

Joint Ring Solutions





Built to last. Designed to perform.

- · For wetcast applications
- · 12" through 144" diameters

Heavy steel construction designed for strength, durability and performance

Afinitas is known for bringing together the top engineering and manufacturing expertise in the industry to build best-in-class precast forming systems. Our wide range of quality products are backed by knowledgeable and responsive customer sales and manufacturing team members who are there to assist you throughout the life of your form. And to that point, our forms are built to last. We combine heavy-duty steel with an innovative approach to manufacturing that will ensure we can help you take your business where you want to grow.

Wetcast formwork is a core competency of the Afinitas team. We have been trusted for decades to engineer forms for a wide variety of applications, including:

- Manhole Cone Forms
- Manhole Riser Forms
- Manhole Slab Top, Transition Slab, Base Slab Forms
- Box Forms
- Flared End Forms
- Battery Grade Ring Forms
- Manhole Joint Rings



Manhole Cone Form



Box Form



Grade Ring Form



Contact our team at +1 641-394-4111 or email rfq@afinitas.com

A Joint Ring Types

Joint rings, also known as gaskets or seals, are flexible circular components designed to create a watertight seal between sections of precast concrete pipe, manholes, and other structures. They fill the gaps and prevent infiltration or exfiltration of water. Our high quality joint rings contribute to the overall stability and strength of your precast products, ensuring the integrity of your underground infrastructure projects.



Groove Forming Pallets with Legs

- Used with manhole slab tops, cones, riser or pipe forming
- Available sizes range from 24" 144" (smaller diameter rings are available)



Tongue Forming Headers, Open Top with Form Tabs

- Used with manhole combination base/riser forming or pipe forming
- Available sizes range from 24" 144" (smaller diameter rings are available)



Tongue Forming Pallets with Lifting Eyes

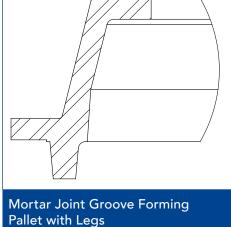
- Used with manhole monolithic base forming
- Available sizes range from 24" 144" (smaller diameter rings are available)

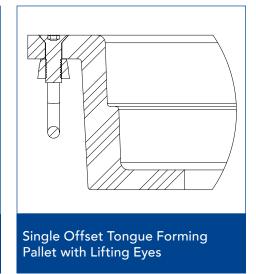


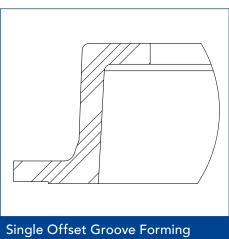
Tongue Forming Headers, Open Top with Form Hangers/Lifting Eyes

- Used with manhole combination monolithic base/ riser forming or pipe forming
- Available sizes range from 24" 144" (smaller diameter rings are available)

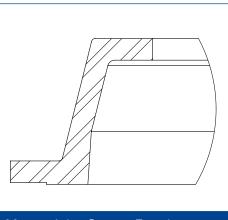




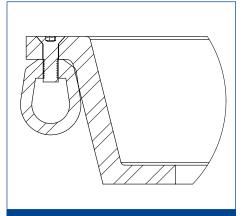




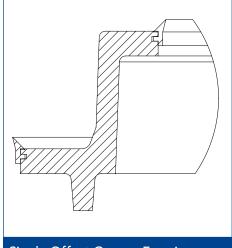




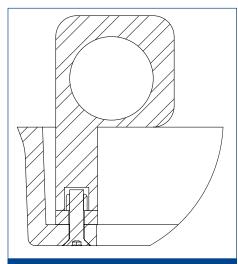
Mortar Joint Groove Forming Pallet without Legs



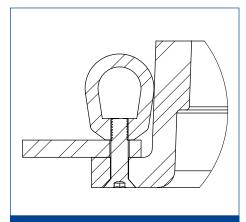
Mortar Joint Tongue Forming Pallet with Lifting Eyes



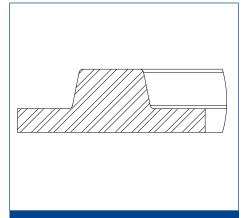
Single Offset Groove Forming Pallet with Legs and ID/OD Chamfer Seals



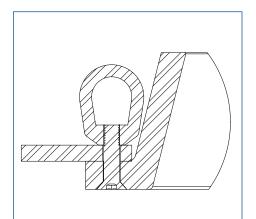
Single Offset Groove Forming Header, Open Top with Lifting Eyes and Core Tabs/Hangers



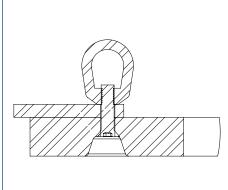
Single Offset Tongue Forming Header, Open Top with Lifting Eyes and Form Tabs



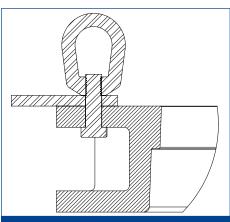
Key Lock Groove Forming Pallet



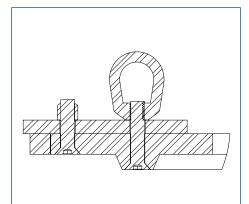
Mortar Joint Tongue Forming Header, Open Top with Lifting Eyes and Form Tabs



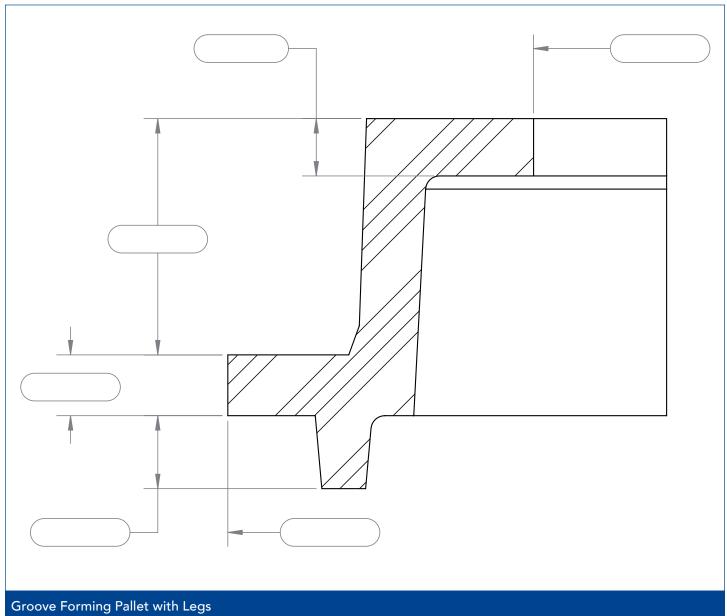
Key Lock Tongue Forming Header with Form Tabs and Lifting Eyes

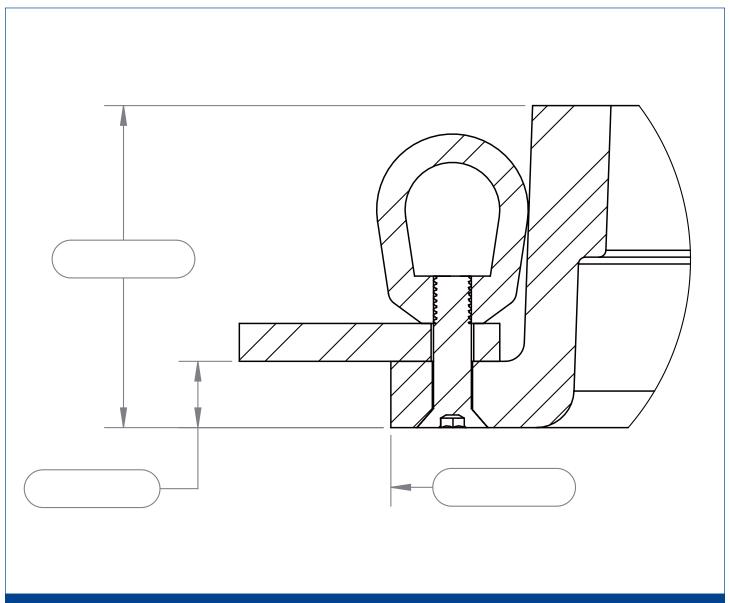


Single Offset, Double Flange, Tongue Forming Header, Open Top with Lifting Eyes and Form Tabs (84" Dia. & Larger)

