



WEAVER GENERAL CONSTRUCTION COMPANY  
3679 S. Huron St., Suite 404  
Englewood, CO 80110  
Phone: (303) 789-4111 FAX: (303) 789-4310

## SUBMITTAL TRANSMITTAL

January 26, 2011  
WGC Submittal No: 02612-001.A

PROJECT: Harold Thompson WRF  
Birdsall Rd.  
Fountain, CO 80817  
Job No. 2908

ENGINEER: GMS, Inc.  
611 No. Weber St., #300  
Colorado Springs, CO 80903  
719-475-2935 Roger Sams

OWNER: Lower Fountain Metropolitan  
Sewage Disposal District  
901 S. Santa Fe Ave.  
Fountain, CO 80817  
719-382-5303 James Heckman

CONTRACTOR: Oldcastle Precast  
427 N. Front Street  
Platteville, CO 80651

SUBJECT: Reinforced Concrete Pipe, RCP/Flared End Joint Details & Dimensions,  
Gasket/Cement/ACPA Clarifications - 48 LF 30", 195 LF 18" & 80 LF 29"x45"

SPEC SECTION: 02612 - Reinforced Concrete Pipe

PREVIOUS SUBMISSION DATES: None

DEVIATIONS FROM SPEC: \_\_\_ YES X NO

CONTRACTOR'S STAMP: This submittal has been reviewed by Weaver General Construction and approved with respect to the means, methods, techniques, & safety precautions & programs incidental thereto. Weaver General Construction also warrants that this submittal complies with contracted documents and comprises on deviations thereto:

Contractor's Stamp:

Engineer's Stamp:

Date: 1/21/11  
Reviewed by: H.C. Myers  
(X) Reviewed Without Comments  
( ) Reviewed With Comments

ENGINEER'S  
COMMENTS: \_\_\_\_\_



**LETTER OF TRANSMITTAL**

427 N. Front St.  
 Platteville, CO 80651  
 Phone (970)785-6066  
 Fax (970)785-6087

8392 Riverview Parkway  
 Littleton, CO 80125  
 Phone (303)791-1100  
 Fax (303)791-1120

To: Weaver General Construction Co.  
3679 S. Huron St #404  
Englewood, CO 80110  
 Attn: Jeff

Date:	1/19/11
Job No.:	
Re:	Thompson Regional Water Reclamation Fountain, CO

We are sending you the following items:

- Shop Drawings   
  Prints   
  Plans   
  Certifications  
 Copy of Letter   
  Change Order   
  Other

Copies	Date	Number	Revision	Description
1	1/19/11			Concrete Pipe Certifications
1	1/19/11			RCP Joint Details & Dimensions
1	1/19/11			Flared End Details & Dimensions
1	1/19/11			Gasket Certifications
1	1/19/11			Cement Certifications
1	1/19/11			ACPA Certification
	1/19/11			
	1/19/11			

These are transmitted as checked below...

- For Approval   
  Approved As Submitted   
  Resubmit   
 Copies For Approval  
 For Your Use   
  Approved As Noted   
  Submit   
  As Requested  
 Returned For Corrections

Remarks...

Signed: Lois Baune      Date: 1/19/11



**Engineering Submittal - Concrete Pipe Certification**

---

*Project Name:* Thompson Regional Water Reclamation

*Project Location:* Fountain, CO

*Contractor:* Weaver General Const.

*Engineer:*

*Submittal Date:* 1/19/11

---

***This is to certify that the following will be manufactured in accordance with the specifications hereinafter designated.***

