

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)



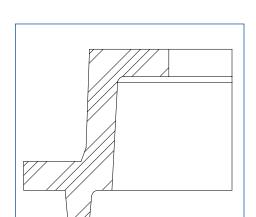
Tongue Forming Pallets with Lifting Eyes

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

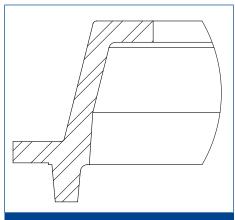


Tongue Forming Headers, Open Top with Form Hangers/Lifting Eyes

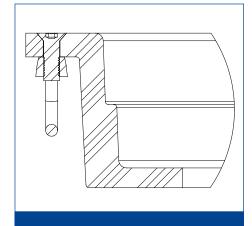
- Used with manhole combination monolithic base/ riser forming or pipe forming
- Available sizes range from 24" 144" (smaller diameter rings are available)



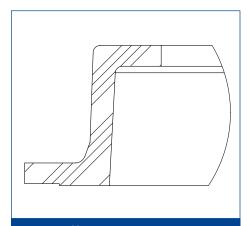
Single Offset Groove Forming Pallet with Legs



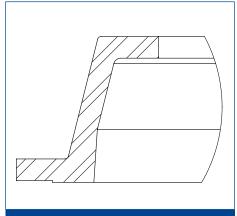
Mortar Joint Groove Forming Pallet with Legs



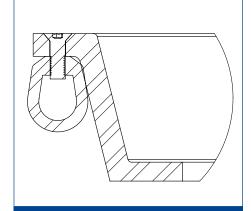
Single Offset Tongue Forming Pallet with Lifting Eyes



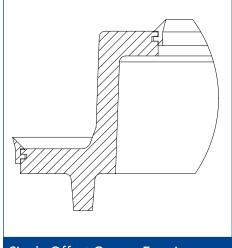
Single Offset Groove Forming Pallet without Legs



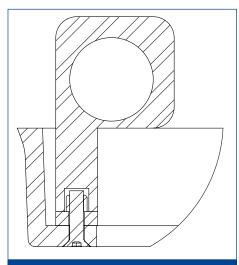
Mortar Joint Groove Forming Pallet without Legs



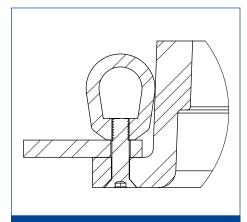
Mortar Joint Tongue Forming Pallet with Lifting Eyes



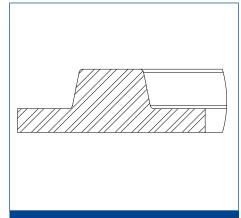
Single Offset Groove Forming Pallet with Legs and ID/OD Chamfer Seals



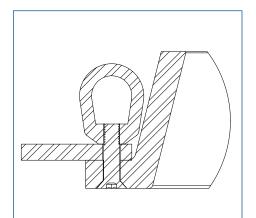
Single Offset Groove Forming Header, Open Top with Lifting Eyes and Core Tabs/Hangers



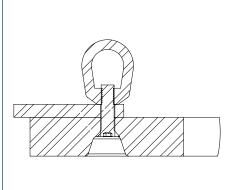
Single Offset Tongue Forming Header, Open Top with Lifting Eyes and Form Tabs



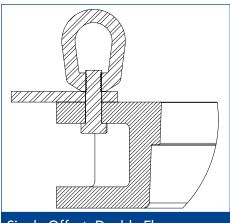
Key Lock Groove Forming Pallet



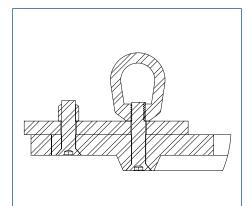
Mortar Joint Tongue Forming Header, Open Top with Lifting Eyes and Form Tabs



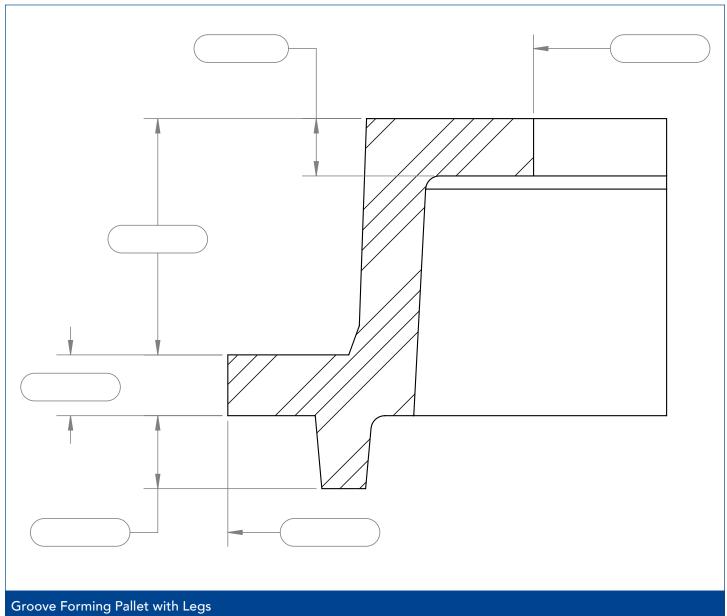
Key Lock Tongue Forming Header with Form Tabs and Lifting Eyes

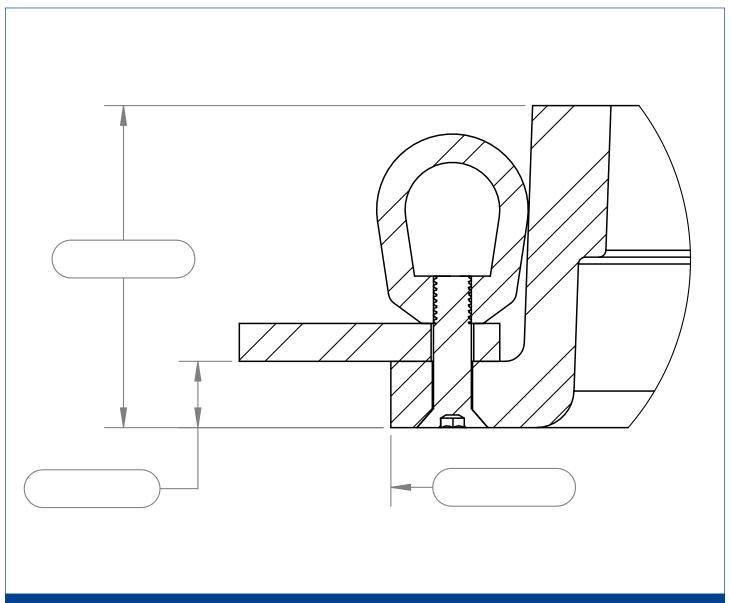


Single Offset, Double Flange, Tongue Forming Header, Open Top with Lifting Eyes and Form Tabs (84" Dia. & Larger)