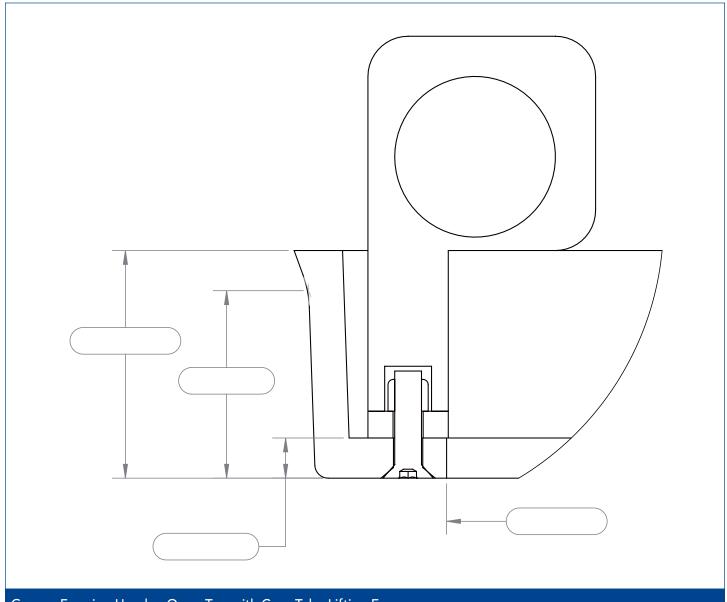


Key Lock Groove Forming Header with Form Tabs and Lifting Eyes

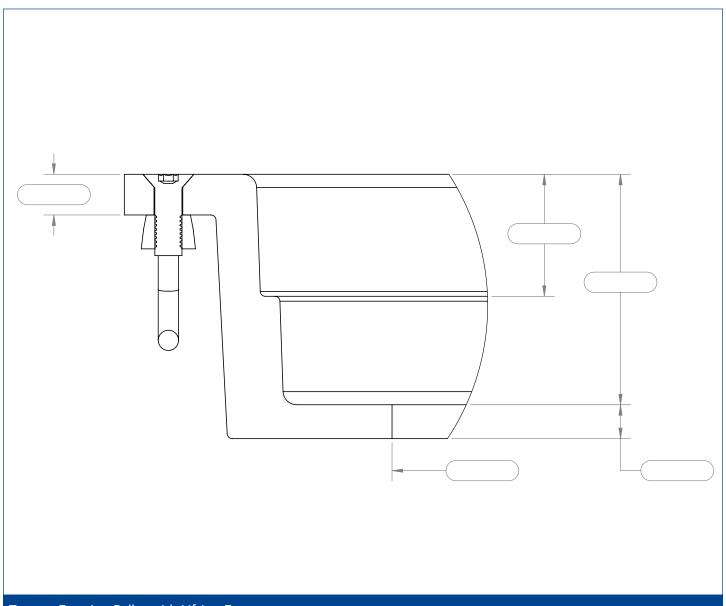




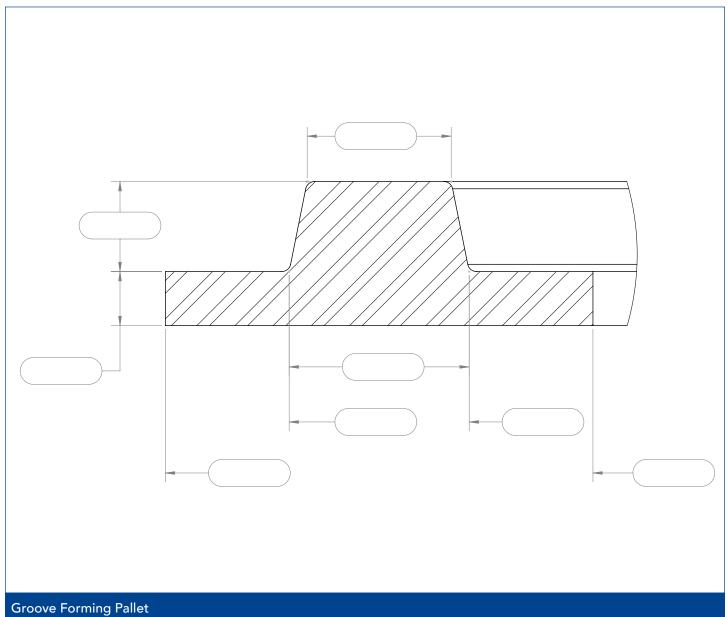
Tongue Forming Header, Open Top with Form Tabs and Lifting Eyes