<b>Quantity</b>	<b>Pipe Diameter</b>	<b>Wall Thickness</b>	<b>Nominal Length</b>	<b>Joint Type</b>	<b>Spec.</b>	<b>Class</b>
48 LF	30"	3.50"	8'-0"	Gasket Jt	ASTM C 76	III
195 LF	18"	2.50"	7'-6"	Gasket Jt	ASTM C 76	III
80 LF	29" x 45"	4.50"	8'-0"	Gasket Jt	ASTM C507	IV
LF	<>	<>	<>	<>	<>	<>
LF	<>	<>	<>	<>	<>	<>
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LF	<>	<>	<>	<>	<>	<>
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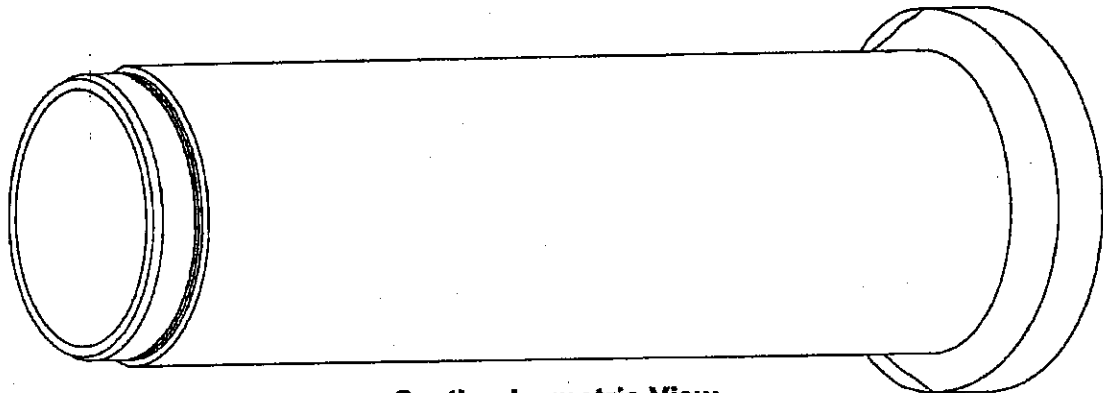
Quantity	Pipe Diameter	Wall Thickness	Nominal Length	Joint Type	Spec.	Class
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Cement: *Portland Type I-II*

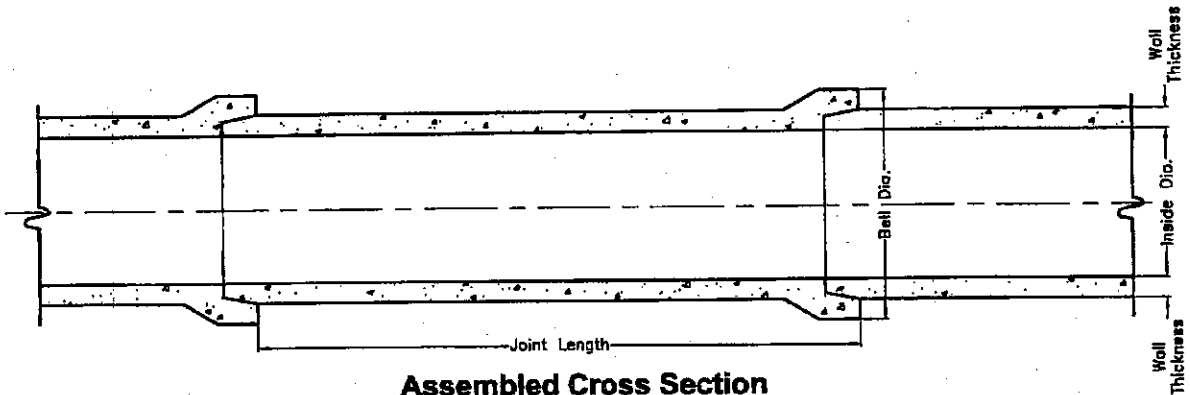
Gasket Joint: *Denotes "Water-tight" rubber gasket joint as per ASTM C443. Gasket shall be "Isoprene"*

