

TECHNICAL CHANGE ORDER (6) 6/16/82

CertainTeedCertainTeed Corporation
Pipe and Plastics Group

APPLICABLE TO:

A/C Standard Product Specification

Spec. #13

DATE OF ISSUE:

May 1, 1982

T.C.O. NO.:

5

PAGE NO.:

1

DESCRIPTION:

A/C Storm Drain Pipe, Couplings and Accessories

Purpose:

1. Revise the specification to reflect the need for the product to conform only to ASTM C-663.

REF: J.R. Alley letter of 4/13/81 to M.R. Streepy
M.R. Streepy letter of 6/25/81 to J.T. McCahon

2. Class 2500D has been added, making the total five.
3. The new coupling label has been added.
4. A few minor dimensional corrections have been applied.
5. All of the B.O.D.'s from the former East Coast Spec. have been adopted for this National Spec.
6. Class V (3750D) dimensions for El's, Tees and Wyes have been added. This class should cover minor order quantities for Classes 2500D and IV. Large order quantities should be handled via NSPI procedure for greater cost effectiveness.
7. Class III (2000D) dimensions for Tees and Wyes have been expanded to include the full range of reducing branches. More orders are being received for double and triple reductions.
8. Plant Q.C. comments have been considered in this revision. (The previous 1/1/82 approved version was not issued.)

Effective Date:

May 1, 1982

Disposition of Superseded Pages:

Destroy Page 1, 2 2/7/72
 3 6/14/72
 4 6/15/73
 5-9 2/7/72
 10-14 7/19/76

CTD015411

Substitute with revised pages attached.

Inventory Effects:

None. Where former pipe or fittings differ in B.O.D., they may be shipped freely. However, shipment of the older stock first is recommended.

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APPROVED BY:

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MFG.

SALES

I.E.

OTHERS

M. R. Streepy

R&D

J.R.A.

TECHNICAL SPECIFICATIONS

CertainTeed

CertainTeed Corporation
Pipe and Plastics Group

SPECIFICATIONS CLASSIFICATION:

A/C Standard Product Specification

T.C.D. REF. NO.

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SPECIFICATION NO:

13

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SUPERSEDES:

February 7, 1972

DATE OF ISSUE:

May 1, 1982

DESCRIPTION:

A/C Storm Drain Pipe, Couplings, and Accessories

General:

A/C Storm Drain pipe is intended for use in storm-water drainage of highways, farms, foundations and other drainage systems. It is manufactured in sizes 6" thru 24" and in Classes II, III, 2500D, IV, and V. Class II = 1500D, Class III = 2000D, Class IV = 3000D, Class V = 3750D where D is the inside diameter expressed in feet multiplied by the numerical value in front to obtain the minimum crush value.

General Product Description:

Refer to General Product Specification Data "Section D" of the General Standards Manual for information concerning the following:

1. Composition
2. Finish
3. Straightness

Chemical Requirements:

Uncombined Calcium Hydroxide - 1.0 percent maximum.

Conformance:

All pipe manufactured under this specification will meet the requirements of ASTM C-663, latest revision.

Pipe Length:

Standard Length - 13'0" + 0"-1"

Random Lengths - 7'0" to 12'6" in 6" increments +0"-1"

No more than 15 percent random lengths of each size and class may be shipped on any one order.

CTD015412

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DESCRIPTION:

A/C Storm Drain Pipe, Couplings and Accessories

Permissible Variations in Dimensions:

The average inside diameter of the pipe may be less than the nominal size by not more than 1/4 inch or 1 1/2 percent, whichever is greater. The out-of-roundness tolerance, applying to the inside diameter at the ends of each length of pipe for a distance equal to the length of the machined end shall be as follows.

<u>Size, Inches</u>	<u>Max. Out-of-Roundness, Inches</u>
6 to 20 inclusive	3/16
21, 24	1/4

Couplings:

Coupling material shall be in accordance with CT Standard Purchasing Specification No. 550.

One coupling shall be supplied with each length.

Physical Requirements:

Each pipe shall have sufficient strength, when subjected to a three (3) edge bearing crush test, on the unmachined portion of the pipe, to support not less than the indicated load shown below.

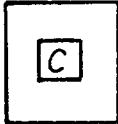
<u>Class</u>	<u>D Load</u>	<u>Crush Load</u>
II	1500D	1500 X (inside diameter in feet)
III	2000D	2000 X (inside diameter in feet)
2500D	2500D	2500 X (inside diameter in feet)
IV	3000D	3000 X (inside diameter in feet)
V	3750D	3750 X (inside diameter in feet)

Examples: 6" 1500D - Crush load is $1500 \times .5 = 750$ lbs
 18" 2000D - Crush load is $2000 \times 1.5 = 3000$ lbs

The crushing strength test shall be conducted in accordance with Standard Method of test ASTM C500 on a one-foot unmachined length of pipe. The specimen shall be cut from a randomly selected pipe representing 300 lengths or less of each size and class produced during a 24 hour period for sizes 21 inch and below. For 24 inch size the specimen shall represent 300 or less lengths of identical class during a period not less than 7 days.