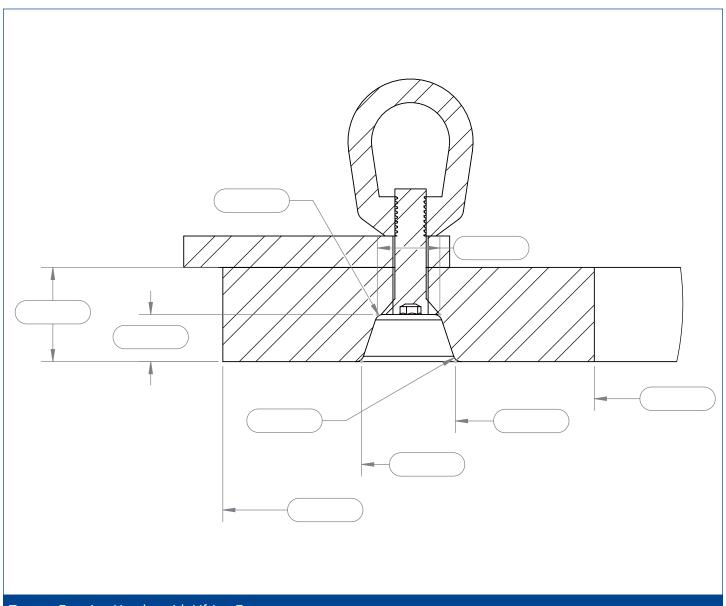


Groove Forming Header, Open Top with Core Tabs-Lifting Eyes

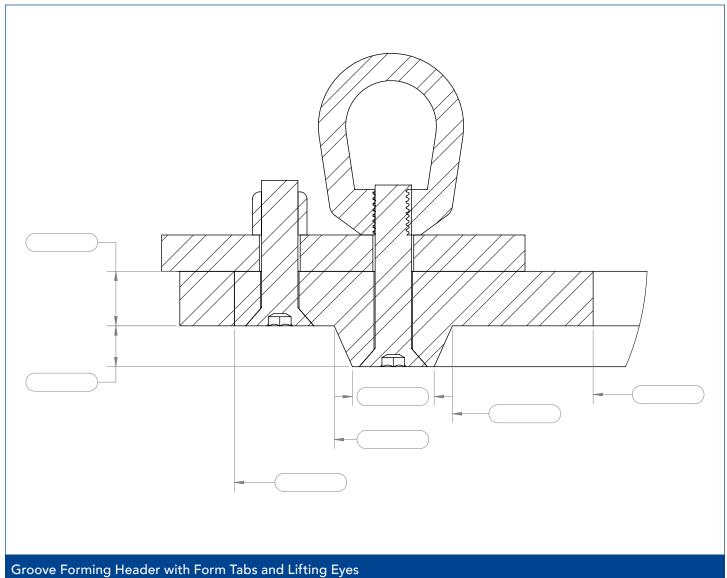


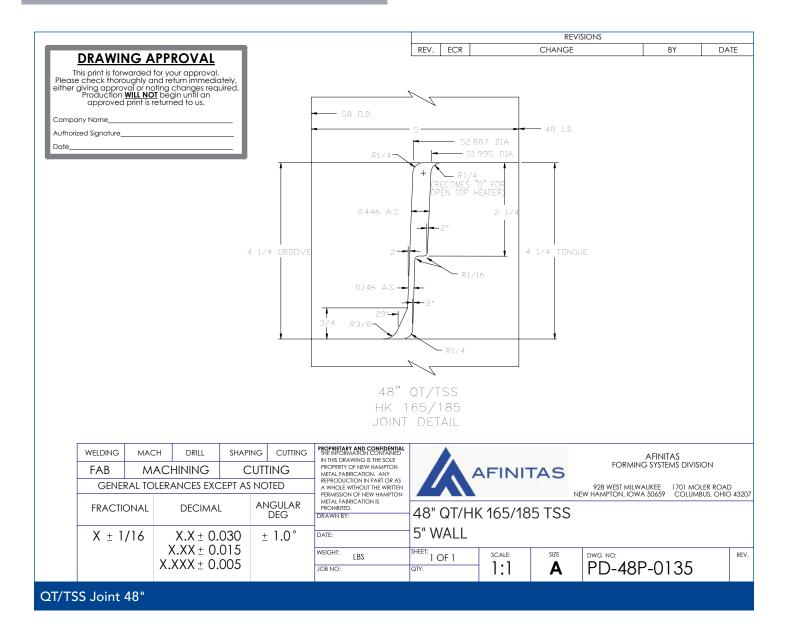
Tongue Forming Pallet with Lifting Eyes





Tongue Forming Header with Lifting Eyes

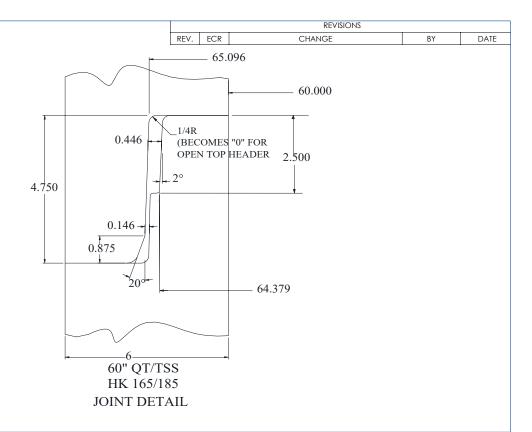




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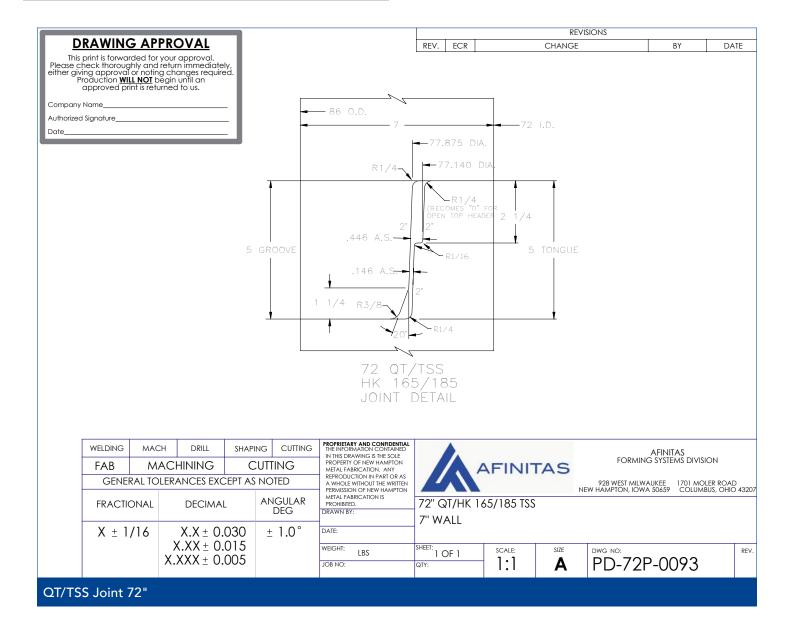
Company Name_

Authorized Signature____ Date_



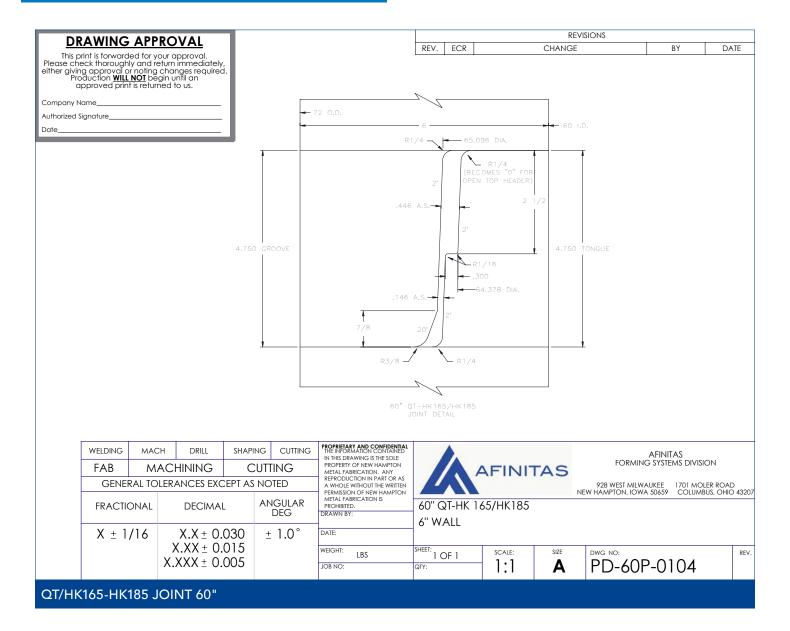
WELDING	MAC	H DRILL	SHAPI	NG CUTTING	PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE				AFINI		
FAB	MA	MACHINING CUTTING PROPERTY OF NEW HAMPTON METAL PARRICAN ANY SERVICION IN A RAY OF A SERVICION IN A RA		TAS	FORMING SYSTE	-MS DIVISION					
GENERAL TOLERANCES EXCEPT AS NOTED			NOTED	REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF NEW HAMPTON				928 WEST MILWAUKEE NEW HAMPTON, IOWA 50659	1701 MOLER ROAL COLUMBUS, OHIO		
FRACTIONAL DECIMAL			\L	ANGULAR DEG	METAL FABRICATION IS PROHIBITED. DRAWN BY:	60" QT/HK 1	65/185 TSS	3		<u> </u>	
X ± 1,	/16	X.X ± 0		± 1.0°	DATE:	O WALL					
		X.XX± 0.015 X.XXX± 0.005			WEIGHT: LBS JOB NO:	SHEET: 1 OF 1 QTY:	SCALE:	SIZE A	PD-60P-00	095	REV.

QT/TSS Joint 60"



QT/HK165-HK185 JOINT 48"

REVISIONS **DRAWING APPROVAL** REV. ECR CHANGE DATE $\mathsf{B}\mathsf{Y}$ This print is forwarded for your approval. Please check thoroughly and return immediately, either giving approval or noting changes required. Production **WILL NOT** begin until an approved print is returned to us. Company Name_ Authorized Signature_ - 58 O.D. Date R1/4 -- 52.887 DIA. R1/4 BECOMES "O" FO DPEN TOP HEADER .446 A.S.-R1/16 -52.170 DIA 48" QT-HK165/HK185 JOINT DETAIL PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED WELDING MACH DRILL SHAPING CUTTING THE INFORMATION CONTAINED IN HIS IDEAMING IS THE SOLE PROPERTY OF NEW HAMPTON METAL FABRICATION, ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT HE WRITED FERMISSION OF NEW HAMPTON METAL FABRICATION IS PROHIBITED. DRAWN BY: AFINITAS FORMING SYSTEMS DIVISION FAB **MACHINING CUTTING AFINITAS** GENERAL TOLERANCES EXCEPT AS NOTED 928 WEST MILWAUKEE 1701 MOLER ROAD NEW HAMPTON, IOWA 50659 COLUMBUS, OHIO 43207 **ANGULAR** 48" QT-HK165/HK185 **FRACTIONAL** DECIMAL DEG 5" WALL ± 1.0° $X \pm 1/16$ $X.X \pm 0.030$ DATE: SHEET: 1 OF 1 $X.XX \pm 0.015$ WEIGHT: SCALE: REV. LBS $X.XXX \pm 0.005$ PD-48P-0159 1:1 Α JOB NO:



QT/HK165-HK185 JOINT 72"

REVISIONS **DRAWING APPROVAL** REV. ECR CHANGE BY DATE This print is forwarded for your approval. Please check thoroughly and return immediately, either giving approval or noting changes required. Production **WILL NOT** begin until an approved print is returned to us. Company Name_ Authorized Signature__ - 77.875 DIA. R1/4 (BECOMES "0" FOR OPEN TOP HEADER) R1/16 ---77.157 DIA. R3/8 Z 72" QT-HK165/HK185 JOINT DETAIL PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED WELDING MACH DRILL SHAPING CUTTING THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF NEW HAMPTON METAL FABRICATION. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUTHE WRITTEN PERMISSION OF NEW HAMPTON METAL FABRICATION IS PROHIBITED. DRAWN BY: AFINITAS FORMING SYSTEMS DIVISION **MACHINING CUTTING** FAB **AFINITAS** GENERAL TOLERANCES EXCEPT AS NOTED 928 WEST MILWAUKEE 1701 MOLER ROAD NEW HAMPTON, IOWA 50659 COLUMBUS, OHIO 43207 **ANGULAR** 72" QT-HK165/HK185 **FRACTIONAL** DECIMAL DEG 7" WALL DATE: ± 1.0° $X \pm 1/16$ $X.X \pm 0.030$ SHEET: 1 OF 1 $X.XX \pm 0.015$ WEIGHT: SCALE: LBS X.XXX ± 0.005 PD-72P-0113 1:1 A

REVISIONS **DRAWING APPROVAL** REV. ECR CHANGE BY DATE This print is forwarded for your approval. Please check thoroughly and return immediately, either giving approval or noting changes required. Production **WILL NOT** begin until an approved print is returned to us. Company Name_ Authorized Signature_ - 58 O.D. Date - 48 ID - 52.996 DIA. R1/4 BECOMES "O" FOR OPEN TOP HEADER) -52 249 DIA 48" 7R-HK165/HK185 JOINT DETAIL PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED WELDING MACH DRILL Shaping CUTTING THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOUR IN THIS DRAWING IS THE SOUR IN THE PROPERTY OF NEW HAMPTON METAL FABRICATION, ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMASSION OF NEW HAMPTON METAL FABRICATION IS PROHIBITED. DRAWN BY: AFINITAS FORMING SYSTEMS DIVISION CUTTING FAB **MACHINING AFINITAS** GENERAL TOLERANCES EXCEPT AS NOTED 928 WEST MILWAUKEE 1701 MOLER ROAD NEW HAMPTON, IOWA 50659 COLUMBUS, OHIO 43207 ANGULAR DEG 48" 7R-HK165/HK185 FRACTIONAL DECIMAL 5" WALL ± 1.0° $X \pm 1/16$ $X.X \pm 0.030$ SHEET: 1 OF 1 $X.XX \pm 0.015$ WEIGHT: SCALE: REV. $X.XXX \pm 0.005$ PD-48P-0158

QTY:

JOB NO:

A

1:1

7R/HK165-HK185 JOINT 48"

7R/HK165-HK185 JOINT 60"