Signed: *Loa Baune*

Date: *1/19/14*

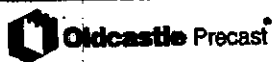


**Section Isometric View**  
(For Reference Only)



**Assembled Cross Section**

Inside Dia. (in.)	Bell Dia. (in.)	Wall Thickness (in.)	Joint Length (ft.)	Weight Per Foot (lbs./ft.)	Inside Dia. (in.)	Bell Dia. (in.)	Wall Thickness (in.)	Joint Length (ft.)	Weight Per Foot (lbs./ft.)
12"	20.000"	2.75"	7.5'	135 lbs.	36"	45.500"	4.00"	8.0'	548 lbs.
15"	23.875"	3.00"	7.5'	185 lbs.	42"	N/A	5.25"	8.0'	813 lbs.
18"	27.625"	2.50"	7.5'	192 lbs.	48"	N/A	5.75"	8.0'	1000 lbs.
21"	31.625"	2.75"	7.5'	259 lbs.	54"	N/A	6.25"	8.0'	1196 lbs.
24"	33.000"	3.00"	7.5'	276 lbs.	60"	N/A	6.75"	8.0'	1485 lbs.
30"	39.000"	3.50"	8.0'	404 lbs.	72"	N/A	7.75"	8.0'	2086 lbs.



**AMCOR** *Flow* Division

487 N. Front Street, PO Box 638, Plattville, MO 64651  
Phone: (573) 785-6866 / 1-800-742-4539  
Fax: (573) 785-6867

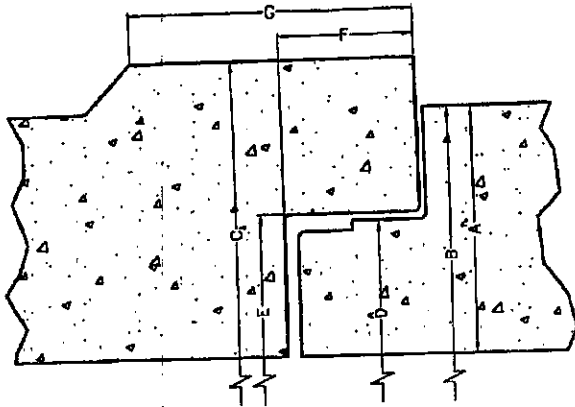
**RCP**

Pipe Submittals  
ISSUE DATE: JULY, 2007

[www.oldcastleprecast.com](http://www.oldcastleprecast.com)

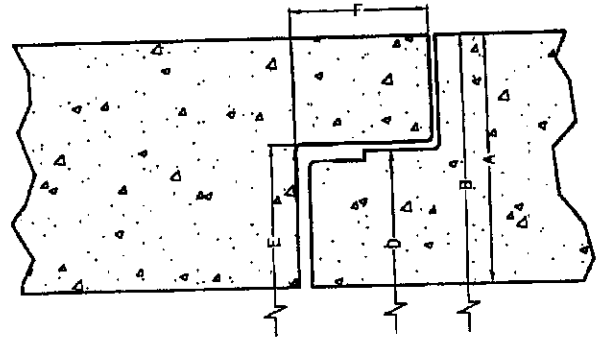
**CIRCULAR REINFORCED  
CONCRETE PIPE**

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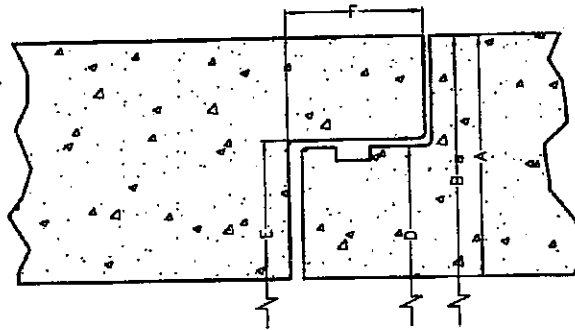
**Profile Joint**

Concrete Pipe with Bell  
(12"-15"-18"-21"-24"-30"-36")



**Profile Joint**

Concrete Pipe with Straight Wall  
(42"-48"-54"-60")



**O-Ring Joint**

Concrete Pipe with Straight Wall  
(72")