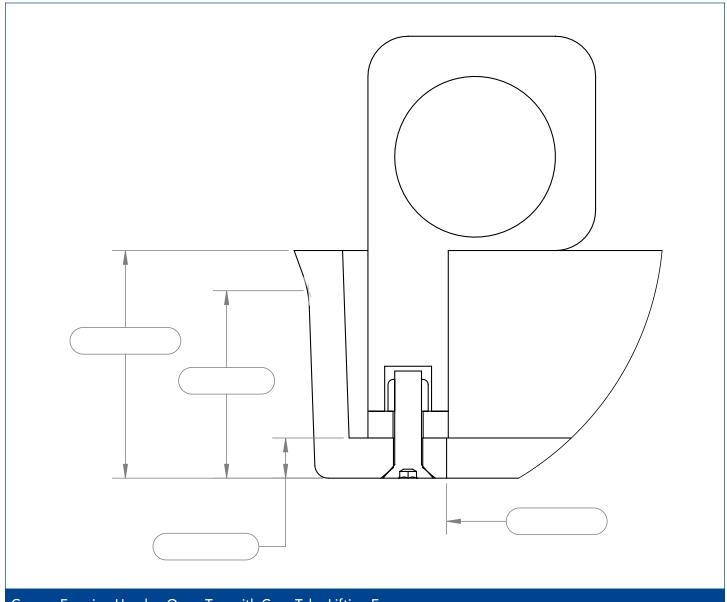


Key Lock Groove Forming Header with Form Tabs and Lifting Eyes

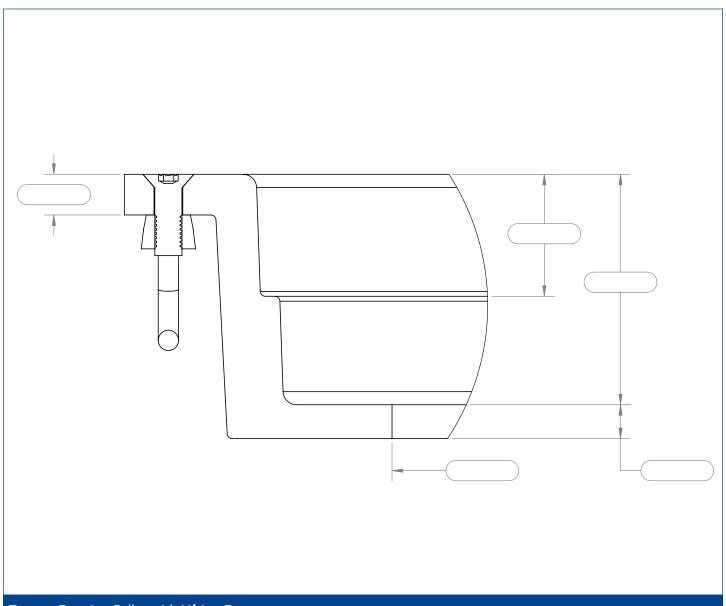




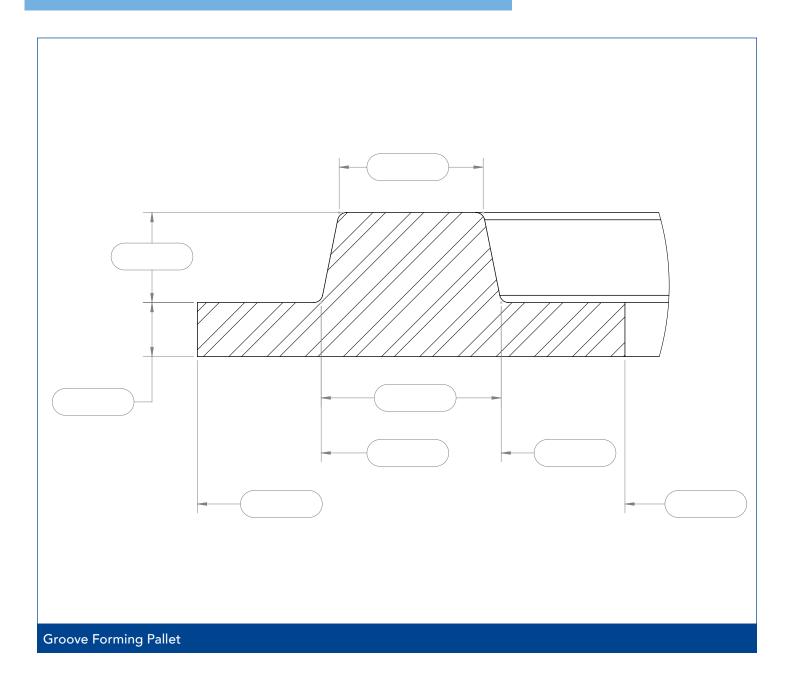
Tongue Forming Header, Open Top with Form Tabs and Lifting Eyes