REVISIONS **DRAWING APPROVAL** REV. ECR CHANGE BY DATE This print is forwarded for your approval. Please check thoroughly and return immediately, either giving approval or noting changes required. Production **WILL NOT** begin until an approved print is returned to us. Company Name_ - 72 O.D. Authorized Signature_ Date_ — 65.175 DIA. R1/4 (BECOMES "O" FOR DPEN TOP HEADER) .300 60" 7R-HK165/HK185 JOINT DETAIL PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED WELDING MACH CUTTING DRILL SHAPING THE INFORMATION CONTAINED IN HIS DRAWING IS THE SOLE PROPERTY OF NEW HAMPTON METAL FABRICATION, ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITEN PERMISSION OF NEW HAMPTON METAL FABRICATION IS PROHIBITED. DRAWN BY: AFINITAS FORMING SYSTEMS DIVISION MACHINING **CUTTING** FAB **AFINITAS** GENERAL TOLERANCES EXCEPT AS NOTED 928 WEST MILWAUKEE 1701 MOLER ROAD NEW HAMPTON, IOWA 50659 COLUMBUS, OHIO 43207 ANGULAR 60" 7R-HK165/HK185 **FRACTIONAL** DECIMAL DEG 6" WALL ± 1.0° $X \pm 1/16$ $X.X \pm 0.030$ DATE: SHEET: 1 OF 1 $X.XX \pm 0.015$ WEIGHT: SCALE: SIZE REV. $X.XXX \pm 0.005$ PD-60P-0105 JOB NO: QTY: 1:1 Α

REVISIONS **DRAWING APPROVAL** REV. ECR CHANGE DATE This print is forwarded for your approval. Please check thoroughly and return immediately, either giving approval or noting changes required. Production **WILL NOT** begin until an approved print is returned to us. Company Name_ - 86 O.D. Authorized Signature_ Date — 77.953 DIA. R1/4 -R1/4 (BECOMES "O" FOR OPEN TOP HEADER) .446 A.S.→ **R**1/16 .300 -77 236 DIA R3/8 -72" 7R-HK165/HK185 JOINT DETAIL PROPRIETARY AND CONFIDENTIAL HE INFORMATION CONTAINED IN HIS DRAWING IS THE SCIE PROPERTY OF NEW HAMPTON METAL FABRICATION. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF NEW HAMPTON METAL FABRICATION IS PROHIBITED. DRAWN BY: WELDING MACH DRILL SHAPING CUTTING AFINITAS FORMING SYSTEMS DIVISION FAB **MACHINING CUTTING AFINITAS** GENERAL TOLERANCES EXCEPT AS NOTED 928 WEST MILWAUKEE 1701 MOLER ROAD NEW HAMPTON, IOWA 50659 COLUMBUS, OHIO 43207 ANGULAR FRACTIONAL **DECIMAL** 72" 7R-HK165/HK185 DEG 7" WALL $X \pm 1/16$ $X.X \pm 0.030$ ± 1.0° DATE: SHEET: 1 OF 1 $X.XX \pm 0.015$ WEIGHT: SCALE: SI7E LBS $X.XXX \pm 0.005$ PD-72P-0114 1:1 Α JOB NO:

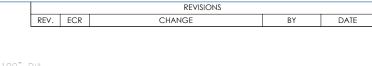
7R/HK165-HK185 JOINT 72"

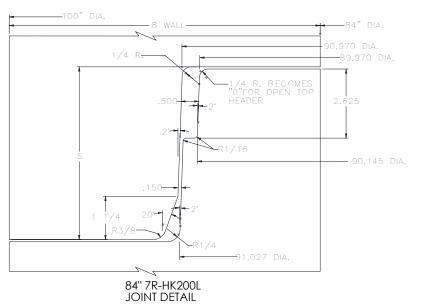
This print is forwarded for your approval. Please check thoroughly and return immediately, either giving approval or noting changes required. Production **WILL NOT** begin until an approved print is returned to us.

Company Name_

Authorized Signature____

Date_





WELDING	MACH	DRILL	SHAPING		PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF NEW HAMPTON				AFINIT FORMING SYSTE		
FAB	MAG	CHINING	CU	TTING	METAL FABRICATION. ANY	AFINITAS					
GENEI	RAL TOLE	rances exc	CEPT AS N	OTED	REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF NEW HAMPTON				928 WEST MILWAUKEE NEW HAMPTON, IOWA 50659	1701 MOLER ROAL	
FRACTIO	CTIONAL DECIMAL ANGULAR DEG METAL FABRICATION IS PROHIBITED. DRAWN BY: 84" 7R-TSS 200L										
X ± 1	/16	X.X ± 0.		± 1.0°	DATE:	8" WALL					
X.XX ± 0.01 X.XXX ± 0.00				WEIGHT: LBS JOB NO:	SHEET: 1 OF 1 QTY:	scale:	SIZE A	84 7R-HK2	200L	REV.	

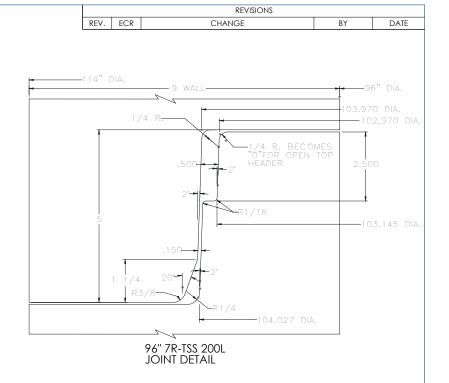
7R/HK200L JOINT 84"

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either giving approval or noting changes required.
Production <u>WILL NOT</u> begin until an
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Company Name_

Authorized Signature_

Date_



WELDING FAB	MACH	DRILL CHINING	SHAPING	CUTTING	PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF NEW HAMPTON				AFINITAS FORMING SYSTEMS DIVISION			
=		RANCES EXC								1701 MOLER ROAL COLUMBUS, OHIO		
		NGULAR DEG	METAL FABRICATION IS PROHIBITED. DRAWN BY:	96" - 7R/200 8" WALL	L TSS							
X ± 1	/16	$X.X \pm 0.$		± 1.0°	DATE:	SHEET:						
		X.XX ± 0.015 X.XXX ± 0.005			LBS	I OF I	SCALE:	SIZE	96-7R 200	L TSS	REV.	

7R/HK200L JOINT 96"

REVISIONS **DRAWING APPROVAL** REV. ECR CHANGE DATE BY This print is forwarded for your approval. Please check thoroughly and return immediately, either giving approval or noting changes required. Production **PulL NOI** begin until an approved print is returned to us. Company Name 128.721 DIA.-Authorized Signature_ R1/4 -Date_ R1/4 0.500 2 750 6.000 ∽R3/32 (2) 0.146 -1.250 70° R3/8 2° -REF. 0.354 127.913 DIA.— 120 DIA. ---120" 7R/TSS (200L) JOINT DETAIL PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLD PROPERTY OF NEW HAMPTON METAL FABRICATION, ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF NEW HAMPTON METAL FABRICATION IS PROHIBITED. WELDING DRILL SHAPING CUTTING AFINITAS FORMING SYSTEMS DIVISION FAB MACHINING **CUTTING** AFINITAS GENERAL TOLERANCES EXCEPT AS NOTED 928 WEST MILWAUKEE 1701 MOLER ROAD NEW HAMPTON, IOWA 50659 COLUMBUS, OHIO 43207 **ANGULAR FRACTIONAL** DECIMAL 120" 7R/TSS 200L DEG DRAWN BY: 10" WALL $X.X \pm 0.030$ ± 1.0° DATE: $X \pm 1/16$ SHEET: 1 OF 1 $X.XX \pm 0.015$ WEIGHT: SCALE: SI7F LBS $X.XXX \pm 0.005$ 120 7R TSS 200L 1:1 Α JOB NO: QTY:

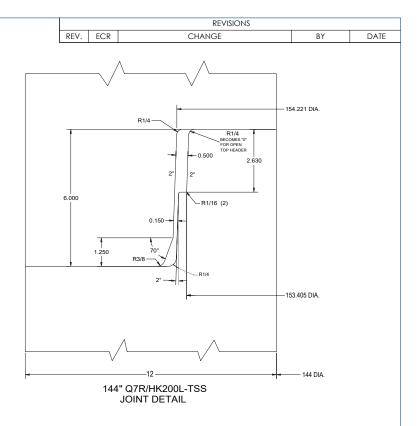
7R/HK200L JOINT 120"

This print is forwarded for your approval. Please check thoroughly and return immediately, either giving approval or noting changes required. Production **WILL NOT** begin until an approved print is returned to us.

