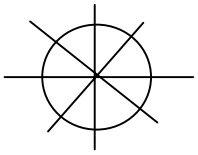
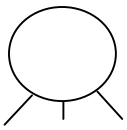
260-44 First Piece Verification Record

NOTE: AASHTO must have additional QA testing before shipment Non-AASHTO can be shipped after first piece is complete

Line #		
Date Code	Shift Change	☐
Blend #:	Material Change	☐
Operator:	Product Change	☐
Product Description:		

	TIME OF CHECK>>>	
PROC.	**SPECIFICATION**	**RESULTS**
VM-1	WT/FOOT	
VM-9	Crown 	Average Thickness
		Range @ 180°
		Min. Thickness
VM-7	Perforation Pattern - Channel flow - Leach 	Degree
		Left hole
		center hole
		right hole
VM-7	HOLE SIZE - C/F- Leach LH CH RH	
VM-7	PERFORATION PATTERN	Width / Length
	for circular perf use width column	
	Circle One	
	Pass Fail	
	Inlet Area (AASHTO only)	
VM-4	OUTSIDE DIAMETER (OD)	
VM-3	INSIDE DIAMETER (ID) CSA/M252	
VM-3	INSIDE DIAMETER (ID) BNQ	
VM-15	VISUAL (Circle One)	Pass / Fail
VM-2	PIPE PITCH	
VM-13	MEASURED PRODUCT LENGTH	
VM-14	MARKINGS	Pass / Fail
	Supervisor Intials (AASHTO only)	
VM-25	CO-EX SKIN THICKNESS	
VM-10	% SIDEWALL VARIATION	
VM-17	COLD IMPACT (Circle One)	Pass / Fail
VM-21	COLD BEND TEST (Circle One)	Pass / Fail
VM-20	IN-PLANT PARALLEL PLATE	Circle one
	(VM-20 Iowa Only- Other plants optional. See VM-22 for Lotes Testing)	
VM-19	5% PII – AASHTO ONLY	
VM-19	10% PII - Heavy Duty Only	
VM-22	20% YIELD – AASHTO ONLY	Circle one

Non-critical to process

Line Speed FPM		
% Air Flow		
Ambient Temp.		

Comments:

Refer to 260-44-CP-1 Process Control

Core Extruder:		Heats Set	Heats Act
Zone 1	*250° - 500°*		
Zone 2	*250° - 500°*		
Zone 3	*250° - 500°*		
Zone 4	*250° - 500°*		
Zone 5	*250° - 500°*		
Zone 6	*250° - 500°*		
Gate			
Screen Changer 1			
Screen Changer 2			
Screen Changer 3			
Die 1	*250° - 500°*		
Die 2	*250° - 500°*		
Screen R.P.M.			
Extruder Speedpot Setting			
Melt Temperature			
Head Pressure Reading			
Extruder Amps Reading			
Oil Temperature			
Cooling Zone Water Temp.			

Skin Extruder		Heats Set	Heats Act
Zone 1			
Zone 2			
Zone 3			
Zone 4			
Zone 5			
Zone 6 / G-1			
Screen Changer 1			
Screen Changer 2			
Screen Changer 3			
Die 1	*250° - 500°*		
Die 2	*250° - 500°*		
Die 3	*250° - 500°*		
Die 4	*250° - 500°*		
Die 5	*250° - 500°*		
Die 6	*250° - 500°*		
Die 7	*250° - 500°*		
Screw R.P.M.			
Extruder Speedpot Setting			
Melt Temperature			
Head Pressure			
Extruder Amps			
Oil Temperature			
Cooling Zone Water Temp.			

Internal Air Pressure (1.5 - 8.0 psi)		
Water Gal / Min *(.5 - 30 gal / min)*		
Process Water Temp *(40°-120°)*		

Form 260-44-F-1
Rev Date 6/6/2005

3020 First Piece Verification Form (QC)

Form 3020-F-1 Revision Date: 6/6/05

	Product	
	Date Code	
	Tooling Set	
	Time	
VM-1	Weight	
VM-3	Pipe I.D. Average	

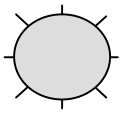
Measure 2 sections of product 8 times evenly spaced then average all 16 measurements

X 2

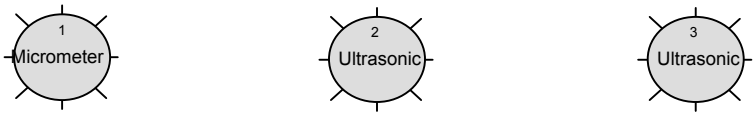
	CSA
Avg (M294/CSA) -	
Avg (BNQ) -	

VM-3	I.D. Out of Round	
VM-4	Pipe O.D.	
VM-5	Liner Flatness	
VM-13	Length	

VM-9	Average	Crown
VM-9	Range@180°	
VM-9	Minimum	



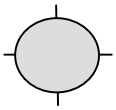
VM-9	Average	Liner
VM-9	Range@180°	
VM-9	Minimum	