Inside Dia. (in.)	Joint Type	Gasket Type	Wall Thickness A (in.)	Pipe O.D. B (in.)	Bell O.D. C (in.)	Spigot Joint Dia. D (in.)	Bell Joint Dia. E (in.)	Joint Depth F (in.)	Bell Length G (in.)
12"	Profile	125-4G	2.75"	17.50"	20.000"	15.230"	15.251"	3.563"	5.00"
15"	Profile	HK135TSS	3.00"	21.00"	23.875"	18.219"	18.751"	3.563"	5.50"
18"	Profile	HK135TSS	2.50"	23.00"	27.625"	21.844"	22.376"	3.750"	5.50"
21"	Profile	HK135TSS	2.75"	26.50"	31.625"	25.344"	26.116"	3.750"	6.00"
24"	Profile	HK135TSS	3.00"	30.00"	33.000"	27.188"	27.709"	3.500"	4.50"
30"	Profile	HK201TSS	3.50"	37.00"	39.500"	33.479"	34.028"	3.500"	6.00"
36"	Profile	HK135TSS	4.00"	44.00"	45.500"	39.479"	40.000"	3.500"	6.00"
42"	Profile	HK185TSS	5.25"	52.50"	N/A	45.546"	46.500"	4.000"	N/A
48"	Profile	HK185TSS	5.75"	59.50"	N/A	52.046"	53.000"	4.000"	N/A
54"	Profile	HK201TSS	6.25"	66.50"	N/A	57.991"	58.709"	5.000"	N/A
60"	Profile	HK201TSS	6.75"	73.50"	N/A	64.491"	65.209"	5.000"	N/A
72"	Profile	O-Ring	7.75"	87.50"	N/A	79.047"	79.141"	4.250"	N/A



**AMCOR** Precast Division

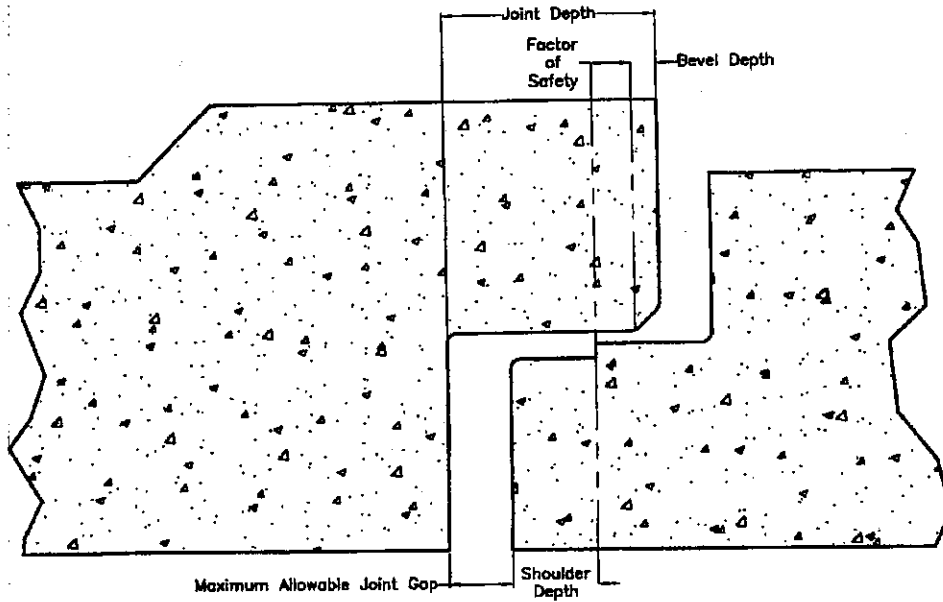
427 N. Front Street, PO Box 838, Pottsville, PA 17653  
Phone: (717) 785-6866 / 1-800-742-4328  
Fax: (717) 785-6867

**PIPE JOINT**

Pipe Submittals  
ISSUE DATE: JULY, 2007  
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**CONCRETE PIPE JOINT DETAILS**


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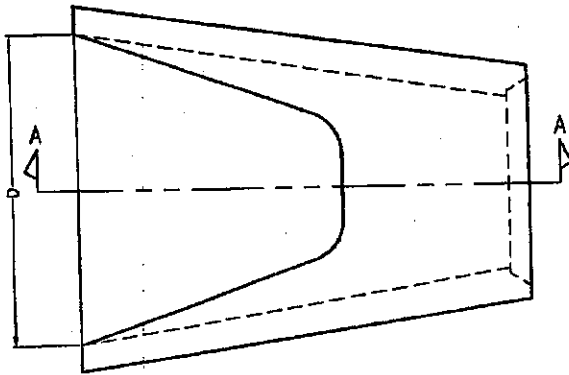