CTD015413

TECHNICAL SPECIFICATIONS

CertainTeed CertainTeed Corporation Pipe and Plastics Group	SPECIFICATIONS CLASSIFICATION:								
	A/C Standard Product Specification								
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SUPERSEDES:					DATE OF ISSUE:				
June 14, 1972					May 1, 1982				
DESCRIPTION: A/C Storm Drain Pipe, Couplings and Accessories									
<u>Marking:</u> <u>Standard and Random Lengths</u>  <u>Standard Coupling</u>  Unless otherwise directed, the marking of all Storm Drain items shall be in brown ink. <u>Standard and Random Lengths:</u> Area A - At the exact center of the pipe, the following shall be stamped: CERTAINTTEED (Size) (Class) TYPE II STORM DRAIN Area B - Either to the right or left of Area A, the following information shall be stencilled in black ink on all standard lengths. (This information may appear on random lengths). First Line - Month, Day, Year, Plant, Shift Second Line - Pipe No. CTD015414									
PREPARED BY:		APPROVED BY:		R & D	MFG.	SALES	I.E.	Q. C.	OTHERS
m. r. [signature]		[signature]		M	QW	J.R.A.			

DATE OF ISSUE:

May 1, 1982

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DESCRIPTION:

A/C Storm Drain Pipe, Couplings and Accessories

Standard Coupling

Area C - At the approximate center the following shall be shown as a minimum.

(Size) (Class)

Pressure sensitive labels shall be used.

CertainTeed
PLASTIC COUPLING
For Use With A/C Storm Drain

INCH DIAMETER

D LOAD

CTD015415

TECHNICAL SPECIFICATIONS

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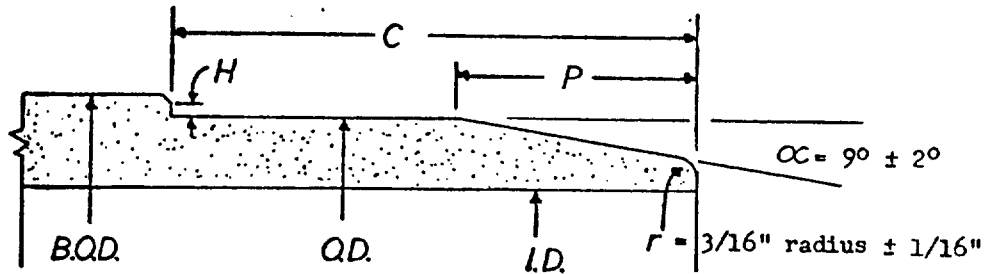
February 7, 1972

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May 1, 1982

DESCRIPTION:

A/C Storm Drain Pipe, Couplings and Accessories



Size Inches	Class	I.D." Nom.	O.D." $\pm .04$	C" *	P" $\pm .06$	H" $-.00$ **	B.O.D." $+.08$ $-.00$
6	II	6.00	6.85	2.40	1.00	.06	7.04
	III	6.00	6.85	2.40	1.00	.06	7.04
	2500D	6.00	6.85	2.40	1.00	.06	7.04
	IV	6.00	6.85	2.40	1.00	.06	7.04
	V	6.00	6.85	2.40	1.00	.06	7.04
8	II	8.00	8.90	2.40	1.00	.06	9.06
	III	8.00	8.90	2.40	1.00	.06	9.06
	2500D	8.00	8.90	2.40	1.00	.06	9.06
	IV	8.00	8.90	2.40	1.00	.06	9.12
	V	8.00	8.90	2.40	1.00	.06	9.24
10	II	10.00	11.00	2.90	1.00	.06	11.14
	III	10.00	11.00	2.90	1.00	.06	11.14
	2500D	10.00	11.00	2.90	1.00	.06	11.26
	IV	10.00	11.00	2.90	1.00	.06	11.26
	V	10.00	11.20	2.90	1.00	.06	11.43
12	II	12.00	13.06	3.13	1.50	.06	13.24
	III	12.00	13.06	3.13	1.50	.06	13.36
	2500D	12.00	13.06	3.13	1.50	.06	13.52
	IV	12.00	13.34	3.13	1.50	.06	13.52
	V	12.00	13.48	3.13	1.50	.06	13.70
14	II	14.00	15.14	3.13	1.50	.06	15.32
	III	14.00	15.14	3.13	1.50	.06	15.50
	2500D	14.00	15.14	3.13	1.50	.06	15.70
	IV	14.00	15.46	3.13	1.50	.06	15.76
	V	14.00	15.84	3.13	1.50	.06	16.00

* "C" Tolerance 6" thru 10" $\pm .06$ "
12" thru 24" $+.00$ " $-.12$ "

