

TECHNICAL SPECIFICATIONS

FORM P927



CERTAIN-TEED PRODUCTS CORPORATION
PIPE DIVISION

SPECIFICATIONS CLASSIFICATION:

A/C Standard Purchasing Specification

T.C.O. REF. NO.

2

SPECIFICATION NO:

528

PAGE NO.:

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SUPERSEDES:

March 30, 1966

DATE OF ISSUE:

NOV 2 1976

DESCRIPTION:

CERTA-SPACER Bands for use with CPC Pressure and Gravity Sewer Pipe
and Coupling

A. General1.0 Description

The CERTA-SPACER band herein described consists of a synthetic compound that is plastic in nature. Plastic is defined as a material that deforms and remains deformed after reduction of the deforming stress. The synthetic compound shall be properly compounded to meet the requirements of this specification.

2.0 Design

The CERTA-SPACER bands shall be rectangular in cross section and shall be manufactured to the shape and dimensions as shown in Figures I, II, and III of this specification.

3.0 Color

The bands shall be gray in color. The gray color shall be similar to that of the A/C Pipe. The color shall be approved by the Materials Laboratory Supervisor, P&PG.

B. Use

The CERTA-SPACER bands are intended for use with Asbestos-Cement Pressure 4", 18" 20", 24" and Gravity Sewer Pipe and Coupling as manufactured by P&PG of Certain-Teed Corporation, as an aid in keeping the ends of the assembled pipe separated to allow for axial expansion.

C. Lot Size

For sampling and inspection purposes, a lot shall be defined as the quantity of CERTA-SPACER bands shipped on one order, received at one time, and identified by a code number.

D. Requirements1.0 Special

All compounds shall be approved by the Materials Laboratory Supervisor of P&PG in writing and referenced by the Vendor Compound Number. After

CTD015051..

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approval no changes in compounds shall be made without authorization, in writing, from the Materials Laboratory Supervisor of P&PG and a new vendor reference number assigned. The manufacturer shall notify the Purchasing Department and the Materials Laboratory Supervisor of P&PG when such an authorized change is actually placed in effect. 2.0 <u>Manufacturers Inspection and Control Data</u> The manufacturer shall perform such inspection duties so that all defective bands are removed before shipment. 3.0 <u>Appearance</u> The surface and body of the CERTA-SPACER band shall be free from pitting, cracks, blisters, porosity and air pockets. A slight flash at the splice is allowed. 4.0 <u>Splice</u> The splice shall be properly joined and sufficiently strong to withstand 50% elongation without separation or pulling. 5.0 <u>Dimensions</u> The dimensions shall be in accordance with the requirements as shown in Figures I, II, and III of this specification. 6.0 <u>Physical Characteristics</u> The physical characteristics shall be in accordance with the requirements as shown in Table A of this specification. E. <u>Test Methods</u> 1.0 <u>Dimensional and Appearance</u> (a) <u>Appearance</u> Visual examination. CTD015052 (b) <u>Splice</u> Visual examination when specimen is under 50% elongation. The entire band shall be used in this test. All specimens tested must pass. At				
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least three bands per lot shall be tested.

(c) Outside Diameter

The outside diameter shall be tested by cutting the band at the splice and measuring the cut length. At least three specimens per lot shall be tested; these specimens shall not be the same specimens used to test the splice. All samples tested must meet the requirements as shown in this specification.

(d) Thickness and Height

A dial micrometer accurate to 0.001 inch shall be used. Each band measured shall be measured at 4 points 90° apart. The average of the readings must be within specification limits.

2.0 Physical Characteristics

(a) Tensile Strength, Elongation, & Modulus at 100% Elongation

Samples for tensile strength, elongation and modulus shall be taken from the band itself. The entire cross section of the band shall be used. The samples shall be six (6) inches long. Three bands per lot shall be tested. Test to be performed in Materials Laboratory of P&PG. The average results must meet specification requirements.

(b) Hardness

The test shall be made by means of the Shore A₂ Durometer on the finished bands themselves. Five bands in each lot shall be tested. Two readings shall be made on each band and the median reading recorded. All tests are to be carried out at a temperature of 75°F ± 5°.

(c) Ozone

Three specimens 10" ± 1/8" shall be cut from each end. Form the specimens into a loop by putting the two marks together and tying securely with wire at the marks. Slide the completed loop over the 2" diameter mandrel. After specimens are mounted, allow them to rest for a minimum of 48 hours at room temperature in a relatively ozone free atmosphere. Then expose to 50 pphm of ozone at 100°F for 48 hours.