**Profile Joint - Maximum Joint Gap Detail**  
Reinforced Concrete Pipe

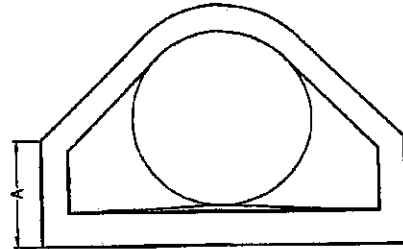
Inside Dia. (in.)	Joint Depth (in.)	Shoulder Depth (in.)	Factor of Safety (in.)	Bevel Depth (in.)	Max. Joint Gap (in.)
12"	3 $\frac{3}{8}$ "	1 $\frac{1}{2}$ "	$\frac{1}{8}$ "	$\frac{5}{8}$ "	1 $\frac{1}{4}$ "
15"	3 $\frac{3}{8}$ "	1 $\frac{1}{2}$ "	$\frac{1}{8}$ "	$\frac{5}{8}$ "	1 $\frac{1}{4}$ "
18"	3 $\frac{3}{4}$ "	1 $\frac{3}{4}$ "	$\frac{1}{8}$ "	$\frac{5}{8}$ "	1 $\frac{1}{8}$ "
21"	3 $\frac{3}{4}$ "	1 $\frac{3}{4}$ "	$\frac{1}{8}$ "	$\frac{5}{8}$ "	1 $\frac{1}{8}$ "
24"	3 $\frac{1}{2}$ "	1 $\frac{3}{4}$ "	$\frac{1}{8}$ "	$\frac{7}{8}$ "	$\frac{5}{8}$ "
30"	3 $\frac{1}{2}$ "	1 $\frac{3}{4}$ "	$\frac{1}{8}$ "	$\frac{7}{8}$ "	$\frac{5}{8}$ "

Inside Dia. (in.)	Joint Depth (in.)	Shoulder Depth (in.)	Factor of Safety (in.)	Bevel Depth (in.)	Max. Joint Gap (in.)
36"	3 $\frac{1}{2}$ "	1 $\frac{1}{2}$ "	$\frac{1}{8}$ "	$\frac{7}{8}$ "	1"
42"	4"	2 $\frac{1}{4}$ "	$\frac{1}{8}$ "	$\frac{7}{8}$ "	$\frac{3}{4}$ "
48"	4"	2 $\frac{1}{4}$ "	$\frac{1}{8}$ "	$\frac{7}{8}$ "	$\frac{3}{4}$ "
54"	5"	2"	$\frac{1}{4}$ "	$\frac{7}{8}$ "	1 $\frac{1}{8}$ "
60"	5"	2"	$\frac{1}{4}$ "	$\frac{7}{8}$ "	1 $\frac{1}{8}$ "
72"	4 $\frac{1}{4}$ "	2"	$\frac{1}{4}$ "	$\frac{7}{8}$ "	1 $\frac{1}{8}$ "

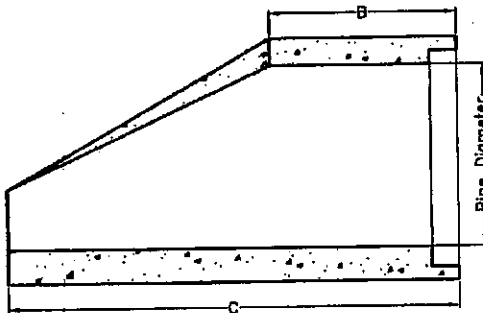
 <b>Oldcastle Precast</b> <b>AMCOR</b> <i>Precast</i> Division <small>427 N. Front Street, PO Box 836, Pittsville, CT 06851          Phone: (970) 785-6066 / 1-888-742-4538          Fax: (970) 785-6867</small>	<b>JOINT GAP</b>	<b>CONCRETE PIPE JOINT DETAILS MAXIMUM ALLOWABLE JOINT GAP</b>
	Pipe Submittals	
	ISSUE DATE: JULY, 2007	
	<a href="http://www.oldcastleprecast.com">www.oldcastleprecast.com</a>	
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**Plan View**