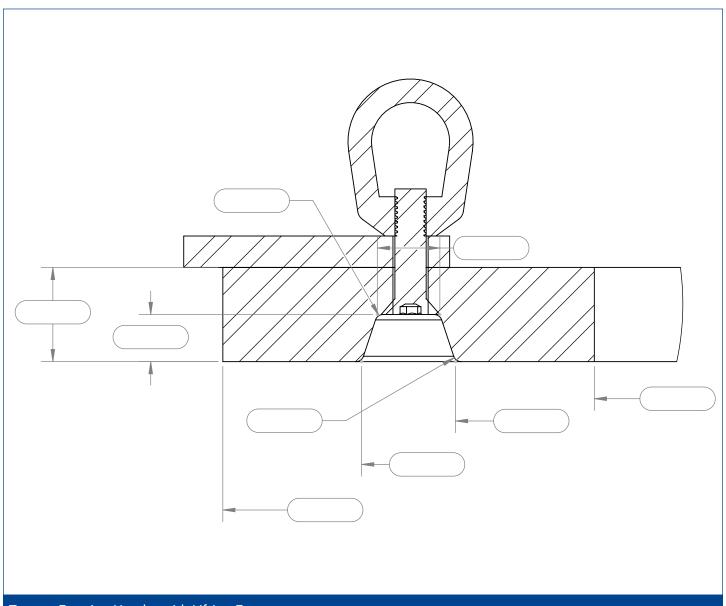


Groove Forming Header, Open Top with Core Tabs-Lifting Eyes

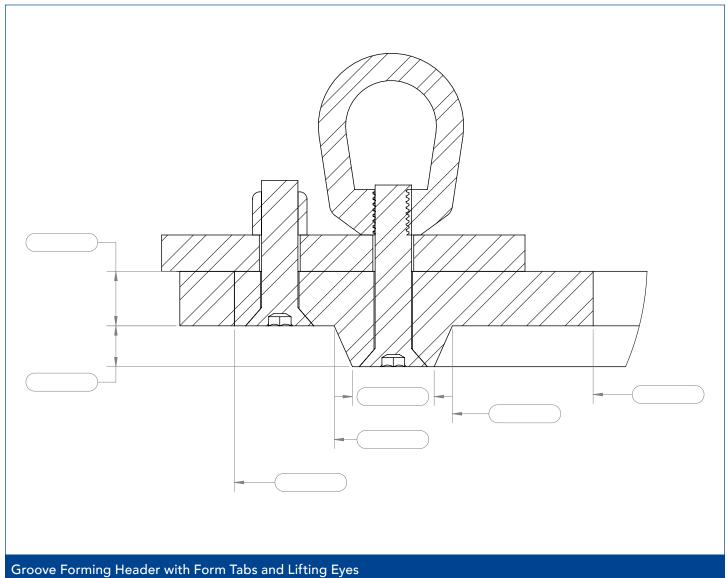


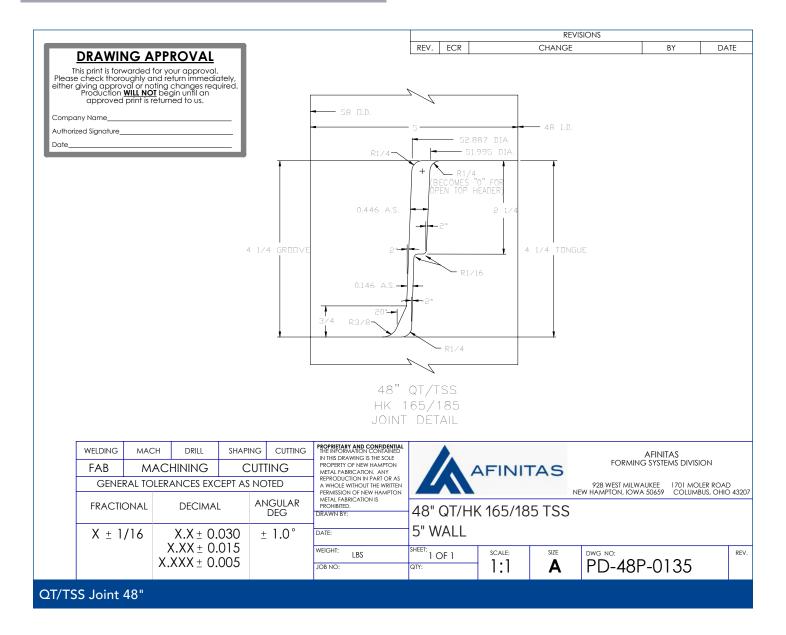
Tongue Forming Pallet with Lifting Eyes





Tongue Forming Header with Lifting Eyes





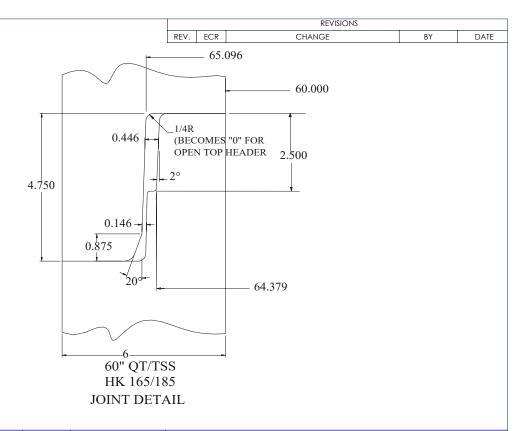
DRAWING APPROVAL

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Company Name____

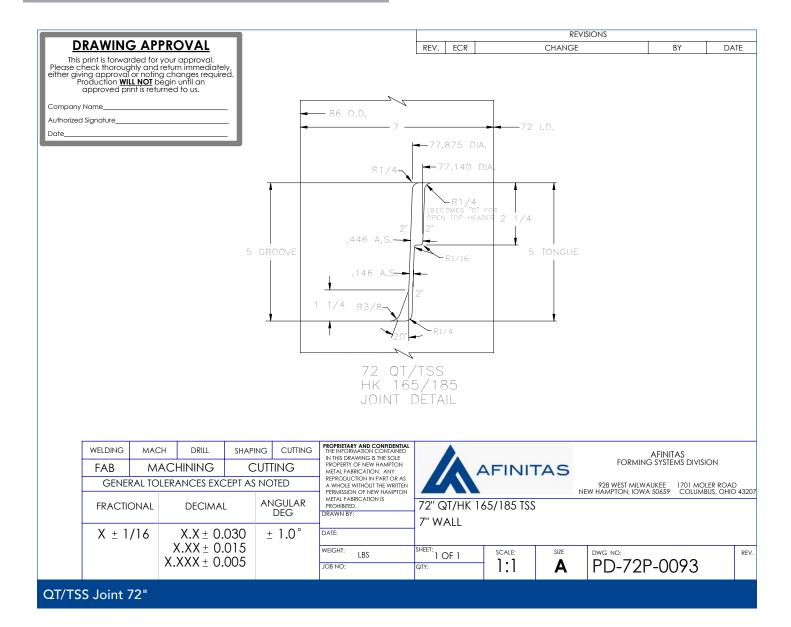
Authorized Signature____

Date_



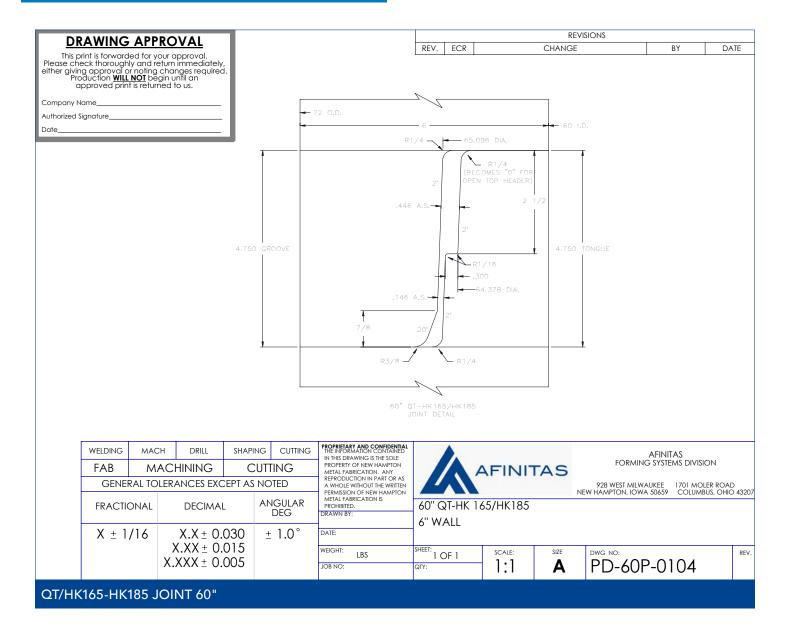
٧	VELDING	MACH	I DRILL	SHAPING	CUTTING	PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE	AFINITAS AFINITAS FORMING SYSTEMS DIVISION				201	
	FAB	MA	CHINING	CU	TTING	PROPERTY OF NEW HAMPTON METAL FABRICATION. ANY				W2 DIVIZION		
	GENER	RAL TOL	erances exc	CEPT AS N	OTED	REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF NEW HAMPTON				928 WEST MILWAUKEE NEW HAMPTON, IOWA 50659	1701 MOLER ROAL	
	FRACTIONAL DECIMAL			_	NGULAR DEG	METAL FABRICATION IS PROHIBITED. DRAWN BY:	60" QT/HK 1	65/185 TSS				- 10-01
	X ± 1,	± 1/16 X.X ± 0.030			± 1.0°	DATE:	6" WALL					
			X.XX ± 0.0 X.XXX ± 0.0			WEIGHT: LBS JOB NO:	SHEET: 1 OF 1 QTY:	SCALE:	SIZE A	PD-60P-00)95	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 DRAWING 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° $X \pm 1/16$ $X.X \pm 0.030$ $X.XX \pm 0.015$ SHEET: 1 OF 1 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° $X \pm 1/16$ $X.X \pm 0.030$ $X.XX \pm 0.015$ SHEET: 1 OF 1 WEIGHT: SCALE: LBS X.XXX ± 0.005 PD-72P-0113 1:1 A

7R/HK165-HK185 JOINT 48"

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** 48" 7R-HK165/HK185 FRACTIONAL DECIMAL DEG 5" WALL ± 1.0° $X \pm 1/16$ $X.X \pm 0.030$ $X.XX \pm 0.015$ SHEET: 1 OF 1 WEIGHT: SCALE: REV. $X.XXX \pm 0.005$ PD-48P-0158 1:1 A JOB NO: QTY:

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 DRILL CUTTING 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 **CUTTING** FAB MACHINING 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 $X \pm 1/16$ ± 1.0° $X.X \pm 0.030$ DATE: $X.XX \pm 0.015$ WEIGHT: SIZE 1 OF 1 SCALE: REV. $X.XXX \pm 0.005$ PD-60P-0105 JOB NO: 1:1 Α

