (CS) and Simplified Practice Recommendation (SPR), are technically inadequate and that due to the existence of other more up-to-date nationally recognized standards for the products covered, revision of these out-of-date standards would serve no useful purpose. The more up-to-date standards that are considered to be suitable and appropriate replacements for the standards listed for withdrawal are identified below in parentheses.

- CS 116-54 Homogeneous-Wall Bituminized-Fibre Drain and Sewer Pipe.
(ASTM D 1861-69 Standard Specification for Homogeneous Bituminized Fiber Drain and Sewer Pipe.)
- CS 226-59 Laminated-Wall, Bituminized-Fibre Drain and Sewer Pipe.
(ASTM D 1862-64 Standard Specification for Laminated-Wall Bituminized Fiber Drain and Sewer Pipe.)
- CS 270-65 Acrylonitrile-Butadiene-Styrene (ABS) Plastic Drain, Waste and Vent Pipe and Fittings.
(ASTM D 2861-68 Standard Specification for Acrylonitrile - Butadiene - Styrene (ABS) Plastic Drain, Waste and Vent Pipe and Fittings.)
- CS 272-65 Polyvinyl Chloride (PVC) Plastic Drain, Waste and Vent Pipe and Fittings.
(ASTM D 2865-68 Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Drain, Waste and Vent Pipe and Fittings.)

- CS 228-61 Styrene Rubber Plastic Drain and Sewer Pipe and Fittings.
(ASTM D 2852-69T Standard Specification for Styrene-Rubber Plastic Drain and Building Sewer Pipe and Fittings.)
- CS 188-66 Cast-Iron Soil Pipe and Fittings.
(ASTM A 74-69 Standard Specification for Cast Iron Soil Pipe and Fittings.)
- CS 148-60 Perforated Vitrified Clay Pipe (Standard and Extra Strength).
(ASTM C 13-69 Standard Specification for Standard Strength Clay Sewer Pipe.)
(ASTM C 200-69 Standard Specification for Extra Strength Clay Pipe.)
(ASTM C 211-68 Standard Specification for Standard and Extra Strength Perforated Clay Pipe.)
- CS 224-60 Vitrified Clay Sewer Pipe (Standard and Extra Strength).
(ASTM C 13-69 Standard Specification for Standard Strength Clay Sewer Pipe.)
(ASTM C 200-69 Standard Specification for Extra Strength Clay Pipe.)
(ASTM C 211-68 Standard Specification for Standard and Extra Strength Perforated Clay Pipe.)
- SPR 211-45 Clay Sewer Pipe and Fittings.
(ASTM C 13-64 Standard Specification for Installing Vitrified Clay Sewer Pipe.)

Any comments or objections concerning the intended withdrawal of any of these standards should be made in writing and directed to the Office of Engineering Standards Services, National Bureau of Standards, Washington, D.C. 20234, within 45 days of the publication of this notice. The effective date of withdrawal, where appropriate, will be not less than 60 days after the final notice of withdrawal. Withdrawal action terminates the authority to refer to a published standard as a voluntary standard developed under the Department of Commerce procedures, from the effective date of the withdrawal.

LAWRENCE M. KUSHNER,
Acting Director.

JANUARY 19, 1972.

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