**End View**



**Section A-A**

Pipe Dia. (in.)	Dimension A (in.)	Barrel Length B (in.)	Lay Length C (in.)	Flair Width D (in.)	Weight (lbs.)
12"	4.00"	45.40"	72.00"	24.0"	1350 lbs.
15"	6.00"	42.50"	72.00"	30.0"	1930 lbs.
18"	10.0"	46.00"	73.00"	36.0"	2160 lbs.
24"	12.0"	30.00"	73.50"	48.0"	3060 lbs.
30"	14.0"	19.75"	73.75"	60.0"	4320 lbs.
36"	18.0"	34.75"	97.75"	72.0"	7640 lbs.
42"	21.0"	29.50"	96.00"	78.0"	11,000 lbs.
48"	24.0"	20.30"	96.00"	84.0"	12,100 lbs.
54"	27.0"	25.50"	96.00"	90.0"	10,600 lbs.
60"	30.0"	30.50"	96.00"	96.0"	12,770 lbs.
72"	34.0"	11.50"	96.00"	108.0"	16,875 lbs.



**AMCOR** *Precast* Division

427 N. Front Street, PO Box 938, Pottsville, CO 88651  
 Phone (970) 785-6066 / 1-800-742-4330  
 Fax (970) 785-6067

**RCP**

Pipe Submittals

ISSUE DATE: JULY, 2007

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**FLARED END SECTION  
 FOR CIRCULAR RCP**

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*make the connection*

January 1st 2008

TSS\_Material\_Cert\_R1

**To Whom It May Concern**

This letter is to certify that :

1. All Tylox® SuperSeal™ Gaskets, manufactured by Hamilton Kent, in Isoprene Rubber, conform to the physical requirements for standard gaskets as detailed in ASTM C361, Section 6.9.1 & 6.9.1.1; and ASTM C443 Section 6.1.1
2. All Tylox® SuperSeal™ Gaskets, manufactured by Hamilton Kent, in Nitrile Rubber or Neoprene Rubber, conform to the physical requirements for oil-resistant gaskets as detailed in ASTM C361, Section 6.9.1 & 6.9.1.2; and ASTM C443 Section 6.1.2
3. All Tylox® SuperSeal™ Gaskets, manufactured by Hamilton Kent, in an Isoprene/EPDM blend, conform to the physical requirements for standard gaskets as detailed in ASTM C443 Section 6.1.1 and "Greenbook" - Standard Specifications for Public Works Construction Sec. 208.3.
4. All physical properties of Tylox® SuperSeal™ Gaskets, manufactured by Hamilton Kent are determined in accordance with the test methods outlined in ASTM C361, Section 10.5 and ASTM C443 Section 9.
5. All splices used in Tylox® SuperSeal™ Gaskets, manufactured by Hamilton Kent, meet the requirements of ASTM C361, Section 10.5.1.2 and ASTM C443, Section 6.2.

Should you have any further questions, or require clarification, please do not hesitate to contact us.

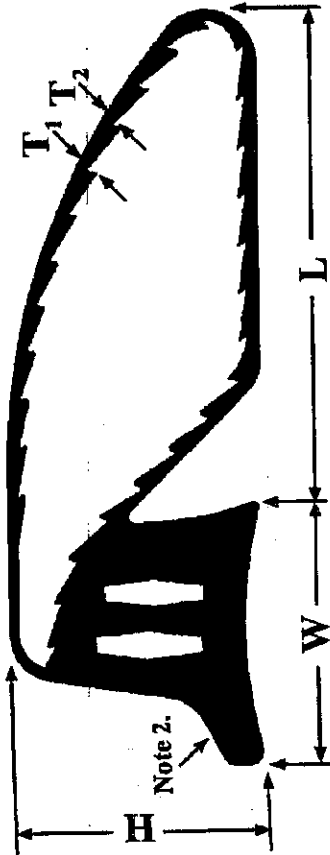
Yours Sincerely,

A handwritten signature in black ink, appearing to read 'Jenny Wang'.

