

TECHNICAL SPECIFICATIONS

FORM P927



CERTAIN-TEED PRODUCTS CORPORATION
PIPE DIVISION

SPECIFICATIONS CLASSIFICATION:

A/C Standard Purchasing Specification

T.C.O. REF. NO.

4

SPECIFICATION NO.

536 A

PAGE NO.

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SUPERSEDES:

DATE OF ISSUE:

NOV 8 1976

DESCRIPTION:

Adaptor Rings for Use with Small Diameter Sewer End Plugs

A. General1.0 Description

The rubber rings herein described consist of a properly vulcanized rubber of members of the "R" family. The "R" family is classified as "rubbers or elastomers having an unsaturated carbon chain; for example, natural rubber and synthetic rubbers derived at least partly from diolefins", as defined in ASTM Designation D 1418 - Latest Edition. Natural rubber, natural rubber blended with synthetic elastomers, or synthetic elastomers which will meet the requirements of this specification may be used. No reclaim or scrap rubber is permitted. Polymers that are not members of the "R" family may also be considered, provided they perform the purpose intended and meet the requirements of this specification satisfactorily.

2.0 Design

All rings shall be circular in form and shall be manufactured to the dimensions specified in Figure I of this specification.

B. Use

Rubber rings as described in this specification are intended for use as an end plug for P&PG Small Diameter A/C Sewer Pipe, when used in conjunction with plastic spacers. The rubber ring separates the plastic spacers which are connected by a bolt and wing nut. When the wing nut is tightened, the spacers are drawn together causing the ring O.D. to enlarge, thus forming a seal.

C. Lot Size

For sampling and inspection purposes, a lot shall be defined as the quantity of rings shipped on one order, received at one time, and identified by a code number and an elastomer designation.

D. Requirements1.0 Special

All compounds shall be approved by the Materials Laboratory of P&PG in writing and referenced by Vendor Compound Number. After approval, no changes in compounds shall be made without authorization, in writing, from the

PREPARED BY:

JBH

APPROVED BY:

JG MRS

R & D

MFG.

SALES

I.E.

OTHERS

FEM

OKS

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Materials Laboratory of P&PG. The manufacturer shall notify the Purchasing Department and the Materials Laboratory Manager of P&PG when such an authorized change is actually placed in effect.

2.0 Appearance

The surface and cross section of the ring shall be smooth, clean, and free from porosity, blisters, pitting, and other imperfections.

3.0 Splice

The splice (if any) shall be properly jointed and sufficiently strong to withstand the manufacturer's inspection without separation or peeling.

4.0 Dimensions

The dimensions shall be in accordance with the requirements of Figure I of this specification.

5.0 Physical Characteristics

The physical characteristics shall be in accordance with the requirements as shown in Table A of this specification.

E. Test Methods

1.0 Appearance

(a) Surface and Body

All tests are made visually on the ring, as the ring is received.

2.0 Splice (if any)

Visually

3.0 Dimensions

All dimensional measurements shall be made on rings that are conditioned at room temperature, 75°F ± 5° for at least four (4) hours.

(a) Ring Outside Diameter

Measurements by direct reading flexible outside diameter tape, accurate

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JBH

APPROVED BY:

JBH

R & D

MFG.

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OTHERS

JBH

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to plus or minus 0.01 inch. Care must be exercised that the full O.D. is obtained. Any ring not within the specification limit shall be considered a defect and form a part of the sample defect total.

(b) Height

The height dimension shall be checked with a Go-No-Go Gage. (In lieu of a Go-No-Go Gage a machinist micrometer shall be used by setting the locking to the minimum and to the maximum dimension.) The rings shall be measured at four points, 90 degrees apart. The points gaged shall be selected at random. Should two or more points be outside the specification limit, the ring shall constitute a defect; the defect forming a part of the sample defect total. All rings in the sample shall be measured. The height shall be considered as the distance between the top face and the bottom face, when the ring is lying flat.

(c) Width

Same as for height measurement. The width shall be considered the distance between the I.D. and the O.D. of the ring.

4.0 Physical Characteristics

(a) Tensile Strength, Elongation, and Modulus in accordance with P&PG Test Method TM-19.

(b) Hardness

A sample of 40% of the original sample or ten rings, whichever is greater, shall be employed in this test. The test shall be made in accordance with P&PG Test Method TM-18.

(c) Water Immersion

The water immersion shall be in accordance with Methods of Test, Method D of ASTM D471 48 hours @ 158°F $\pm$ 4°F.

(d) Compression Set

In accordance with P&PG Test Method TM-21.

(e) Ozone Resistance

In accordance with P&PG Test Method TM-14.

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PREPARED BY:	APPROVED BY:	R & D	MFG.	SALES	I.E.	OTHERS
<i>J.B.N.</i>	<i>J.B.N.</i>	<i>J.B.N.</i>				<i>Cuts</i>

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(f) Low Temperature Flexibility

In accordance with P&PG Test Method TM-15.

F. Acceptance and Rejection

P&PG Reserves the right to reject any lot, or lots, not conforming to the requirements of this specification. Such rejection or acceptance of lot, lots, or portions thereof shall not be limited to the time of shipment, but shall be made within 30 days or receipt of the shipment. In the event of a rejection, the vendor shall be given the opportunity to inspect representative samples of the rejected materials in the Materials Laboratory. 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.