** Minimum "H" at least 2/3 of circumference. O.D. must be completely machined.

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DATE OF ISSUE:

May 1, 1982

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DESCRIPTION:

A/C Storm Drain Pipe, Couplings and Accessories

<u>Size Inches</u>	<u>Class</u>	<u>I.D." Nom.</u>	<u>O.D." ±.04"</u>	<u>C" *</u>	<u>P" ±.06"</u>	<u>H" -.00" **</u>	<u>B.O.D." +.08" -.00"</u>
15	II	15.00	16.26	3.13	1.50	.06	16.42
	III	15.00	16.26	3.13	1.50	.06	16.62
	2500D	15.00	16.26	3.13	1.50	.06	16.82
	IV	15.00	16.68	3.13	1.50	.06	16.92
	V	15.00	16.90	3.13	1.50	.06	17.12
16	II	16.00	17.30	3.13	1.50	.06	17.50
	III	16.00	17.30	3.13	1.50	.06	17.74
	2500D	16.00	17.30	3.13	1.50	.06	17.94
	IV	16.00	17.74	3.13	1.50	.06	18.04
	V	16.00	17.98	3.13	1.50	.06	18.30
18	II	18.00	19.34	4.00	1.88	.06	19.60
	III	18.00	19.62	4.00	1.88	.06	19.86
	2500D	18.00	19.62	4.00	1.88	.06	20.10
	IV	18.00	20.06	4.00	1.88	.06	20.30
	V	18.00	20.06	4.00	1.88	.06	20.58
20	II	20.00	21.42	4.00	1.88	.06	21.78
	III	20.00	21.72	4.00	1.88	.06	22.06
	2500D	20.00	21.72	4.00	1.88	.06	22.32
	IV	20.00	22.18	4.00	1.88	.06	22.52
	V	20.00	22.18	4.00	1.88	.06	22.82
21	II	21.00	22.46	4.00	1.88	.06	22.86
	III	21.00	22.76	4.00	1.88	.06	23.18
	2500D	21.00	22.76	4.00	1.88	.06	23.44
	IV	21.00	23.22	4.00	1.88	.06	23.62
	V	21.00	23.22	4.00	1.88	.06	23.96
24	II	24.00	25.88	4.88	2.25	.06	26.14
	III	24.00	26.10	4.88	2.25	.06	26.48
	2500D	24.00	26.32	4.88	2.25	.06	26.80
	IV	24.00	26.32	4.88	2.25	.06	27.00
	V	24.00	27.06	4.88	2.25	.06	27.40

* "C" Tolerance 6" thru 10" ±.06"
 12" thru 24" +.00" -.12"

** Minimum "H" at least 2/3 of circumference. O.D. must be completely machined.

NOTE - A tool bar which would machine an O.D. a maximum of 1.5 inches beyond the C dimension is permitted but the H dimension is critical and must be maintained. The standard machining is preferred.

CTD015417

TECHNICAL SPECIFICATIONS

CertainTeed

CertainTeed Corporation
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A/C Standard Product Specification

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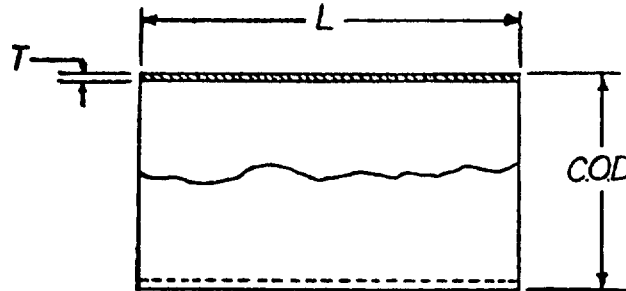
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May 1, 1982

DESCRIPTION:

A/C Storm Drain Pipe, Couplings and Accessories



Size Inches	Class	T"		C.O.D.**	Cut Length*	L"	
		+.02"	-.01"			-.0"	+.125"
6	II	.12		6.93	21-1/2	5.00	
	III	.12		6.93	21-1/2	5.00	
	2500D	.12		6.93	21-1/2	5.00	
	IV	.12		6.93	21-1/2	5.00	
	V	.12		6.93	21-1/2	5.00	
8	II	.12		8.97	27-29/32	5.00	
	III	.12		8.97	27-29/32	5.00	
	2500D	.12		8.97	27-29/32	5.00	
	IV	.12		8.97	27-29/32	5.00	
	V	.12		8.97	27-29/32	5.00	
10	II	.12		11.05	34-7/16	6.00	
	III	.12		11.05	34-7/16	6.00	
	2500D	.12		11.05	34-7/16	6.00	
	IV	.12		11.05	34-7/16	6.00	
	V	.12		11.24	35-1/32	6.00	
12	II	.15		13.15	40-15/16	6.75	
	III	.15		13.15	40-15/16	6.75	
	2500D	.15		13.15	40-15/16	6.75	
	IV	.15		13.42	41-25/32	6.75	
	V	.15		13.56	42-7/32	6.75	
14	II	.15		15.21	47-13/32	6.75	
	III	.15		15.21	47-13/32	6.75	
	2500D	.15		15.21	47-13/32	6.75	
	IV	.15		15.52	48-3/8	6.75	
	V	.15		15.89	49-9/16	6.75	