Jenny Wang  
Quality \ Quality Systems Manager

416 675 9873 x242

Material I.D. Stripe	
Material	Color
IR	None
EPDM	Blue
Neoprene	Yellow
Nitrile	Orange
IR/EPDM	Red



		Tylox® SuperSeal™ Model													
Dim.	Units	115	135	165	175	185	186	200	200L	201	225	245			
W	in	0.600	0.712	0.860	0.833	0.825	0.850	0.950	1.080	0.925	1.100	1.120			
	mm	15.24	18.08	21.84	21.15	20.95	21.59	24.13	27.00	23.50	27.94	28.45			
H	in	0.488	0.610	0.675	0.697	0.690	0.758	0.790	0.885	0.790	0.910	0.965			
	mm	12.39	15.50	17.15	17.70	17.53	19.25	20.07	22.48	20.06	23.11	24.51			
L	in	0.585	0.870	0.980	0.565	0.588	1.140	0.835	1.500	1.015	1.500	0.855			
	mm	14.86	22.10	24.89	14.35	14.94	28.96	21.20	38.10	25.78	38.10	21.72			
T <sub>1</sub> + T <sub>2</sub> (Note 1)	in	.094	0.096	0.100	0.092	0.068	0.130	0.066	0.126	0.080	0.130	0.110			
	mm	1.78	2.44	2.54	2.34	1.73	3.30	1.68	3.20	2.03	3.30	2.79			

Markings: All Tylox® SuperSeal™ Gaskets are marked with the Model Number, the Size - in millimetres and inches, the Specification Compliances, the Patent Number, the Month and Year of Manufacture, HK's Job Number, and the Country of Manufacture. e.g.

TYLOX SUPERSEAL 135 300MM (12") ASTM C361, C443, CSA A257.3 US PAT. 4934716 11/07 JOB NO XXX-XX-XXXX US

Note 1. T<sub>1</sub> + T<sub>2</sub> represents 2x the mean wall thickness, and is the minimum size allowance for the Annular Space between Bell and Spigot, prior to the offset step.

Note 2. Material I.D. Stripe runs, circumferentially, along the top of the gasket nose.

**Tylox®**  
**SuperSeal™**  
**Dimensions**

**HK Hamilton Kent**  
make the connection

Rev. 1

Drawing: HKS-A-10001

Tylox® SuperSeal™ Gaskets are patented under US Patent 4934716

Date: May 15 2007 Drawn: MB Check: PS Scale: NTS



# Holcim

## Material Certification Report

Material: Portland Cement  
Type: I, II (ASTM C 150)

Test Period: 01-Jun-2009  
To: 30-Jun-2009

Holcim cement meets the specifications of ASTM C 150 for Types I, II cement.

Supplier: Holcim (US) Inc.  
Address: 3500 State Highway 120  
Florence, Co. 81226  
Telephone: 719-784-1307  
Date Issued: 09-Jul-2009

Source Location: Portland Plant  
3500 State Highway 120  
Florence, Co. 81226  
Contact: Dick Roush

The following information is based on average test data during the test period. The data is typical of cement shipped by Holcim; individual shipments may vary.

Chemical			Physical		
Item	Limit <sup>A</sup>	Result	Item	Limit <sup>A</sup>	Result
SiO <sub>2</sub> (%)	-	19.6	Air Content (%)	12 max	8
Al <sub>2</sub> O <sub>3</sub> (%)	6.0 max	4.6	Blaine Fineness (m <sup>2</sup> /kg)	260 min	405
Fe <sub>2</sub> O <sub>3</sub> (%)	6.0 max	3.3	Average <sup>B</sup> Blaine Fineness (m <sup>2</sup> /kg)	430 max	401
CaO (%)	-	63.6		280 min	
MgO (%)	6.0 max	1.3	Autoclave Expansion (%) (C 151)	420 max	
SO <sub>3</sub> (%)	3.0 max	3.5	Compressive Strength MPa (psi):		
Loss on Ignition (%)	3.0 max	2.6	3 Day	12.0 (1740) min	29.2 (4240)
Insoluble Residue (%)	0.75 max	0.56	7 Day	19.0 (2760) min	40.0 (5800)
CO <sub>2</sub> (%)	-	1.4	Initial Vicat (minutes)	45-375	141
Limestone (%)	5.0 max	4.1	Mortar Bar Expansion (%) (C 1038)		-0.001
CaCO <sub>3</sub> in Limestone (%)	70 min	78	Heat of Hydration: 7 days, kJ/kg (cal/g)		381 (91)
Potential Compounds:					
C <sub>3</sub> S (%)	-	57			
C <sub>2</sub> S (%)	-	13			
C <sub>3</sub> A (%)	8 max	7			
C <sub>4</sub> AF (%)	-	10			
C <sub>3</sub> S + 4.75C <sub>3</sub> A (%)	100 max	90			