7R/HK165-HK185 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_ - 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 THE INFORMATION CONTAINED IN THIS DRAWING IS THE SCIE PROPERTY OF NEW HAMPTON METAL FABRICATION. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PREMISSION 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:

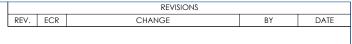
DRAWING APPROVAL

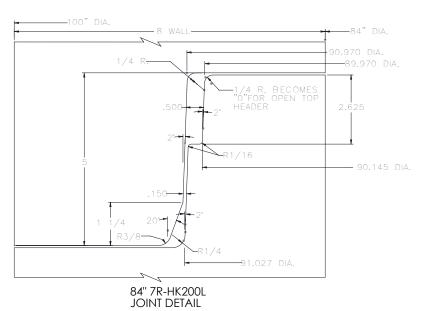
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Company Name_

Authorized Signature____

Date_





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FRACTIONAL		DECIMAL		NGULAR DEG	METAL FABRICATION IS PROHIBITED. DRAWN BY:	84" 7R-TSS 20 8" WALL	OOL				
X ± 1,	/16	X.X ± 0.		± 1.0°	DATE:	O WALL					
		X.XX ± 0. X.XXX ± 0.			LBS	SHEET: 1 OF 1 QTY:	scale:	SIZE A	84 7R-HK2	200L	REV.

7R/HK200L JOINT 84"

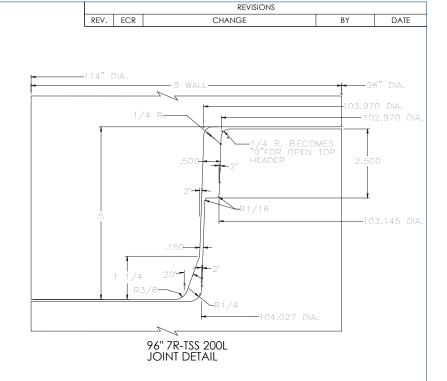
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Company Name_

Authorized Signature_

Date_



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		RANCES EXC			REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF NEW HAMPTON	AS EN		928 WEST MILWAUKEE NEW HAMPTON, IOWA 50659	1701 MOLER ROAL COLUMBUS, OHIO					
FRACTIONAL		DECIMAL		NGULAR DEG	METAL FABRICATION IS PROHIBITED. DRAWN BY:	96" - 7R/200I	L TSS							
X ± 1,	/16				X.X ± 0.030		± 1.0°	DATE:	8" WALL					
		X.XX ± 0.015 X.XXX ± 0.005			LBS	SHEET: 1 OF 1 QTY:	SCALE: 1:1	SIZE	96-7R 200	L TSS	REV.			

7R/HK200L JOINT 96"

7R/HK200L JOINT 120"

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 **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 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 PROMBITED. 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 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:

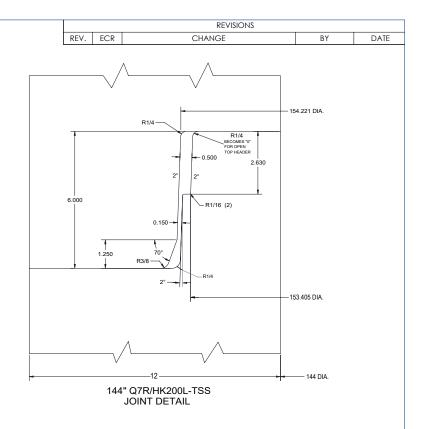
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Company Name_