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DESCRIPTION:

A/C Storm Drain Pipe, Couplings and Accessories

Size Inches	Class	T" +.02" -.01"	C.O.D." **	Cut Length*	L" -.0" +.125"
15	II	.15	16.30	50-27/32	6.75
	III	.15	16.30	50-27/32	6.75
	2500D	.15	16.30	52-27/32	6.75
	IV	.15	16.73	52-3/16	6.75
	V	.15	16.95	52-7/8	6.75
16	II	.15	17.34	54-3/32	6.75
	III	.15	17.34	54-3/32	6.75
	2500D	.15	17.34	54-3/32	6.75
	IV	.15	17.77	55-15/32	6.75
	V	.15	18.02	56-1/4	6.75
18	II	.18	19.42	60-17/32	8.50
	III	.18	19.69	61-13/32	8.50
	2500D	.18	19.69	61-13/32	8.50
	IV	.18	20.13	62-25/32	8.50
	V	.18	20.13	62-25/32	8.50
20	II	.18	21.47	67	8.50
	III	.18	21.77	67-15/16	8.50
	2500D	.18	21.77	67-15/16	8.50
	IV	.18	22.24	69-13/32	8.50
	V	.18	22.24	69-13/32	8.50
21	II	.18	22.51	70-1/4	8.50
	III	.18	22.81	71-3/16	8.50
	2500D	.18	22.81	71-3/16	8.50
	IV	.18	23.27	72-5/8	8.50
	V	.18	23.27	72-5/8	8.50
24	II	.21	25.96	81	10.25
	III	.21	26.18	81-11/16	10.25
	2500D	.21	26.39	82-11/32	10.25
	IV	.21	26.39	82-11/32	10.25
	V	.21	27.13	84-11/16	10.25

* Cut Length before welding, including .101" for welding loss.

* Cut Length Tolerance

6", 8", 10" --- +0" -1/8"
 12", 14" --- +0" -3/16"
 15", 16", 18" --- +0" -7/16"
 20", 21", 24" --- +0" -1/2"

** C.O.D. Tolerance

6", 8", 10" --- +.02" -.05"
 12", 14" --- +.02" -.07"
 15", 16", 18" --- +.02" -.15"
 20", 21", 24" --- +.02" -.17"

CTD015419

TECHNICAL SPECIFICATIONS

CertainTeed

CertainTeed Corporation
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SPECIFICATIONS CLASSIFICATION:

A/C Standard Product Specification

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SUPERSEDES:

July 19, 1976

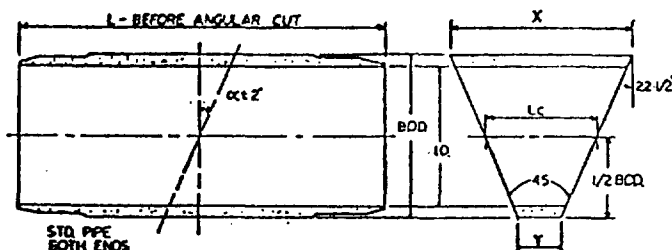
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A/C Storm Drain Pipe, Couplings and Accessories

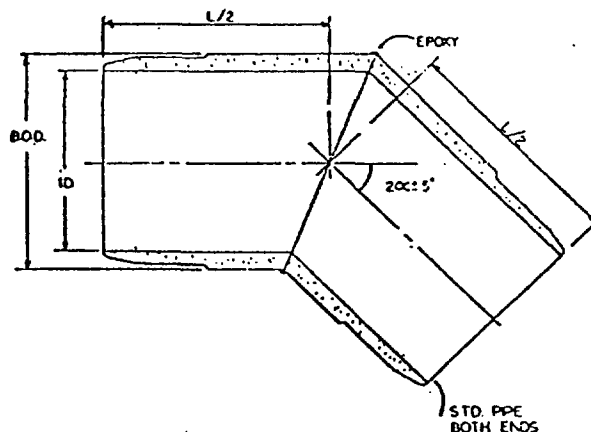
45° and 90° ELBOWS



Marking Example:

CERTAINTEED
STORM DRAIN TYPE II
6" 45° ELBOW
CLASS III

All Pipe Sizes & Classes	Dimensions	
	$0^\circ \pm 2^\circ$	$2^\circ \pm 5^\circ$ Nom.
45° Elbow	22 1/2°	45
90° Elbow	22 1/2°	45