Chemical			Physical		
Item	Limit <sup>A</sup>	Result	Item	Limit <sup>A</sup>	Result
Equivalent Alkalies (%)		0.70			

<sup>A</sup> Dashes in the limits columns means Not Applicable

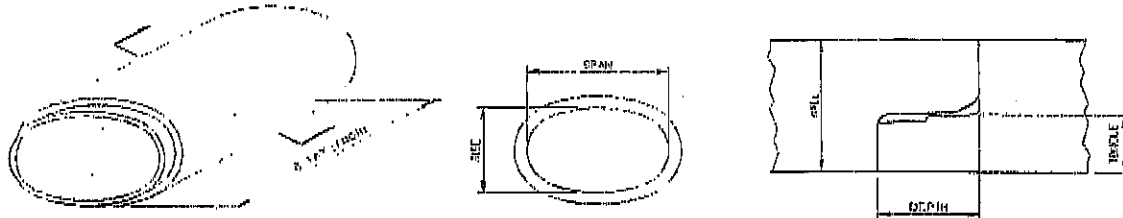
<sup>B</sup> Average of last five consecutive samples.

<sup>C</sup> Test results represent most recent value and is provided for information only.

<sup>D</sup> The mortar bar expansion is if required to be less than 0.02% if the SO<sub>3</sub> is exceeded.

This data may have been reported on previous mill certificates. It is typical of the cement being currently shipped which was produced in June of 2009.

# ELLIPTICAL CONCRETE PIPE



Equivalent Circular Diameter (Inches)	Rise x Span (Inches)	Wall Thickness (Inches)	SECTION Joint Depth (Inches)	Tongue Thickness (Inches)	JOINT DETAIL Waterway Area (Ft <sup>2</sup> )	WT. (lbs)	WT (tons)
18	14 x 23	3.625	3.25	1.81	1.8	2,160	1.1
24	19 x 30	3.625	3.25	1.71	3.3	2,750	1.4
30	24 x 38	3.75	3.25	1.91	5.1	3,500	1.8
36	29 x 45	4.50	3.25	2.04	7.4	5,030	2.5
42	34 x 53	5.00	3.75	2.60	10.2	6,540	3.3
48	38 x 60	5.50	3.75	2.86	12.9	8,070	4.0
54	43 x 68	6.00	4.00	2.74	16.6	9,940	5.0
60	48 x 76	6.50	4.00	3.04	20.5	11,940	6.0
72	58 x 91	7.60	4.50	3.51	29.5	16,470	8.2

Manufacturing Standard: ASTM C 507, AASHTO M 207

Strength Class: II, III, IV

Joint: Pre-lubricated profile rubber gasket, ASTM C 443

# Certificate of Compliance

Awarded

## Storm Sewer and Culvert Pipe Plant

By



American Concrete Pipe Association

This Certificate represents that at the time of the audit,

### Oldcastle Precast, Inc. Platteville, Colorado

was manufacturing precast concrete pipe in accordance with ACPA published guidelines and that sufficient and appropriate procedures and documentation of the manufacturing process were in place as evidence of continued manufacturing practice in accordance with those guidelines.

This Certificate of Compliance is awarded on the basis of successful completion of a compliance audit performed by Wiss, Janney, Elstner Associates, Inc. on.

November 23, 2010

Matt Childs, P.E.  
President  
American Concrete Pipe Association

Dave Anderson  
Chairman  
Manufacturing/Quality Committee