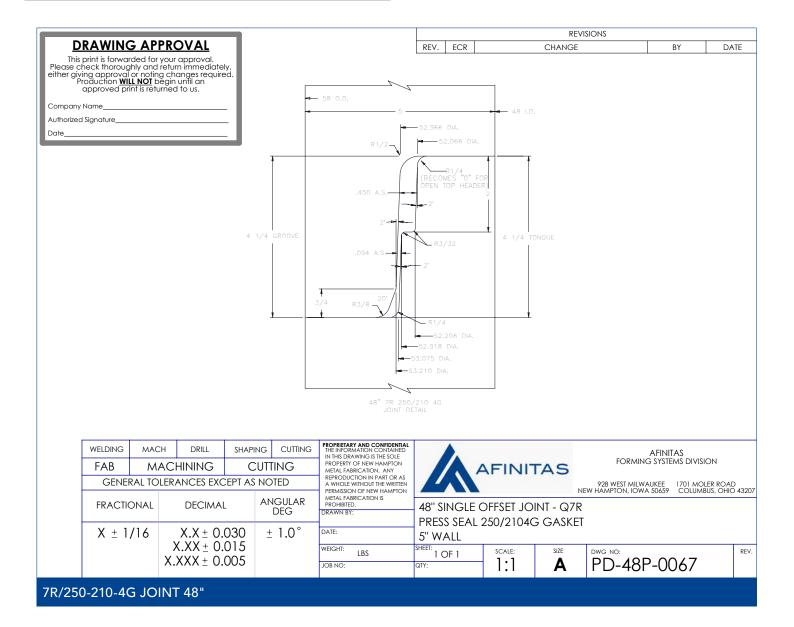
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FAB	MA	CHINING	CU	TTING	PROPERTY OF NEW HAMPTON METAL FABRICATION. ANY		AFINIT	TAS			
GENER	RAL TOL	erances exc	CEPT AS N	OTED	REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF NEW HAMPTON			The State of the S	928 WEST MILWAUKEE NEW HAMPTON, IOWA 50659	1701 MOLER ROAD	
FRACTIONAL		DECIMAL		ANGULAR DEG	GULAR METAL FABRICATION IS PROHIBITED.		200L-TSS		NEW TIPAMIT TOTA, TOTAL COMMON	COLONIDOS, OTRIC	3 40207
X ± 1,	/16	X.X ± 0.030		± 1.0°	DATE:	12" WALL					
		X.XX ± 0.015 X.XXX ± 0.005			LBS	SHEET: 1 OF 1 QTY:	SCALE:	SIZE A	DWG NO: 144 Q7R HK-2	200L-TSS	REV.

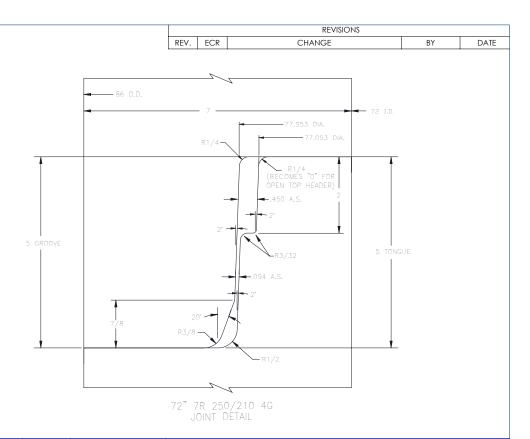
7R/HK200L JOINT 144"



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 Authorized Signature_ -64.275 DIA. R1/4 (BECOMES "O" FOR OPEN TOP HEADER) 4 3/4 TONGUE - R1/2 60" 7R 250/210 4G JOINT DETAIL PROPRIETARY AND CONFIDENTIAL WELDING CUTTING MACH DRILL Shaping AFINITAS FORMING SYSTEMS DIVISION 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 PROPULIED. MACHINING **CUTTING** FAB **AFINITAS** GENERAL TOLERANCES EXCEPT AS NOTED 928 WEST MILWAUKEE 1701 MOLER ROAD COLUMBUS, OHIO 43207 ANGULAR DEG FRACTIONAL DECIMAL 60" SINGLE OFFSET JOINT - Q7R DRAWN BY: 11/10/20 PRESS SEAL 250/210 4G GASKET $X \pm 1/16$ $X.X \pm 0.030$ ± 1.0° 6" WALL $X.XX \pm 0.015$ 1 OF 1 SCALE: SIZE REV. LBS X.XXX ± 0.005 1:1 Α PD-60P-0055 JOB NO:

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

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WELDING	MAC	CH	DRILL	Shaping		CUTTING	
FAB	M.	AC	HINING	CUTTING			
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X ± 1	/16	•	X.X ± 0. <.XX ± 0. XXX ± 0.	015	<u>+</u>	1.0°	

PROPRIETARY AND CONFIDENTIAL
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A WHOLE WITHOUT THE WRITTEN
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METAL FABRICATION IS
PROHIBIED. DRAWN BY:

LBS

DATE:

WEIGHT:

JOB NO:

AFINITAS 72" SINGLE OFFSET JOINT - Q7R 11/10/20

AFINITAS FORMING SYSTEMS DIVISION

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

REV.

PRESS SEAL 250/210 4G GASKET 7" WALL

SHEET: 1 OF 1 SIZE PD-72P-0019 A

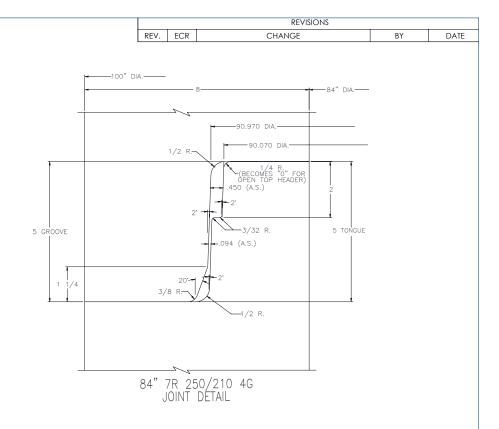
7R/250-210-4G JOINT 72"

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Please check thoroughly and return immediately, either giving approval or noting changes required.
Production <u>WILL NOT</u> begin until an approved print is returned to us.

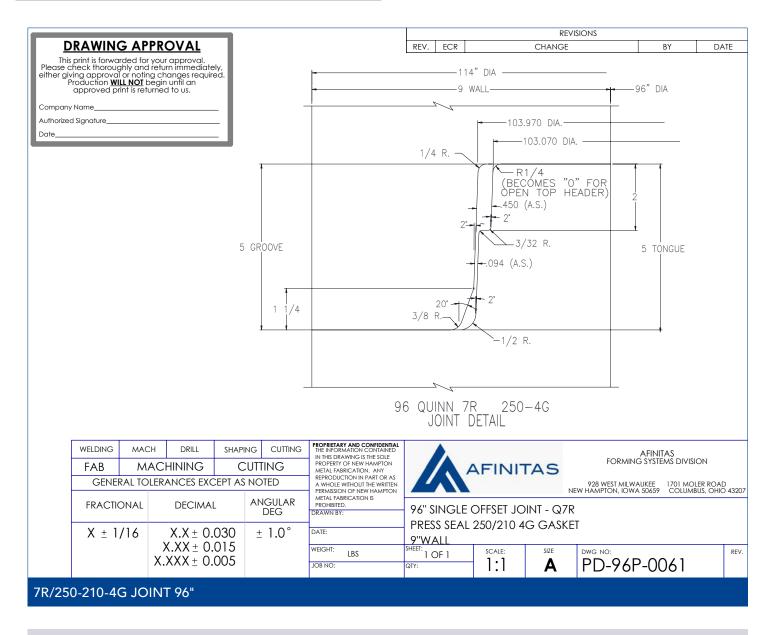
Company Name______
Authorized Signature______