90° Elbow Fillet					
Pipe Size, Inches	L _c "	Y" + .25", - .00"		X" + .25", - .00"	
		III	V	III	V
6	9.50	6.50	6.50	12.50	12.50
8	9.50	5.75	5.75	13.25	13.25
10	9.50	5.00	4.75	14.25	14.00
12	9.50	4.00	3.75	15.25	15.00
14	9.50	3.00	2.75	16.25	16.00
15	3.25	2.50	2.25	16.75	16.00
16	9.25	2.00	1.75	16.75	16.50
18	18.50	10.25	10.00	27.00	26.75
20	18.75	9.00	8.75	27.75	27.50
21	18.75	8.50	8.25	28.25	28.00
24	18.00	7.00	6.75	29.25	29.00

Pipe Size, Inches	All Classes		L"		B.O.D., Min.	
	Nom.	I.D., In.	+ .00"	- .50"	III	V
6	6.00		19.50		7.04	7.04
8	8.00		19.50		9.06	9.24
10	10.00		19.50		11.14	11.43
12	12.00		19.50		13.36	13.70
14	14.00		19.50		15.50	16.00
15	15.00		19.50		16.62	17.12
16	16.00		19.50		17.74	18.30
18	18.00		39.00		19.86	20.58
20	20.00		39.00		22.06	22.82
21	21.00		39.00		23.18	23.96
24	24.00		39.00		26.48	27.40

Notes:

1. Refer to standard pipe ends Spec 13 for machined dimensions.
2. Epoxy all adjoining surfaces. Remove excess on inside for smooth surface.
3. For fabrication of 90° Elbows, add fillet to center of 45° elbow.
4. Epoxy fillet on all outside adjoining surfaces.
5. Tolerances on 90° elbows $\pm 5^\circ$.
6. One plastic coupling shall accompany each elbow.

CTD015420

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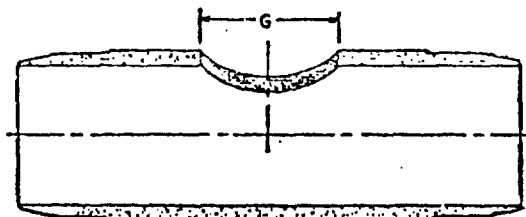
OTHERS

RSK

J.R.A.

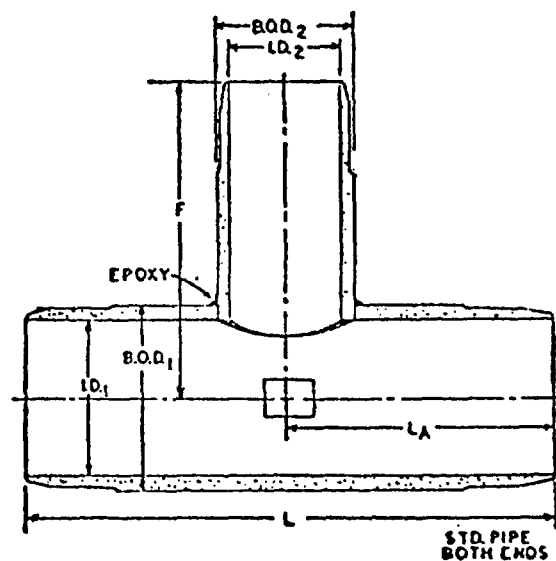
A/C Storm Drain Pipe, Couplings and Accessories

A diagram of a conical container. The height is labeled L_c and the radius at the top is labeled R_c . The container is shown in a perspective view, with a dashed line indicating the central axis.



CERTAINTEED
STORM DRAIN TYPE II
16" x 16" x 15" TEE
CLASS III

- NOTES:
1. For main and branch end machined dimensions, refer to standard pipe ends in Spec. 13.
 2. One plastic coupling to accompany each main and branch.



TECHNICAL SPECIFICATIONS

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*Branch requires reworking for proper fit at "G". **Branch should be rolled heavy for proper fit at "G". Reducing branch use 20" - B.O.D.2 = 22.52", 21" - B.O.D.2 = 23.96																																																																																																																							
PREPARED BY:		APPROVED BY:		R & D	MFG.	SALES	I.E.	Q.C.	OTHERS																																																																																																														
<i>M. R. Steep</i>				<i>RSH</i>	<i>J.R.A.</i>																																																																																																																		

DESCRIPTION:

A/C Storm Drain Pipe, Couplings and Accessories

TEE FITTING

Main Size, Inches	L ¹ / ₂ ± .25" Reducing Branch Size (All Classes)										Pipe Size, Inches	L _G ± .25" (Non-Reducing Branch)	
	6	8	10	12	14	15	16	18	20	21		III	V
8x8	6.25										6	5.48	5.48
10x10	6.50	6.50									8	5.72	5.63
12x12	6.50	6.50	6.75								10	6.78	5.98
14x14	6.50	6.50	7.00	7.00							12	6.07	5.90
15x15	7.00	8.10	8.10	8.60	9.00						14	6.50	6.25
16x16	6.50	6.50	7.00	7.00	7.25	7.00					15	8.19	7.94
18x18	6.75	6.75	7.25	7.25	7.50	7.25	7.50				16	6.38	6.10
20x20	6.75	6.75	7.25	7.25	7.50	7.50	7.50	8.25			18	7.32	6.96
21x21	7.40	8.50	8.50	9.00	9.50	9.50	10.00	10.00			20	7.22	6.99
24x24	6.75	7.00	7.50	7.50	7.50	7.50	7.50	8.25	8.25	8.25	21	8.91	8.52
											24	7.01	6.55