Company Name_

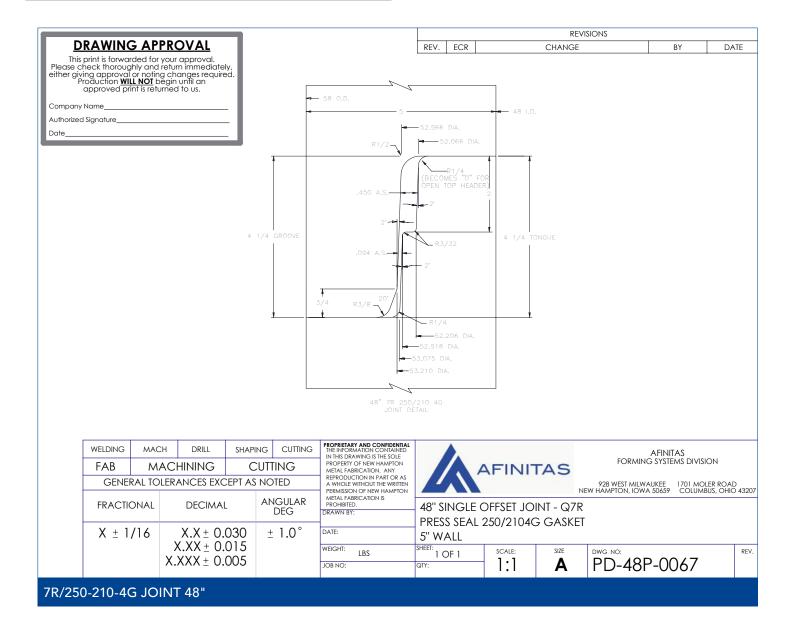
Authorized Signature_

Date_



WELDING	MACH	DRILL	Shaping		PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE				AFINIT FORMING SYSTE		
FAB	MAC	CHINING	CUT	TING	PROPERTY OF NEW HAMPTON METAL FABRICATION. ANY	AFINITAS			FORMING 3131E	INIS DIVISION	
GENE	RAL TOLE	RANCES EXC	CEPT AS NO	OTED	REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF NEW HAMPTON				928 WEST MILWAUKEE NEW HAMPTON, IOWA 50659	1701 MOLER ROAL COLUMBUS, OHIO	
			NGULAR DEG	METAL FABRICATION IS PROHIBITED. DRAWN BY:	144 Q7R HK	200L-TSS					
X ± 1		X.X ± 0.		± 1.0°	DATE:	12 WALL					
		X.XX ± 0.015 X.XXX ± 0.005			LBS	SHEET: 1 OF 1	SCALE:	SIZE A	DWG NO: 144 Q7R HK-2	200L-TSS	REV.

7R/HK200L JOINT 144"



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LBS

JOB NO:

SCALE:

1:1

SIZE

Α

PD-60P-0055

REV.

7R/250-210-4G JOINT 60"

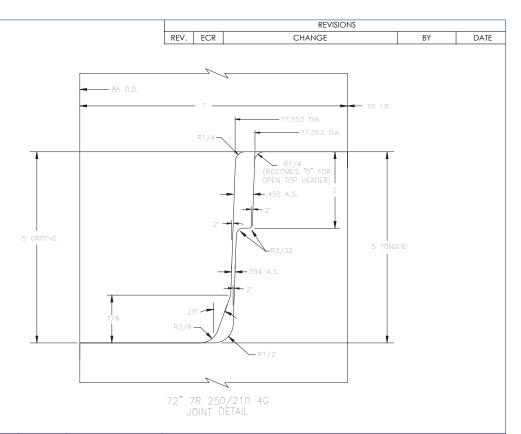
X.XXX ± 0.005

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Company Name_

Authorized Signature_

Date_



WELDING	MAC	CH	DRILL	SHAPI	NG	CUTTING	
FAB	M	ACI	HINING	С	CUTTING		
GENEI	RAL TO	LER	ances exc	NOTED			
FRACTIO	JANC	DECIMAL				IGULAR DEG	
X ± 1	/16		X.X ± 0. (.XX ± 0. XXX ± 0.	015	<u>+</u>	1.0°	

PROPRIETARY AND CONFIDENTIAL
THE INFORMATION CONTAINED
IN THIS DRAWING IS THE SOLE
PROPERTY OF NEW HAMPTON
METAL FABRICATION. ANY
REPRODUCTION IN PART OR AS
A WHOLE WITHOUT THE WRITTEN
PERMISSION OF NEW HAMPTON
METAL FABRICATION IS
PROHBITED.

LBS

JOB NO:

72" SINGLE OFFSET JOINT - Q7R DRAWN BY: 11/10/20 DATE: 7" WALL WEIGHT:

AFINITAS

AFINITAS FORMING SYSTEMS DIVISION

928 WEST MILWAUKEE 1701 MOLER ROAD NEW HAMPTON, IOWA 50659 COLUMBUS, OHIO 43207

REV.

PRESS SEAL 250/210 4G GASKET

SHEET: 1 OF 1

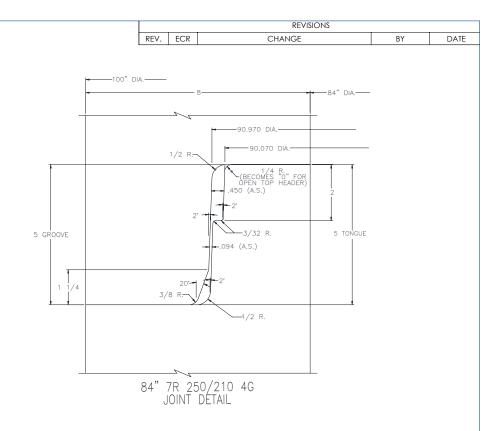
SIZE A

PD-72P-0019

7R/250-210-4G JOINT 72"

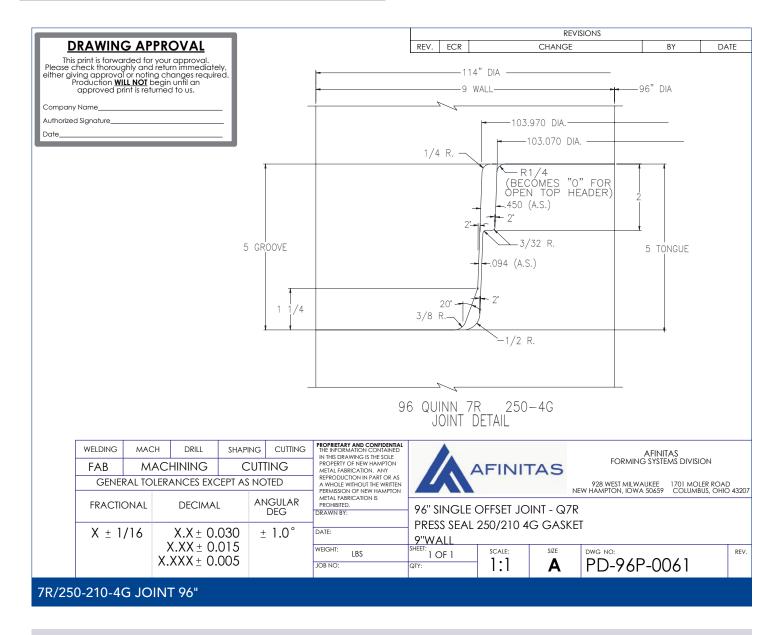
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Company Name_ Authorized Signature_ Date_



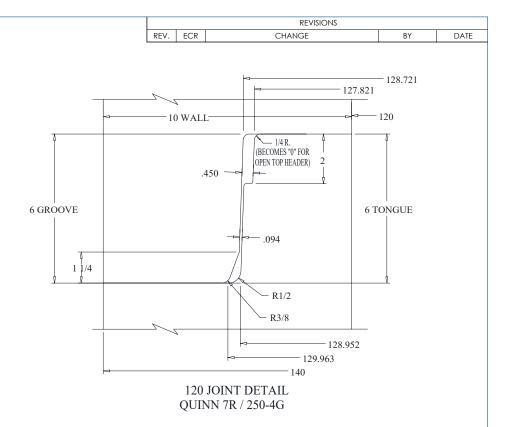
WELDING	MAC	H DRILL	Shaping	CUTTING	PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE				AFINIT		
FAB	M	ACHINING	CUI	TING	PROPERTY OF NEW HAMPTON METAL FABRICATION. ANY		AFINITAS		FORMING SYSTEMS DIVISION		
GEN	GENERAL TOLERANCES EXCEPT AS NOTED REPRODUCTION IN PART OR A WHOLE WITHOUT HE WRIT PERMISSION OF NEW HAMPT							1	928 WEST MILWAUKEE NEW HAMPTON, IOWA 50659	1701 MOLER ROAL COLUMBUS, OHIO	
FRAC1	FRACTIONAL DECIMAL			NGULAR DEG	METAL FABRICATION IS PROHIBITED. DRAWN BY:	84" SINGLE					
Χ±	X ± 1/16				DATE:	PRESS SEAL 8" WALL	250/210 4	G GASKI	I		
	X.XX± 0.01 X.XXX± 0.00				WEIGHT: LBS JOB NO:	SHEET: 1 OF 1 QTY:	SCALE:	SIZE	DWG NO: PD-84P-00	040	REV.