Date_____

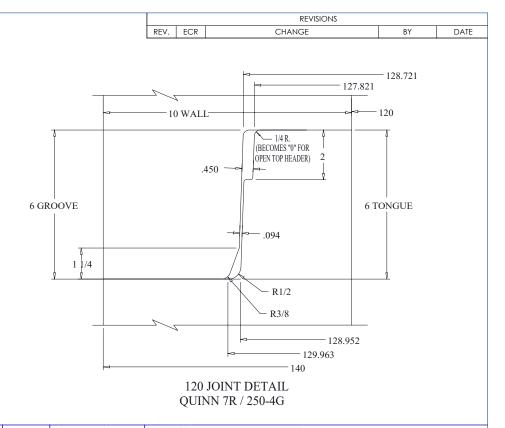


WELDING	MAC	H DRILL	Shaping	CUTTING	PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE	AFINITAS			AFINITAS FORMING SYSTEMS DIVISION		
FAB	MA	ACHINING	CU ⁻	ITING	PROPERTY OF NEW HAMPTON METAL FABRICATION. ANY						
GENE	RAL TOI	ERANCES EXC	EPT AS N	OTED	REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF NEW HAMPTON				928 WEST MILWAUKEE NEW HAMPTON, IOWA 50659	1701 MOLER ROAD COLUMBUS, OHIO	
FRACTI	ONAL	DECIMAI	_ A	NGULAR DEG	METAL FABRICATION IS PROHIBITED. DRAWN BY:	84" SINGLE OFFSET JOINT -QR7 PRESS SEAL 250/210 4G GASKET					
X ± 1	X ± 1/16 X.X ± 0.			± 1.0°	DATE:	8" WALL	230/210 4	G GASN	.C1		
	X.XX± 0.0 X.XXX± 0.0				WEIGHT: LBS JOB NO:	SHEET: 1 OF 1 QTY:	SCALE:	SIZE A	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)



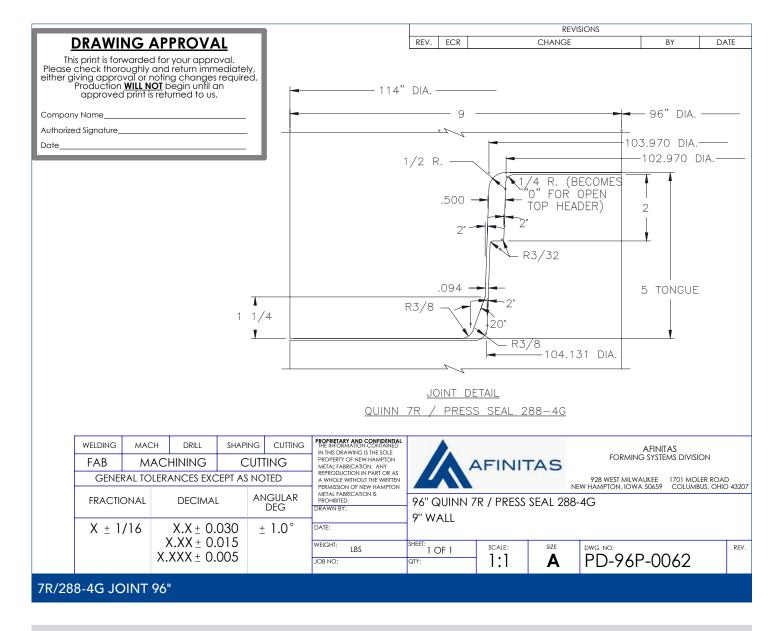
WELDING	MACH	DRILL	Shaping	CUTTING	PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE				AFINIT			
FAB	MA	CHINING	CUT	TING	PROPERTY OF NEW HAMPTON METAL FABRICATION. ANY		AFINITAS FORMING SYSTEMS DIVISION			:MS DIVISION	,	
GENERAL TOLERANCES EXCEPT				OTED	REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF NEW HAMPTON				928 WEST MILWAUKEE IEW HAMPTON, IOWA 50659	1701 MOLER ROAD		
FRACTIONAL		DECIMAL		ANGULAR DEG METAL FABRICATION IS PROHIBITED. DRAWN BY:		120" SINGLE						
X ± 1/16		X.X ± 0.030		± 1.0°	DATE:	PRESS SEAL: 10" WALL	250/210 4	G GASKE	:I			
	X.XX± 0. X.XXX± 0.				LBS	SHEET: 1 OF 1 QTY:	SCALE:	SIZE	PD-120P-0	0025	REV.	

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

REVISIONS REV. ECR DATE CHANGE **DRAWING APPROVAL** This print is forwarded for your approval. Please check thoroughly and return immediately, either giving approval or noting changes required. Production <u>WILL NOT</u> begin until an approved print is returned to us. Ø144.000 Company Name_ Ø154.221 Authorized Signature_ Ø153.221 .500 R.250 -R.250 BECOMES "0" FOR 2.000 R.188 OPEN TOP HEADER 6.000 .146 R.094 R.375 1.250 R.250 Ø153.361 Ø170.000 Ø144 7R 288-4G JOINT DETAIL PROPRIETARY AND CONFIDENTIAL WEI DING MACH DRILL CUTTING SHAPING 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 PROHIBITED. 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 DEG DRAWN BY 144-7R-288-4G 13" WALL \pm 1.0 $^{\circ}$ DATE: $X \pm 1/16$ $X.X \pm 0.030$ $X.XX \pm 0.015$ SHEET: 1 OF 1 WEIGHT: SCALE: DWG NO: REV. 217777.82 LBS $X.XXX \pm 0.005$ 1:64 Α 144-7R-288-4GDETAIL 7R/288-4G JOINT 144"

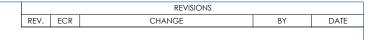
Joint Profile is NOT recommended for 84" diameter and larger (Recommend using the 7R/288-4G Joint)

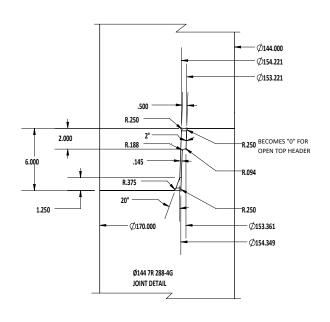
REVISIONS REV. ECR CHANGE DATE BY **DRAWING APPROVAL** This print is forwarded for your approval. Please check thoroughly and return immediately, either giving approval or noting changes required. Production WILL NOI begin until an approved print is returned to us. 100" DIA.--84" DIA---Company Name_ -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: $X.X \pm 0.030$ $X.XX \pm 0.015$ SHEET: WEIGHT: SCALE: REV. 1 OF 1 $X.XXX \pm 0.005$ PD-84P-0041 1:1 Α 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 unfil an approved print is returned to us. Company Name________ Authorized Signature_________ Date_______