Main Size, Inches	F" (All Classes) Branch Size, inches										
	6	8	10	12	14	15	16	18	20	21	24
6x6	9.00										
8x8	10.25	10.25									
10x10	11.50	11.50	11.75								
12x12	12.50	12.50	12.75	12.75							
14x14	13.50	13.50	14.00	14.00	14.25						
15x15	14.50	15.60	15.60	16.10	16.50	16.50					
16x16	14.50	14.50	15.00	15.00	15.25	15.00	15.25				
18x18	15.75	15.75	16.25	16.25	16.50	16.25	16.50	17.25			
20x20	16.75	16.75	17.25	17.25	17.50	17.50	17.50	18.25	18.25		
21x21	17.90	19.00	19.00	19.50	20.00	20.00	20.00	20.50	20.50	20.50	
24x24	18.75	19.00	19.50	19.50	19.50	19.50	19.50	20.25	20.25	20.25	20.25

For Main Pipe Sizes, Inches		L ¹ / ₂ ± .25" All Classes	For Indicated Branch Pipe Size, In.	G" + .04", -.01" (Reducing Only)		Pipe Size, In.	L _G ± .00" - .06"		L _E ± .06" - .00"	
				III	V		III	V	III	V
6x6	6" Branch	10.0	6	7.06	7.06	6	6.28	6.28	13.32	13.32
8x8	All Branches	11.0	8	9.08	9.16	8	6.47	6.38	15.53	15.62
10x10	All Branches	12.5	10	11.32	11.32	10	6.93	6.78	18.07	18.21
12x12	All Branches	13.5	12	13.26	13.72	12	6.88	6.65	20.14	20.35
14x14	All Branches	14.5	14	15.52	15.86	14	6.75	6.50	22.25	22.50
15x15	All Branches	16.5	15	16.58	16.96	15	8.32	7.94	24.94	25.06
16x16	All Branches	16.5	16	17.62	18.08	16	7.70	7.35	25.44	25.65
18x18	All Branches	18.5	18	19.82	20.22	18	8.60	8.21	28.46	28.79
20x20	Through 12"	13.0	20	22.34	22.34	20	8.34	8.24	30.40	30.76
20x20	14" Through 20"	19.5	21	23.68	23.68	21	8.67	8.52	31.85	32.48
21x21	Through 12"	15.5				24	8.20	7.80	34.68	35.20
21x21	14" Through 20"	19.5								
21x21	21" Branch	20.5								
24x24	Through 12"	15.5								
24x24	14" Through 21"	19.5								
24x24	24" Branch	21.5								

TECHNICAL SPECIFICATIONS

CertainTeed

CertainTeed Corporation
Pipe and Plastics Group

SPECIFICATIONS CLASSIFICATION:

A/C Standard Product Specification

T.C.O. REF. NO.

5

SPECIFICATION NO:

13

PAGE NO.:

13

SUPERSEDES:

July 19, 1976

DATE OF ISSUE:

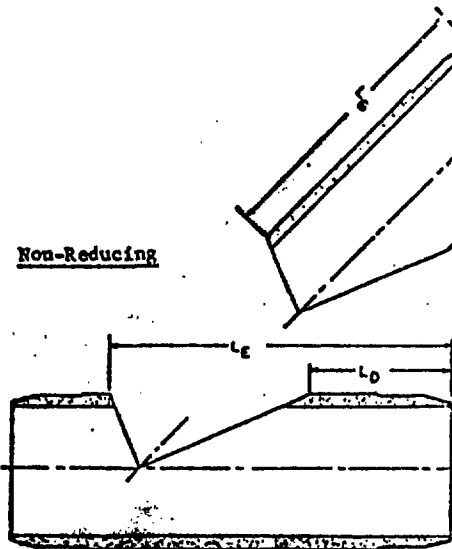
May 1, 1982

DESCRIPTION:

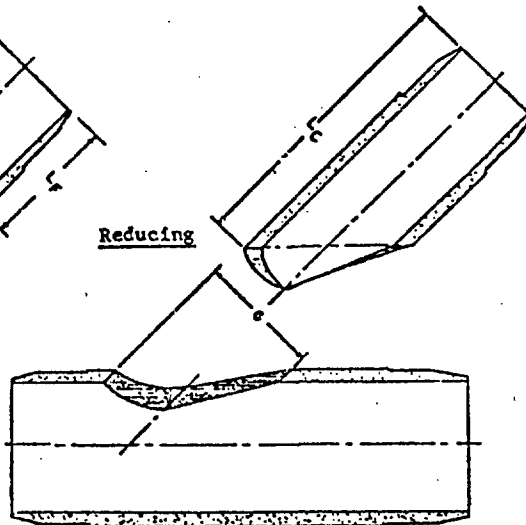
A/C Storm Drain Pipe, Couplings, and Accessories

45° WYE FITTING

Non-Reducing



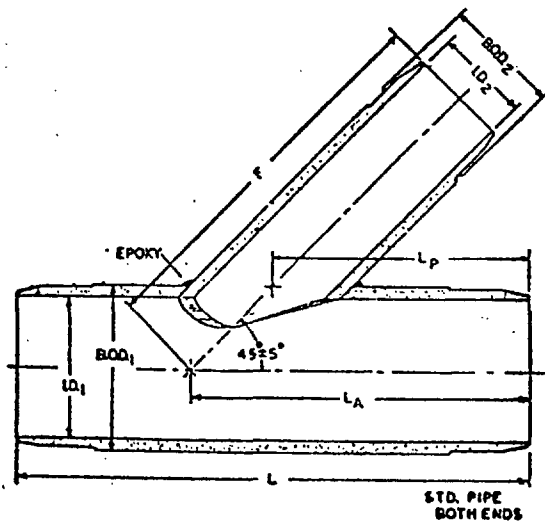
Reducing



MARKING EXAMPLE: (CENTERED ON MAIN)

CERTAINTEED
STORM DRAIN TYPE II
10" 45° WYE
CLASS III

- NOTES:**
1. For main and branch end machined dimensions, refer to standard pipe ends in Spec. 13.
 2. One plastic coupling to accompany each main and branch.



PREPARED BY:

M. R. Streepy

APPROVED BY:

R & D

MFG.

SALES

I.E.

Q.C.

OTHERS

RSK

J.R.A.

02-10-0023 4/80

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DATE OF ISSUE:

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SPECIFICATION NO:

13

PAGE NO.:

14

DESCRIPTION:

A/C Storm Drain Pipe, Couplings, and Accessories

45° WYE FITTING

Main Size Inches	<u>L_p ± .25" Reducing Branch Size (All Classes)</u>									
	6	8	10	12	14	15	16	18	20	21
8x8	6.25									
10x10	6.50	6.50								
12x12	6.50	6.50	6.75							
14x14	6.50	6.50	7.00	7.00						
15x15	7.00	8.10	8.10	8.60	9.00					
16x16	6.50	6.50	7.00	7.00	7.25	7.00				
18x18	6.75	6.75	7.25	7.25	7.50	7.25	7.50			
20x20	6.75	6.75	7.25	7.25	7.50	7.50	7.50	8.25		
21x21	7.40	8.50	8.50	9.00	9.50	9.50	9.50	10.00	10.00	
24x24	6.75	7.00	7.50	7.50	7.50	7.50	7.50	8.25	8.25	8.25

Main Pipe

Size, Inches	All Classes Nom. I.D. ₁ "	<u>B.O.D.₁" Min.</u>	
		III	V
6x6	6.00	7.04	7.04
8x8	8.00	9.06	9.24
10x10	10.00	11.14	11.43
12x12	12.00	13.36	13.70
14x14	14.00	15.50	16.00
15x15	15.00	16.62	17.12
16x16	16.00	17.74	18.30
18x18	18.00	19.86	20.58
20x20	20.00	22.06	22.52
21x21	21.00	23.18	23.96
24x24	24.00	26.48	27.40

Branch Pipe

Size, Inches	All Classes Nom. I.D. ₂ "	<u>B.O.D.₂" Min.</u>	
		III	V
6	6.00	7.04	7.04
8	8.00	9.06	9.24*
10	10.00	11.43*	11.43*
12	12.00	13.36	13.70
14	14.00	15.50	16.00*
15	15.00	16.62*	17.12*
16	16.00	17.74*	18.30*
18	18.00	19.86*	20.58*
20	20.00	22.06**	22.52*
21	21.00	23.18**	23.96*
24	24.00	26.48	27.40

*Branch requires reworking for proper fit at "G".

**Branch should be rolled heavy for proper fit at "G".

Reducing branch use 20" - B.O.D.₂ = 22.52", 21" B.O.D.₂ = 23.96".

TECHNICAL SPECIFICATIONS

CertainTeed

CertainTeed Corporation
Pipe and Plastics Group

SPECIFICATIONS CLASSIFICATION:

A/C Standard Product Specification

T.C.O. REF. NO.