7R/250-210-4G JOINT 84"



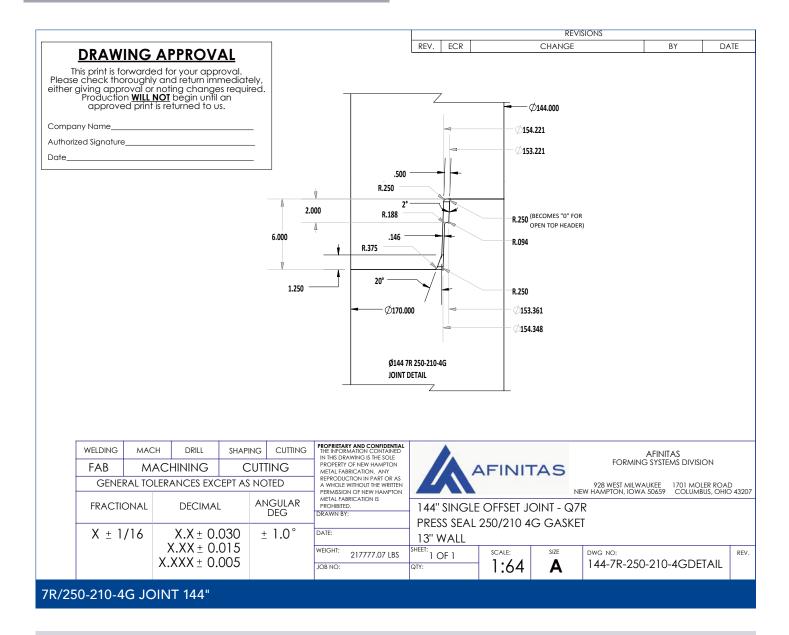
Joint Profile is NOT recommended for 84" diameter and larger (Recommend using the 7R/288-4G Joint)

DRAWING APPROVAL This print is forwarded for your approval. Please check thoroughly and return immediately, either giving approval or noting changes required. Production WILL NOT begin until an approved print is returned to us. Company Name_ Authorized Signature_



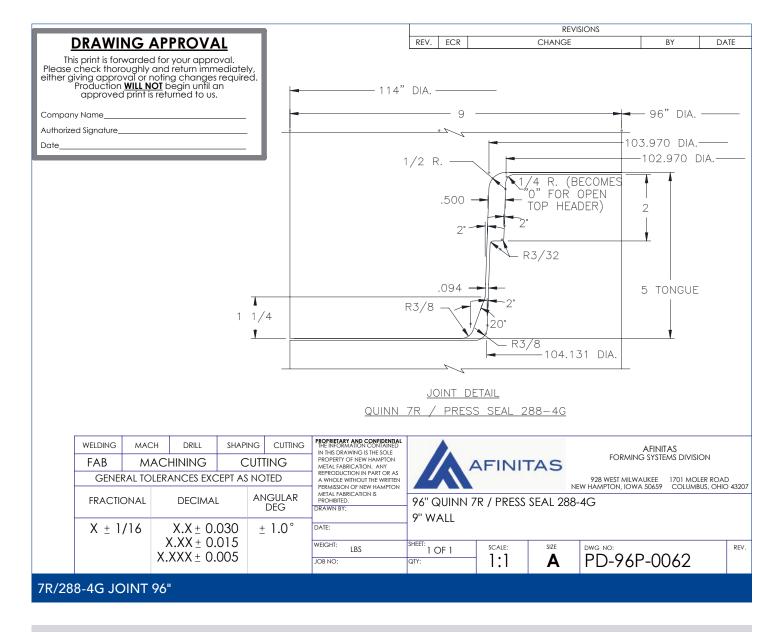
WELDING	MACI	H DRILL	SHAPING	CUTTING	PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE	A .			AFINIT		
FAB	MA	ACHINING	CU	TTING	PROPERTY OF NEW HAMPTON METAL FABRICATION. ANY		AFINI	TAS	FORMING SYSTE	MS DIVISION	
GENERAL TOLERANCES EXCEPT AS NOTED				IOTED	REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF NEW HAMPTON			TANK STREET	928 WEST MILWAUKEE NEW HAMPTON, IOWA 50659	1701 MOLER ROAD COLUMBUS, OHIO	
FRACTIONAL DEC			DECIMAL ANGULAR DEG		METAL FABRICATION IS PROHIBITED. DRAWN BY:	120" SINGLE					
_ , .			± 1.0°	DATE:	PRESS SEAL 10" WALL	250/210 4	G GASKI	I			
X.XX ± 0.0 X.XXX ± 0.0				WEIGHT: LBS JOB NO:	1 OF 1	SCALE:	SIZE A	PD-120P-0	0025	REV.	

7R/250-210-4G JOINT 120"



Joint Profile is NOT recommended for 84" diameter and larger (Recommend using the 7R/288-4G Joint)

REVISIONS REV. ECR CHANGE DATE BY **DRAWING APPROVAL** This print is forwarded for your approval. Please check thoroughly and return immediately, either giving approval or noting changes required. Production WILL NOI begin until an approved print is returned to us. 100" DIA.--84" DIA---Company Name_ -91.232 DIA.-Authorized Signature_ -90.970 DIA--89.970 DIA. Date 1/4 R. (BECOMES "O" FOR OPEN TOP HEADER) .500 (A.S.) -1/16 R. 5 GROOVE 5 TONGUE -.094 (A.S.) 3/8 R. −1/4 R. — 90.922 DIA. - 91.132 DIA-84" 7R 288-4G JOINT DETAIL PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED WELDING MACH DRILL SHAPING CUTTING THE INFORMATION CONTAINED IN HIS DRAWING IS THE SOLE PROPERTY OF NEW HAMPTON METAL FABRICATION, ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITEN PERMISSION OF NEW HAMPTON METAL FABRICATION IS PROHIBITED. DRAWN BY: AFINITAS FORMING SYSTEMS DIVISION FAB **MACHINING CUTTING** AFINITAS GENERAL TOLERANCES EXCEPT AS NOTED 928 WEST MILWAUKEE 1701 MOLER ROAD NEW HAMPTON, IOWA 50659 COLUMBUS, OHIO 43207 ANGULAR **FRACTIONAL** DECIMAL 84" 7R 288-4G DEG 8" WALL $X \pm 1/16$ ± 1.0° DATE: $X.X \pm 0.030$ X.XX ± 0.015 SHEET: WEIGHT: SCALE: REV. 1 OF 1 $X.XXX \pm 0.005$ PD-84P-0041 A 1:1 JOB NO: 7R/288-4G JOINT 84"

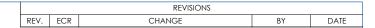


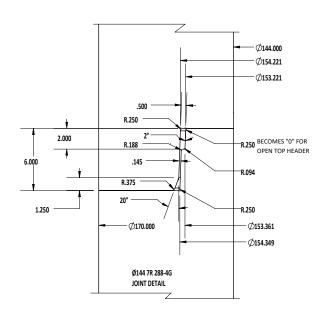
REVISIONS REV. ECR CHANGE DATE **DRAWING APPROVAL** BY This print is forwarded for your approval. Please check thoroughly and return immediately, either giving approval or noting changes required. Production **WILL NOT** begin until an approved print is returned to us. 128.721 127,721 Company Name_ 10 WALL 120 Authorized Signature_ Date ___ 1/4 R. (BECOMES "0" FOR 2 OPEN TOP HEADER) .500 6 TONGUE 6 GROOVE .094 1 1/4 R3/8 128.952 - 129.963 - 140 120 JOINT DETAIL Q7R / 288-4G PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED WELDING MACH DRILL SHAPING CUTTING THE INFORMATION CONTAINED IN HIS DRAWING IS THE SOLE PROPERTY OF NEW HAMPTON METAL FABRICATION, ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITEN PERMISSION OF NEW HAMPTON METAL FABRICATION IS PROHIBITED. DRAWN BY: AFINITAS FORMING SYSTEMS DIVISION FAB **MACHINING CUTTING** AFINITAS GENERAL TOLERANCES EXCEPT AS NOTED 928 WEST MILWAUKEE 1701 MOLER ROAD NEW HAMPTON, IOWA 50659 COLUMBUS, OHIO 43207 ANGULAR **FRACTIONAL** DECIMAL 120" Q7R/288 4G DEG 10" WALL $X \pm 1/16$ ± 1.0° DATE: $X.X \pm 0.030$ $X.XX \pm 0.015$ SHEET: WEIGHT: SCALE: REV. 1 OF 1 $X.XXX \pm 0.005$ PD-120P-0024 1:1 Α JOB NO: 7R/288-4G JOINT 120"

DRAWING APPROVAL This print is forwarded for your approval. Please check thoroughly and return immediately, either giving approval or noting changes required. Production WILL NOT begin until an approved print is returned to us.