WELDING	MACH	DRILL	Shaping	CUTTING	PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE				AFINIT			
FAB	MAC	CHINING	CU	ITING	PROPERTY OF NEW HAMPTON METAL FABRICATION. ANY		AFINITAS FORMING SYSTEMS DIV			MS DIVISION	IVISION	
GENER	RAL TOLE	rances exc	CEPT AS N	OTED	REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF NEW HAMPTON			The State of the S	928 WEST MILWAUKEE NEW HAMPTON, IOWA 50659	1701 MOLER ROAD		
			NGULAR DEG	METAL FABRICATION IS PROHIBITED. DRAWN BY:	144-7R-288- 13" WALL	4G			0020111000, 01110	7 10207		
X ± 1	/16	X.X ± 0.030		± 1.0°	DATE:			•				
	X	X.XX ± 0.015 X.XXX ± 0.005			21////.82 LBS	SHEET: 1 OF 1	1:64	SIZE A	DWG NO: 144-7R-288-40	GDETAIL	REV.	

7R/288-4G JOINT 144"

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 ± 1.0° $X \pm 1/16$ $X.X \pm 0.030$ $X.XX \pm 0.015$ SHEET: 1 OF 1 WEIGHT: SCALE: REV. LBS X.XXX ± 0.005 PD-48P-0138 1:1 Α JOB NO: SHORT S/O JOINT 48"

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) **~**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 MACH 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 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** 60" SHORT S/O JOINT **FRACTIONAL** DECIMAL DEG 6" WALL $X \pm 1/16$ $X.X \pm 0.030$ ± 1.0° $X.XX \pm 0.015$ WEIGHT: SIZE 1 OF 1 SCALE: REV. $X.XXX \pm 0.005$ 1:1 PD-60P-0102 JOB NO: Α

SHORT S/O JOINT 72"

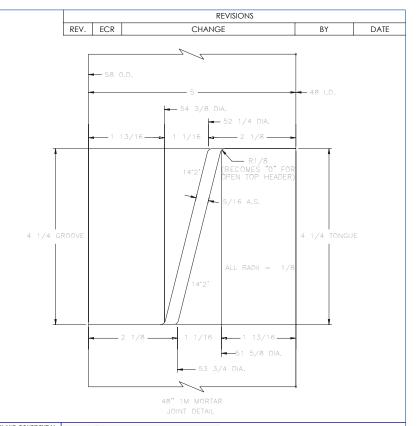
REVISIONS **DRAWING APPROVAL** REV. ECR CHANGE DATE This print is forwarded for your approval. Please check thoroughly and return immediately, either giving approval or noting changes required. Production **WILL NOT** begin until an approved print is returned to us. Company Name_ - 86 D.D. Authorized 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 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: SHEET: 1 OF 1 $X.XX \pm 0.015$ WEIGHT: SCALE: REV. LBS $X.XXX \pm 0.005$ PD-72P-0042 1:1 A JOB NO:

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Company Name_

Authorized Signature___

Date_



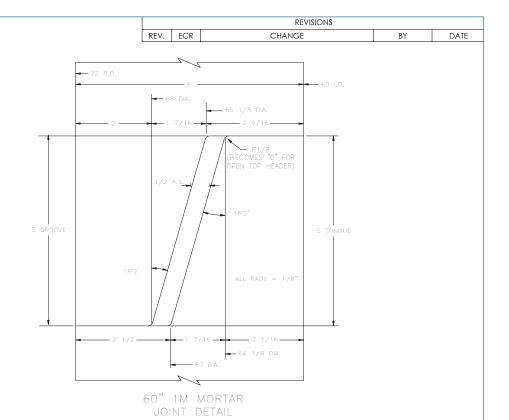
WELDING	MACH	DRILL	Shaping	CUTTING	PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE				AFINITAS		
FAB	B MACHINING CUTTING				PROPERTY OF NEW HAMPTON METAL FABRICATION. ANY	AFINITAS			FORMING SYSTEMS DIVISION		
GENERAL TOLERANCES EXCEPT AS NOTED					REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF NEW HAMPTON				928 WEST MILWAUKEE 1701 MOLER RO NEW HAMPTON, IOWA 50659 COLUMBUS, OH		
FRACTIO	ONAL DECIMAL		L A	NGULAR DEG	METAL FABRICATION IS PROHIBITED. DRAWN BY: 11/10/20	48" 1M MORTAR JOINT					
X ± 1	/16	X.X ± 0.		± 1.0°	DATE:	5" WALL					
	>	X.XX ± 0.015 X.XXX ± 0.005			LBS	SHEET: 1 OF 1 QTY:	SCALE:	SIZE A	PD-48P-01	157	REV.

1M MORTAR JOINT 48"

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Company Name_

Authorized Signature____



WELDING MACH DRILL SHAPING CUTTING FAB MACHINING CUTTING GENERAL TOLERANCES EXCEPT AS NOTED ANGULAR FRACTIONAL DECIMAL DEG ± 1.0° $X \pm 1/16$ $X.X \pm 0.030$ DATE: $X.XX \pm 0.015$ $X.XXX \pm 0.005$

PROPRIETARY AND CONFIDENTIAL
THE INFORMATION CONTAINED 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: 11/10/20 **AFINITAS** 60" 1M MORTAR JOINT

AFINITAS FORMING SYSTEMS DIVISION

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

6" WALL

SHEET: WEIGHT: SCALE: REV. 1 OF 1 PD-60P-0103 1:1 A JOB NO:

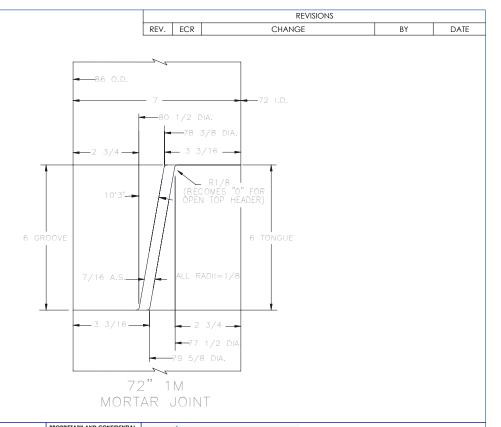
1M MORTAR JOINT 60"