1	2	3

Note: 1 liner must be measured with a micrometer

VM-9	Average	Root
VM-9	Range@180°	



VM-10	% of Sidewall Variation	

	Thickness	Gasket groove	Coupler
VM-9	Seam 1		
	90 °		
	Seam 2		
	90 °		
	Average		
VM-23	Coupler I.D.		
VM-29	Spigot O.D.		
VM-2	Pitch		
VM-16	End to End Bow		
VM-24	Skived Liner Length		
TBD	Gasket shoulder to corrugation 24 & 30 Blue Seal/SaniTite only		
VM-7	Perf Pattern (hole size)		
	Inlet Area (AASHTO Only)		
VM-6	Liner Weld Test (circle One)	Pass	Fail
VM-14	Markings	Pass	Fail
VM-15	Visual	Pass	Fail
VM-17	Cold Temp Impact	Pass	Fail
VM-21	Cold Temp Bend (singlewall only)	Pass	Fail
VM-32	Rolled Lip Quality	Pass	Fail
TBD	Pierce Punch on Reduced Corr (24 & 30)	Pass	Fail

Circle One

Pass Fail

Supervisor Initial (AASHTO Only)

Blend	
Name	
Branch	
Line Number	

Liner Pump / 4 1/2" EXT.	
Shell Pump / 6" Ext.	
Corrugator Input	
Shell Discharge	
Liner Discharge	
Suction Pressure	
L.P. Gas Pressure	
Mandrel Pressure	
Chamber 1	
Chamber 2	
Chamber 3	
Chamber 4	
Chamber 5	
Plug Vacuum	
Plug Nose Temperature	
Plug Body Temperature	
High Needle	
Low Needle	
Boost Pressure	
Manometer High	
Manometer Low	

	MAIN		Branch 9 line 2 only 14 line 1 only SATELLITE	
	SET	ACT	SET	ACT
ZONE 1				
ZONE 2				
ZONE 3				
ZONE 4				
ZONE 5				
ZONE 6				
MELT TEMP	N/A		N/A	
GATE				
HEAD PRESS	N/A		N/A	
S.C 1				
S.C 2				
S.C 3				
DIE 1				
DIE 2				
DIE 3				
DIE 4				
DIE 5				
DIE 6				
DIE 7				
DIE 8				
DIE 9				
DIE 10				
DIE 11				
DIE 12				
DIE 13				
DIE 14				

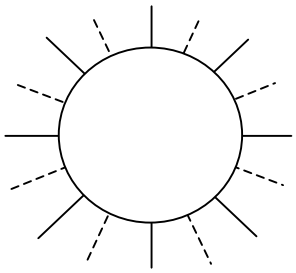
Record QC results below or use Form # Gen-ST-7 and attach to this First Piece

	5 % PII		
VM-19	10 % PII - (Heavy Duty Only)		
	20 % Yield AASHTO only (circle results)	**Pass**	**Fail**

3660 First Piece Verification Record

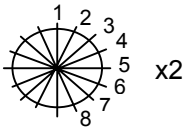
Date Code		Product Code	
Blend Number		Product Description	
Operator Name		Tooling Set	

Crown (VM 9)

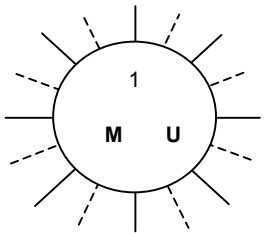


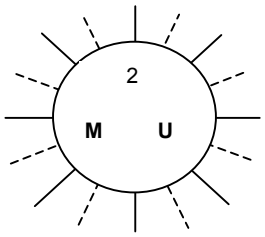
Range	
Crown Ave. Thickness	
Min. Crown Thickness	
Liner (VM 9)	

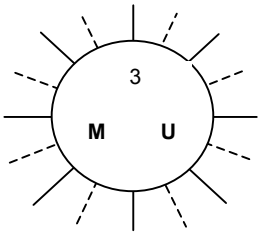
Weight Per Foot (VM1)		
Pipe I.D. (VM3)	1st section	section
Measure 2 sections of product 8 times evenly spaced then average all 16 measurements		
Average of all 16 measurements		
I.D. Out of Round (VM3)		
Outside Circumference (VM4)		
Liner Flatness (VM5)		
Liner Weld Test (VM6) (circle one)	Pass	Fail



AASHTO Products Only
Branches 6,7,9,10 &11 only 3 Liner measurements must be taken per shift, 1 liner must be measured with micrometer.
If a micrometer (Measure Top Hat) is used circle **M** , for ultrasonic cirlce **U**



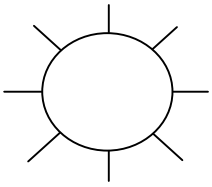




Liner Thick Range (R)		R		R	
Liner Avg. Thickness		Avg		Avg	
Min. Liner Thickness		Min		Min	

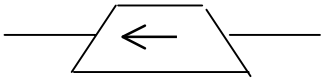
Pipe Length (VM13)		
Markings (VM14) (circle one)	Pass	Fail
Supervisor Intial (AASHTO Only)		
End to End Bow (VM16)		
Visual (VM15) (circle one)	Pass	Fail

Root (VM9)



Root Thick Range	

Sidewall Variation (VM 10)



% Sidewall Variation	

	@ Seam	@ 90 ^{0}	@ Seam	@ 90 ^{0}	Average
	Average Coupler Thickness (VM31)				
GASKET					
MIDDLE					
LIP					

	@ Seam	@ 90 ^{0}	@ Seam	@ 90 ^{0}	Average
	Downstream Leg Of Chair Corrugation Gasket Groove (VM9)				

Coupler Inside Circumference (VM23)	
Skived Liner Length (VM24)	
Spigot Outside Circumference (VM 29)	

Record QC results below or use Form# Gen-F-7 and attach to this First Piece

Parallel Plate (VM19) 5%		
20% Yield **AASHTO only** (circle one)	Pass	Fail

Rev. Date: 6-6-05

Form# - 3660-F-12