Company Name_____ Authorized Signature_

Date____





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FAB	MAC	HINING	CU1	TING	PROPERTY OF NEW HAMPTON METAL FABRICATION. ANY		AFINIT	TAS	S FORMING SYSTEMS DIVISION		
GENE	RAL TOLER	ANCES EXC	CEPT AS N	OTED	REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF NEW HAMPTON				928 WEST MILWAUKEE NEW HAMPTON, IOWA 50659	1701 MOLER ROAD COLUMBUS, OHIO	
FRACTIO	RACTIONAL DECIMAL ANGULA DEG			NGULAR DEG	METAL FABRICATION IS PROHIBITED. DRAWN BY:	144-7R-288- 13" WALL	4G				
X ± 1		X.X ± 0.		± 1.0°	DATE:						
		X.XX ± 0.015 X.XXX ± 0.005			WEIGHT: 217777.82 LBS JOB NO:	SHEET: 1 OF 1 QTY:	scale: 1:64	SIZE A	DWG NO: 144-7R-288-40	GDETAIL	REV.
					'				·		

7R/288-4G JOINT 144"

SHORT S/O JOINT 48"

REVISIONS **DRAWING APPROVAL** REV. ECR CHANGE DATE $\mathsf{B}\mathsf{Y}$ This print is forwarded for your approval. Please check thoroughly and return immediately, either giving approval or noting changes required. Production WILL NOT begin until an approved print is returned to us. Authorized Signature_ - 58 O.D. Date_ – 48 I.D. -52.068 DIA. R3/8 R3/8 BECOMES "O" FOR OPEN TOP HEADER) -3.5° .146 A.S.→ -3.5° -52.247 DIA. -52.799 DIA -52.934 DIA. 48" F-114 SJ PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED WELDING MACH DRILL SHAPING CUTTING THE INFORMATION CONTAINED IN HIS IREAMING IS HE SOLE PROPERTY OF NEW HAMPTON METAL FABRICATION, ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT HE WRITED FERMISSION OF NEW HAMPTON METAL FABRICATION IS PROHIBITED. DRAWN BY: AFINITAS FORMING SYSTEMS DIVISION FAB **MACHINING CUTTING AFINITAS** GENERAL TOLERANCES EXCEPT AS NOTED 928 WEST MILWAUKEE 1701 MOLER ROAD NEW HAMPTON, IOWA 50659 COLUMBUS, OHIO 43207 **ANGULAR FRACTIONAL** DECIMAL 48" SHORT S/O JOINT DEG 5" WALL \pm 1.0 $^{\circ}$ $X \pm 1/16$ $X.X \pm 0.030$ DATE: $X.XX \pm 0.015$ SHEET: 1 OF 1 WEIGHT: SCALE: REV. LBS $X.XXX \pm 0.005$ PD-48P-0138 1:1 Α JOB NO:

SHORT S/O JOINT 60"

REVISIONS **DRAWING APPROVAL** REV. ECR CHANGE DATE This print is forwarded for your approval. Please check thoroughly and return immediately, either giving approval or noting changes required. Production **WILL NOT** begin until an approved print is returned to us. Company Name - 72 O.D. Authorized Signature_ Date_ - 65.096 DIA 188 R3/8 BECOMES "O" FOR DPEN TOP HEADER) **1**3.5° 2 3/4 GROOVE 422 A.S. - R3/32 - 65.141 DIA. 60" F-114 SJ JOINT DETAIL PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED WELDING CUTTING DRILL MACH SHAPING THE INFORMATION CONTAINED IN HIS DRAWING IS THE SOLE PROPERTY OF NEW HAMPTON METAL FABRICATION, ANY REPRODUCTION IN FART OR AS A WHOLE WITHOUT THE WITHOUT THE PERMISSION OF NEW HAMPTON METAL FABRICATION IS PROHIBITED. DRAWN BY: 11/10/20 AFINITAS FORMING SYSTEMS DIVISION FAB **MACHINING CUTTING AFINITAS** GENERAL TOLERANCES EXCEPT AS NOTED 928 WEST MILWAUKEE 1701 MOLER ROAD NEW HAMPTON, IOWA 50659 COLUMBUS, OHIO 43207 **ANGULAR FRACTIONAL** DECIMAL 60" SHORT S/O JOINT DEG 6" WALL $X \pm 1/16$ $X.X \pm 0.030$ ± 1.0° DATE: $X.XX \pm 0.015$ WEIGHT: SHEET: SIZE 1 OF 1 SCALE: REV. $X.XXX \pm 0.005$ 1:1 PD-60P-0102 JOB NO: Α

REVISIONS **DRAWING APPROVAL** REV. ECR CHANGE DATE This print is forwarded for your approval. Please check thoroughly and return immediately, either giving approval or noting changes required. Production **WILL NOT** begin until an approved print is returned to us. Company Name_ - 86 D.D. Authorized Signature__ - 72 I.D Date_ -78.666 DIA. -78.120 DIA -77.875 DIA. 0.188 R3/8 - (BECOMES "O" FOR OPEN TOP HEADER) -3°30' R3/32 -77.054 DIA. -77.233 DIA -77.920 DIA F-114 SJ JOINT DETAIL PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED WELDING MACH DRILL SHAPING CUTTING THE INFORMATION CONTAINED IN HIS DRAWING IS THE SOLE PROPERTY OF NEW HAMPTON METAL FARRICATION, ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WITHOUT THE PERMISSION OF NEW HAMPTON METAL FARRICATION IS PROHIBITED. DRAWN BY: 11/11/20 AFINITAS FORMING SYSTEMS DIVISION FAB MACHINING CUTTING **AFINITAS** GENERAL TOLERANCES EXCEPT AS NOTED 928 WEST MILWAUKEE 1701 MOLER ROAD NEW HAMPTON, IOWA 50659 COLUMBUS, OHIO 43207 ANGULAR **FRACTIONAL** DECIMAL 72" SHORT S/O JOINT DEG 7" WALL $X \pm 1/16$ ± 1.0° $X.X \pm 0.030$ DATE: $X.XX \pm 0.015$ SHEET: WEIGHT: SCALE: REV. 1 OF 1 $X.XXX \pm 0.005$ PD-72P-0042 1:1 A JOB NO: QTY:

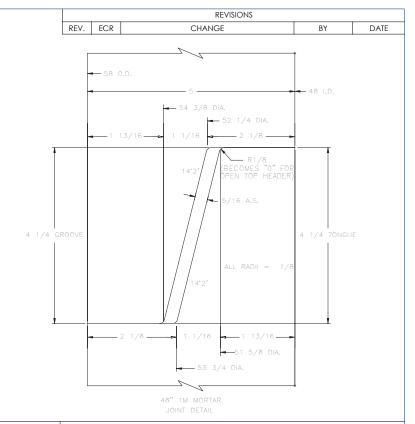
SHORT S/O JOINT 72"

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Company Name_

Authorized Signature___

Date_



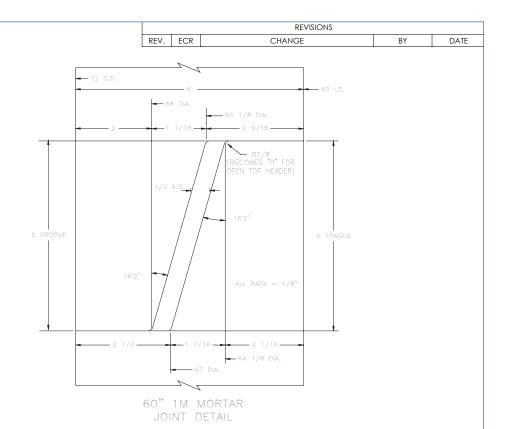
WELDING	MACH	DRILL	SHAPING		PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF NEW HAMPTON				AFINITAS FORMING SYSTEMS DIVISION				
FAB MACHINING C			CUI	TING	METAL FABRICATION. ANY	TAL FABRICATION. ANY AFINITAS							
GENER	AL TOLE	rances exc	EPT AS NO	OTED	REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF NEW HAMPTON				928 WEST MILWAUKEE NEW HAMPTON, IOWA 50659	1701 MOLER ROAL COLUMBUS, OHIO			
FRACTIONAL DE		DECIMAL	CIMAL ANGULAR DEG		METAL FABRICATION IS PROHIBITED. DRAWN BY: 11/10/20	48" 1M MORTAR JOINT							
X ± 1,	/16	6 X.X± 0.030 X.XX± 0.015 X.XXX± 0.005		± 1.0°	DATE:	5" WALL							
	X				WEIGHT: LBS JOB NO:	SHEET: 1 OF 1	SCALE:	SIZE A	PD-48P-01	57	REV.		

1M MORTAR JOINT 48"

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Company Name_

Authorized Signature____



WELDING	MACH		SHAPING	CUTTING	PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE				AFINITAS FORMING SYSTEMS DIVISION		
FAB	FAB MACHINING (TING	PROPERTY OF NEW HAMPTON METAL FABRICATION. ANY AFINITAS				TORMINO STSTEMS DIVISION		
GENERAL TOLERANCES EXCEPT AS NOTED					REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF NEW HAMPTON				928 WEST MILWAUKEE NEW HAMPTON, IOWA 50659	1701 MOLER ROAL	
FRACTIONAL		DECIMAL		NGULAR DEG	METAL FARRICATION IS PROHIBITED. DRAWN BY: 11 (10/20)						
X ± 1	X ± 1/16			± 1.0° DATE:		6" WALL					
X.XX ± 0.01 X.XXX ± 0.00				WEIGHT: LBS JOB NO:	SHEET: 1 OF 1 QTY:	SCALE:	SIZE	PD-60P-0	103	REV.	