CTD015053

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The degree of cracking shall be determined in accordance with ASTM Test D 1171 (Latest Edition), Figure 3. The average test results of the specimens tested shall comply with the requirements. (d) <u>Low Temperature Flexibility</u> Five (5) specimens shall be prepared for the Low Temperature Flexibility Test in accordance with ASTM Specification D 746 (Latest Edition) Test for Brittleness Temperature of Plastics. Procedure B under Routine Inspection and Acceptance shall be followed. (e) <u>Aging Test</u> Five (5) specimens shall be prepared from the finished bands. They shall be cut in six inch lengths and placed in a circulating air oven for 166 hours +2 hours at 158°F + 2°F. Upon removal, allow to cool to room temperature (4 hours). Perform tensile, elongation, and hardness tests on the aged samples. (f) <u>Packaging and Marking</u> CERTA-SPACER bands shall be shipped in the size cartons as shown below. The carton shall be a standard color and 275 pound test regular slotted carton, the flute to run parallel to the height. All cartons are to be sealed using reinforced tape or stapled. The markings on the carton may be either Vendor's label or stencil. The color of the marking shall be black. All cartons must show the size, CERTA-SPACER bands, the number of bands in the carton, and P&PG's order number.						
CTD015054						
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JAN 9 1980

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PRELIMINARY

Carton Size
Inside Dimensions, Inches

<u>Size</u>	<u>Length</u>	<u>Width</u>	<u>Height</u>	<u>No. of Bands Per Carton</u>
3	15	10	10	500
4	15	10	10	500
6	15	10	10	500
8	45	8	8	500
10	45	8	8	500
12	45	8	8	500
14	36	12	12	500
16	36	12	12	500
18	36	12	12	250
20	36	12	12	250
24	36	12	12	250

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(g) Acceptance and Rejection

P&PG reserves the right to reject any lot or lots found not conforming to the requirements of this specification. Such rejection or acceptance of a lot, lots, or portions thereof shall not be limited to the time of delivery but shall be accomplished within thirty (30) days from receipt date. In the event of rejection, the vendor shall be immediately advised and the reason for the rejection explained. The vendor shall be given the opportunity to inspect rejected material on representative samples of the rejected material. The vendor must express his desire to inspect rejected material within seven days after notification of the rejections and the physical inspection of rejected material must be performed within 30 days after the notification of rejections.

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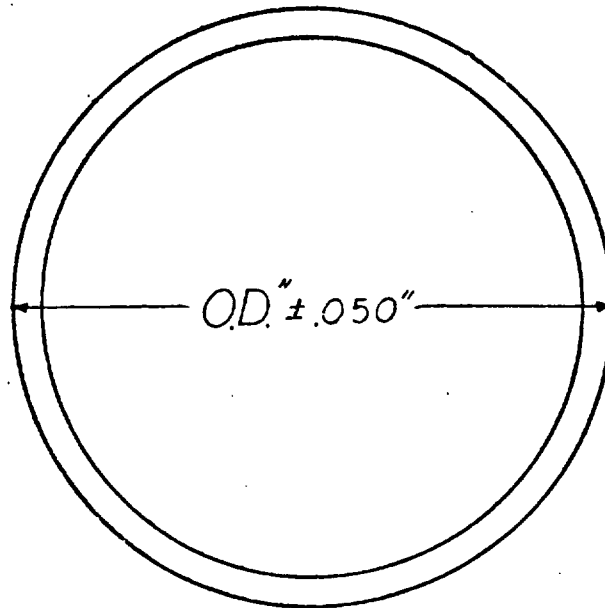
FIGURE I

3" THRU 12"



$.170" \pm .010"$

$.330" \pm .020"$



Size	Class	O.D. Inches	Cut Length Inches	Cut Length Tol. Inches
3"	A11	3.24	9.67	$\pm .125$
4"	A11	4.02	12.10	$\pm .125$
5"	A11	5.00	15.37	$\pm .125$
6"	A11	5.70	17.35	$\pm .125$
8"	A11	7.45	22.85	$\pm .125$
10"	A11	9.20	28.40	$\pm .125$
12"	A11	10.95	34.00	$\pm .125$

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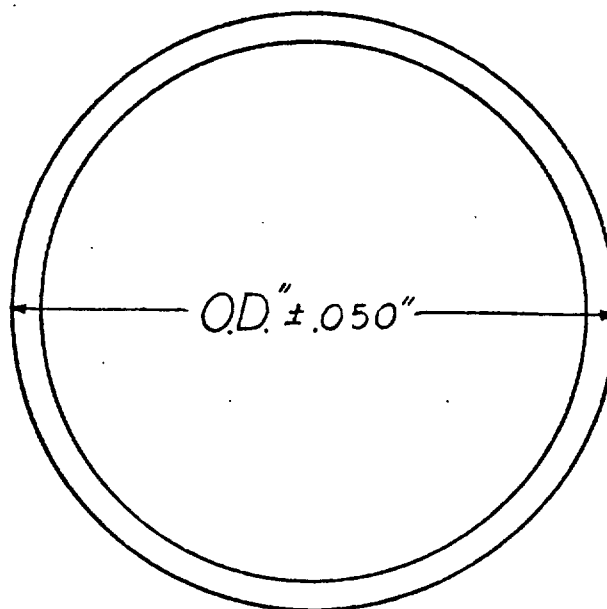
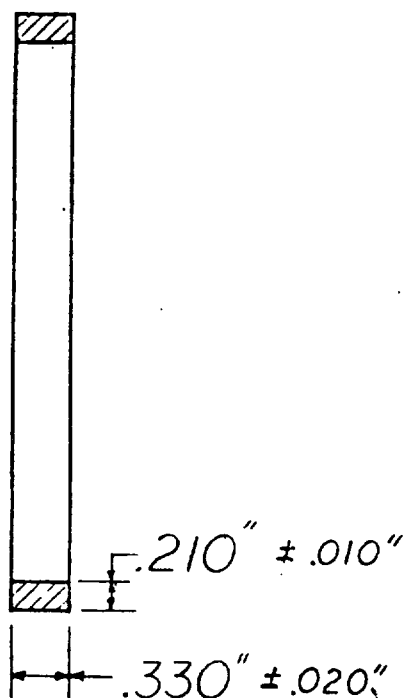
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DESCRIPTION:

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and Couplings

FIGURE II

14" & 16"



Size	Class	O.D. Inches	Cut Length Inches	Cut Length Tol. Inches
14"	A11	12.80	39.60	±.125
15"	A11	13.70	42.40	±.125
16"	A11	14.50	45.00	±.125

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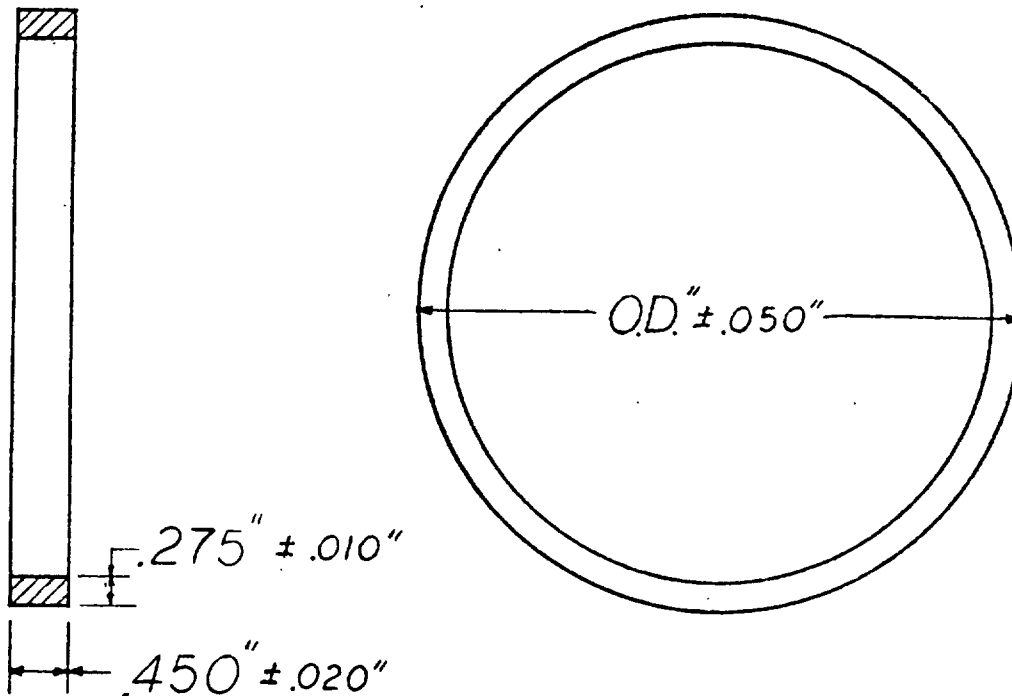
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FIGURE III

18" THRU 24"



<u>Size</u>	<u>Class</u>	<u>Inches</u>	<u>Cut Length Inches</u>	<u>Cut Length Tol. Inches</u>
18"	A11	16.53	51.25	±.125
20"	A11	18.30	56.75	±.125
21"	A11	19.00	58.80	±.125
24"	A11	21.95	68.10	±.125

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TABLE A

Physical Characteristics

Property

Original Tensile, psi	
Min. Average	1400
Min. Single Sample	1300
Aged Tensile, 166 hrs. + 2	
158°F ± 2°; % decrease from orig.	10
Original Elongation at Rupture, per cent	
Min. Average	250
Min. Single Sample	200
Aged Elongation, 166 hrs. + 2	
158°F ± 2°; % decrease from orig.	15
Hardness, Shore Durometer (Type A or A ₂)	80 ± 5
Aged Hardness, 166 hrs. + 2	
158°F ± 2°; change from orig. points Max.	5
Modulus, 100% elongation, psi Min.	750
Low Temperature flexibility, -25°C	No Cracks
Ozone Resistance, 100°F, 48 hrs.	
50 pphm Ozone, Max. Rating	1

CTD015060

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JUN 10 1977

DESCRIPTION:

Certa-Spacer Bands for Use with CT Pressure and Gravity Sewer
Pipe and Couplings

NOT TO BE DISTRIBUTED TO VENDORS

Approved Vendors:

Pawling Rubber Company
Pawling, New York 12564

Kirkhill Rubber Company
300 East Cypress Street
Brea, California 92621

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