G. Packaging and Marking

Rings shall be shipped in suitable cartons to insure safe delivery. Only one size ring shall be packaged in individual cartons. Each carton shall be marked to show the vendor's name, size of the rings, ring elastomer, number of rings in the carton, and P&PG order number. No more than 300 rings shall be packed in a carton.

ADDENDUM

As a corollary to the stated requirements of this specification, the manufacturers are entreated to become reasonably knowledgeable as to the conditions of successful usage of the rings so that they may employ their best technology to assist in providing rubber rings which will perform satisfactorily the usage intended.

CTD015112

PREPARED BY:

JBN

APPROVED BY:

JBN

R & D

JBN

MFG.

SALES

I.E.

OTHERS

CTD

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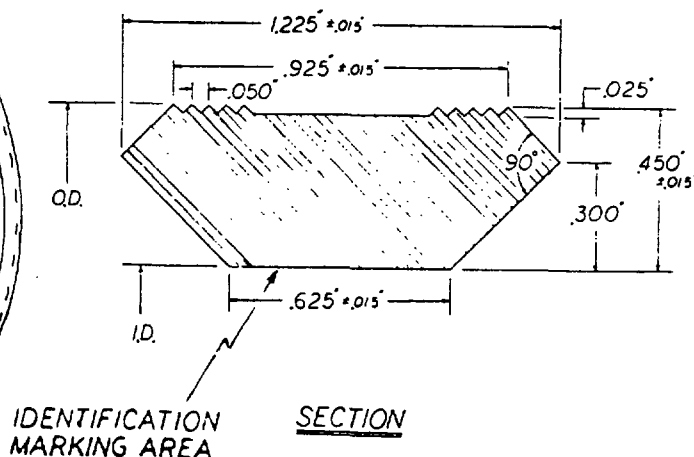
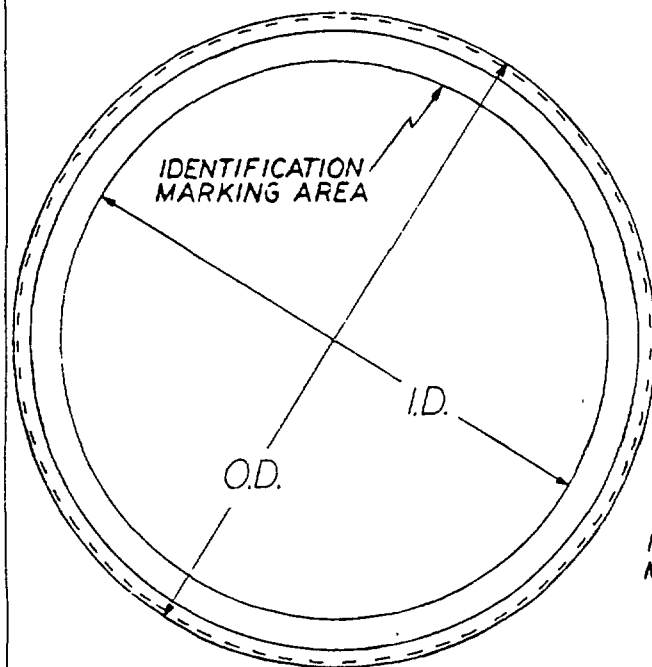
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FIGURE 1



Size

O.D. "
±.030"

4"

3.980

5"

4.980

6"

5.980

Identification Marking: The following information shall appear on the ID of each ring:

SDS End Plug, P&PG, Size, Mold No., Cavity No., Date (Quarter and year), Vendors Insignia

PREPARED BY:

ABH

APPROVED BY:

085

R & D

MFG.

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I.E.

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TABLE A

Physical Characteristics

<u>Property</u>	<u>Requirement</u>
Tensile Strength, Min. psi	
Average	2000
Lowest Individual	1800
Aged Tensile, Oven Aged, Per Cent Decrease from Orig. Max. 70°C ± 1°; 168 ± 1 hrs.	15
Original Elongation at Rupture, Per Cent	
Average	350
Lowest Individual	325
Aged Elongation, Oven Aged Per Cent Decrease From Orig. Max. 70°C ± 1°; 168 hrs. ± 1 hr.	25
Original Modulus at 300% elongation, psi	
Min.	1200
Max.	2300
Original Hardness, Shore Durometer	
Type A or A ₂	53 ± 5
Preferred	50 - 55
Aged Hardness, Oven Aged Points Increase Over Orig. Max. 70°C ± 1°; 168 ± 1 hrs.	7
Compression Set, 50% Compression Per Cent, Max. 70°C ± 1°; 22 ± ½ hrs.	15

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PREPARED BY:

J.B.H.

APPROVED BY:

[Signature]

R & D

MFG.

SALES

I.E.

OTHERS

[Signature]

[Signature]

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TABLE A
(Continued)

Physical Characteristics

<u>Property</u>	<u>Requirement</u>
Water Immersion 158° + 4°F; 70 hrs. Per Cent Increase, Max.	
Volume	5
Weight	5
Per Cent Decrease, Max.	
Volume	0
Weight	0
Appearance Change	No Surface Degradation
Low Temperature Flexibility Minus 25°C, Min.	No Cracks
Ozone Resistance, 50 pphm 100°F + 2°; 48 + 1 hrs. Max. Rating	1

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PREPARED BY:

JBT

APPROVED BY:

JBT

R & D

MFG.

SALES

I.E.

OTHERS

CHS