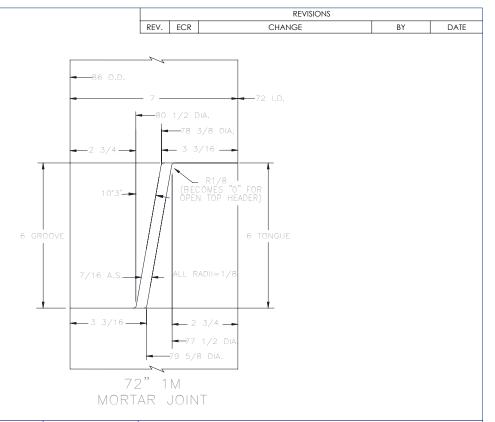
1M MORTAR JOINT 60"

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Production WILL NOT begin until an approved print is returned to us.

Company Name_

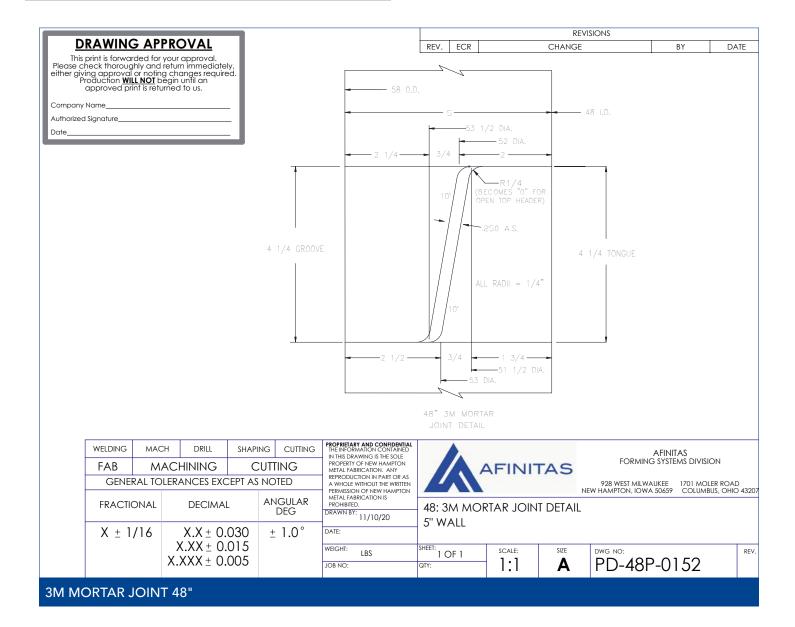
Authorized Signature_

Date_



WELDING	MACH		SHAPING		PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF NEW HAMPTON				AFINITAS FORMING SYSTEMS DIVISION		
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GENER	RAL TOL	ERANCES EXC	CEPT AS NO	OTED	REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF NEW HAMPTON				928 WEST MILWAUKEE NEW HAMPTON, IOWA 50659	1701 MOLER ROAL COLUMBUS, OHIO	
FRACTIONAL		DECIMAL		NGULAR DEG	METAL FABRICATION IS PROHIBITED. DRAWN BY: 11/10/20	72" MORTAR JOINT-Q1M 7" WALL					
X ± 1	/16	X.X ± 0.030		± 1.0°	DATE:	/ **/\LL					
		$X.XX \pm 0.$ $X.XXX \pm 0.$			WEIGHT: LBS JOB NO:	SHEET: 1 OF 1 QTY:	SCALE:	SIZE	PD-72P-00	795	REV.
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1M MORTAR JOINT 72"



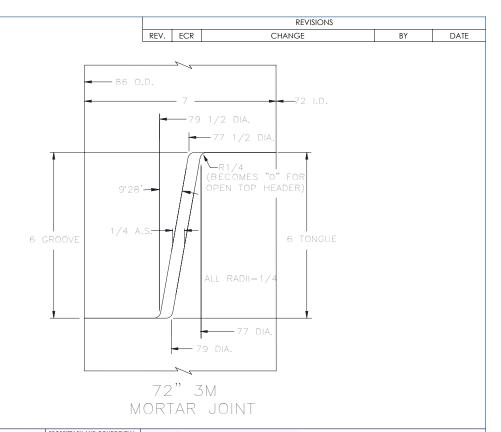
REVISIONS **DRAWING APPROVAL** REV. ECR CHANGE DATE This print is forwarded for your approval. Please check thoroughly and return immediately, either giving approval or noting changes required. Production WILL NOT begin until an approved print is returned to us. Company Name_ - 60 I.D. Authorized Signature_ -64 3/4 DIA. Date R1/4 (BECOMES "O" FOR OPEN TOP HEADER) - 66 DIA. 60" 3M MORTAR JOINT DETAIL PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED WELDING CUTTING MACH DRILL Shaping THE INFORMATION CONTAINED IN HIS DRAWING IS THE SOLE PROPERTY OF NEW HAMPTON METAL FARRICATION, ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF NEW HAMPTON METAL FARRICATION IS PROHIBITED. DRAWN BY: 11/10/20 AFINITAS FORMING SYSTEMS DIVISION FAB MACHINING **CUTTING** AFINITAS GENERAL TOLERANCES EXCEPT AS NOTED 928 WEST MILWAUKEE 1701 MOLER ROAD NEW HAMPTON, IOWA 50659 COLUMBUS, OHIO 43207 ANGULAR FRACTIONAL DECIMAL 60" 3M MORTAR JOINT DEG 6" WALL $X \pm 1/16$ $X.X \pm 0.030$ ± 1.0° DATE: SHEET: 1 OF 1 $X.XX \pm 0.015$ WEIGHT: SCALE: REV. $X.XXX \pm 0.005$ PD-60P-0058 JOB NO: QTY: 1:1 Α 3M MORTAR JOINT 60"

This print is forwarded for your approval. Please check thoroughly and return immediately, either giving approval or noting changes required. Production **WILL NOT** begin until an approved print is returned to us.

Company Name_

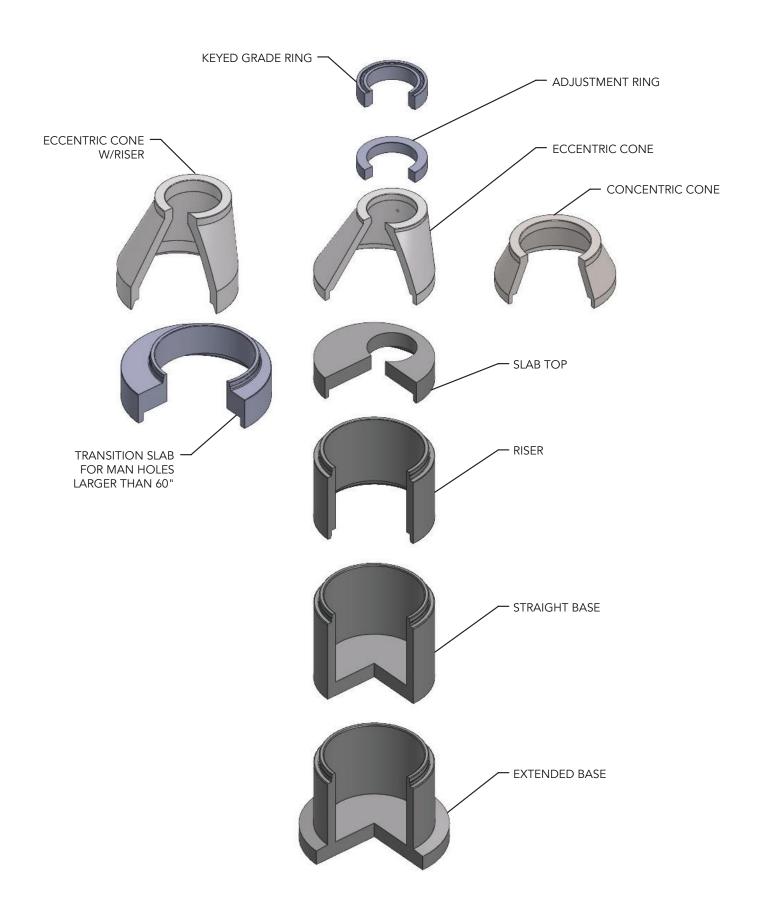
Authorized Signature____

Date



WELDING	MACI	1 [ORILL	SHAPING	CUTTING	PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE				AFINIT				
FAB	MA	MACHINING CUTT			ITTING	PROPERTY OF NEW HAMPTON METAL FABRICATION. ANY		AFINI	TAS	FORMING SYSTEMS DIVISION				
GENERAL TOLERANCES EXCEPT AS NOTED					OTED	REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF NEW HAMPTON				928 WEST MILWAUKEE NEW HAMPTON, IOWA 50659	1701 MOLER ROAD			
FRACTIONAL		DECIMAL			ANGULAR DEG	METAL FABRICATION IS PROHIBITED. DRAWN BY: 11/10/20	METAL FABRICATION IS PROHIBITED. 72" MORTAR JOINT-Q3M							
X ± 1,	/16	X.X ± 0.030			± 1.0°	DATE:								
		X.XX ± 0.01 X.XXX ± 0.00				LBS	SHEET: 1 OF 1 QTY:	SCALE:	SIZE A	PD-72P-01	112	REV.		

3M MORTAR JOINT 72"



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