5

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13

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15

SUPERSEDES:

July 19, 1976

DATE OF ISSUE:

May 1, 1982

DESCRIPTION:

A/C Storm Drain Pipe, Couplings, and Accessories

45° WYE FITTING

Main Size, Inches	Ld' + .00" - .25" All Classes											
	Branch Size, Inches											
	6	8	10	12	14	15	16	18	20	21	24	
6x6	13.0											
8x8	11.9											
10x10	11.8	14.3										
12x12	12.2	15.7	15.7									
14x14	12.2	17.7	17.7	17.7								
15x15	14.9	16.7	18.2	19.8	21.3							
16x16	12.1	19.6	19.6	19.6	19.6	19.6						
18x18	13.2	21.9	21.9	21.9	21.9	21.9	21.9					
20x20	13.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8				
21x21	15.6	17.3	18.8	20.4	22.0	22.7	23.5	25.1	26.6			
24x24	13.7	25.7	25.7	25.7	25.7	25.7	25.7	25.7	25.7	25.7		

LA' - All Classes

Main Size, Inches	Branch Size, Inches											
	6	8	10	12	14	15	16	18	20	21	24	
6x6	16.5											
8x8	16.5	19.0										
10x10	17.5	20.0	22.0									
12x12	19.0	22.5	22.5	23.5								
14x14	20.0	25.5	25.5	25.5	27.5							
15x15	23.2	25.0	26.5	28.1	29.6	30.4						
16x16	21.0	28.5	28.5	28.5	28.5	28.5	31.5					
18x18	24.0	32.0	32.0	32.0	32.0	32.0	32.0	34.5				
20x20	25.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	37.5			
21x21	27.1	28.8	30.3	31.9	33.5	34.3	35.0	36.6	38.2	39.0		
24x24	27.0	37.0	37.0	37.0	39.0	39.0	39.0	39.0	39.0	39.0	42.0	

F" - All Classes

Main Size, Inches	Branch Size, Inches											
	6	8	10	12	14	15	16	18	20	21	24	
6x6	15.00											
8x8	16.25	19.00										
10x10	17.75	19.50	21.75									
12x12	19.00	20.75	22.75	23.50								
14x14	20.50	23.25	24.00	25.75	27.25							
15x15	22.30	24.80	26.30	28.20	29.70	29.70						
16x16	22.00	23.75	25.25	25.00	28.50	29.50	31.25					
18x18	23.25	25.00	26.75	26.50	29.75	29.75	31.25	34.25				
20x20	24.75	26.50	28.25	27.75	31.25	31.25	32.75	35.25	37.25			
21x21	26.60	29.00	30.50	32.50	33.90	34.20	35.10	36.80	37.80	38.10		
24x24	27.50	29.50	31.00	30.75	34.00	34.00	35.50	37.50	39.75	39.00	41.75	

PREPARED BY:

M. R. [Signature]

APPROVED BY:

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I.E.

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OTHERS

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02-10-0023 4/80

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CTD015426

DATE OF ISSUE:	SPECIFICATION NO:	PAGE NO.:
May 1, 1982	13	16

DESCRIPTION:

A/C Storm Drain Pipe, Couplings, and Accessories

45° WYE FITTING

For Indicated Branch Pipe Size, In.	G" + .04", -.01" (Reducing Only)	
	III	V
6	7.06	7.06
8	9.08	9.16
10	11.32	11.32
12	13.26	13.72
14	15.52	15.86
15	16.58	16.96
16	17.62	18.08
18	19.82	20.22
20	22.34	22.34
21	23.68	23.68

For Indicated Branch Pipe Size, In.	L _C " + .00" -1.00" (All Classes)	
	III	V
6	14.25	
8	17.25	
10	19.75	
12	20.75	
14	25.00	
15	27.50	
16	27.50	
18	30.50	
20	34.00	
21	35.00	

For Indicated Branch Pipe Size, In.	L _G " ± .25"		L _F " ± .25"	
	III	V	III	V
6	15.03	15.03	7.95	7.95
8	17.10	17.08	8.01	7.79
10	19.62	19.62	8.13	8.13
12	20.72	20.66	7.32	6.91
14	24.32	24.18	8.78	8.13
15	26.94	26.85	10.28	9.68
16	27.81	27.70	10.03	9.35
18	30.37	30.23	10.47	9.60
20	32.91	32.83	10.81	10.25
21	34.18	34.03	10.96	10.01
24	36.49	36.33	9.97	8.86

Pipe Size, In.	L _D " +.00" -.06"		L _E " +.06" -.00"	
	III	V	III	V
6	7.95	7.95	17.96	17.96
8	8.01	7.79	20.88	20.91
10	8.20	8.14	24.42	24.36
12	7.32	6.91	26.27	26.34
14	8.73	8.13	30.70	30.81
15	10.28	9.68	33.84	33.94
16	10.03	9.35	35.17	35.28
18	10.47	9.60	38.61	38.76
20	10.81	10.25	42.06	42.15
21	10.96	10.01	43.79	43.95
24	9.97	8.86	47.48	47.66

CTD015427