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_

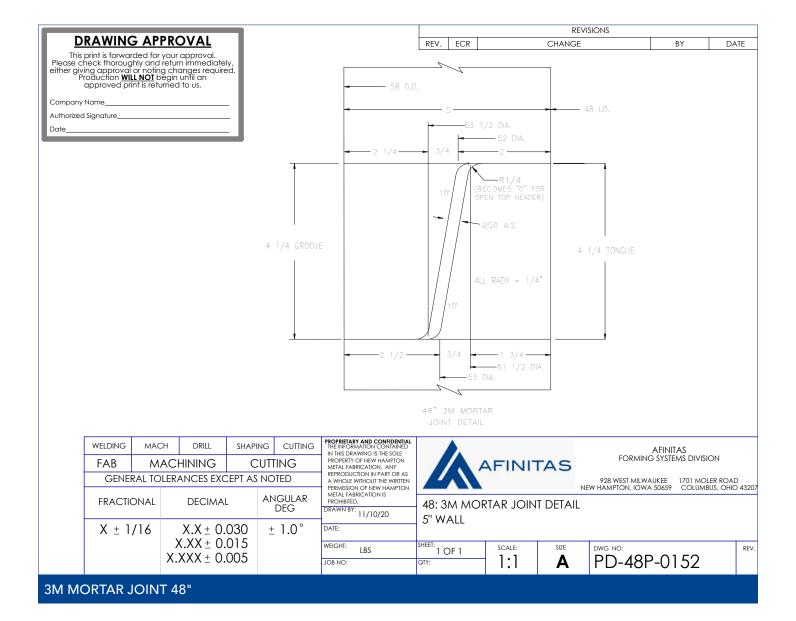
Authorized Signature_

Date_



WELDING	MACH	DRILL	Shaping	CUTTING	PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE	A .			AFINITAS			
FAB	AB MACHINING CUTTING				PROPERTY OF NEW HAMPTON METAL FABRICATION. ANY	AFINITAS			FORMING SYSTEMS DIVISION			
GENER	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 1701 MOLER ROAD NEW HAMPTON, IOWA 50659 COLUMBUS, OHIO 4			
FRACTIO	FRACTIONAL DECIMAL		L A	NGULAR DEG	METAL FABRICATION IS PROHIBITED. DRAWN BY: 11/10/20	72" MORTAR JOINT-Q1M						
X ± 1,	/16	X.X ± 0.030 X.XX ± 0.015 X.XXX ± 0.005		± 1.0°	DATE:	/ **/\LL						
	>				LBS	SHEET: 1 OF 1 QTY:	SCALE:	SIZE A	PD-72P-00)95	REV.	

1M MORTAR JOINT 72"



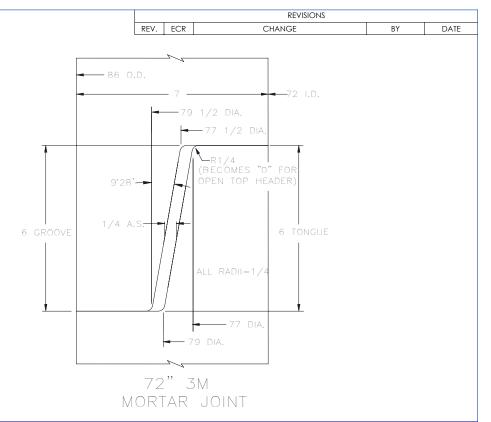
REVISIONS **DRAWING APPROVAL** REV. ECR CHANGE DATE This print is forwarded for your approval. Please check thoroughly and return immediately, either giving approval or noting changes required. Production WILL NOT begin until an approved print is returned to us. Company Name_ - 60 I.D. Authorized Signature_ -64 3/4 DIA. Date R1/4 (BECOMES "O" FOR OPEN TOP HEADER) - 66 DIA. 60" 3M MORTAR JOINT DETAIL PROPRIETARY AND CONFIDENTIAL WELDING DRILL CUTTING MACH 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° $X.XX \pm 0.015$ SHEET: 1 OF 1 WEIGHT: SCALE: REV. $X.XXX \pm 0.005$ PD-60P-0058 JOB NO: 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_

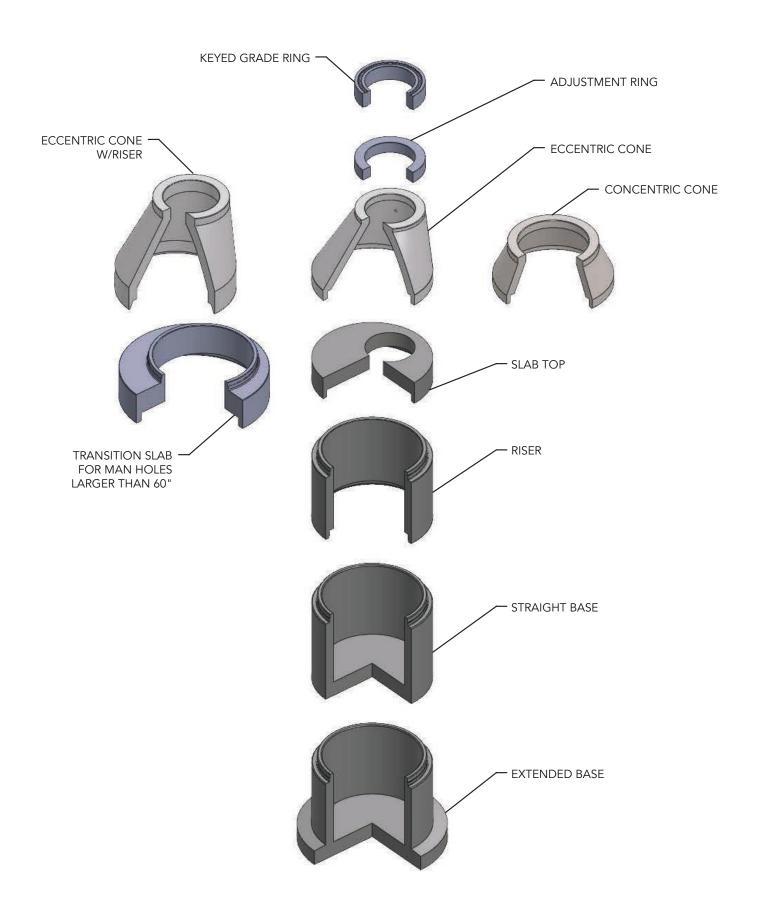
Authorized Signature____

Date_



WELDING	MACH	DRILL	SHAPINO	CUTTING	PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE				AFINITAS			
FAB	MACHINING CUTTING			PROPERTY OF NEW HAMPTON METAL FABRICATION. ANY	AFINITAS			FORMING SYSTEMS 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 ROAD COLUMBUS, OHIO		
FRACTIO	FRACTIONAL DECIMAL		_	NGULAR DEG	METAL FABRICATION IS PROHIBITED. DRAWN BY: 11/10/20	72" MORTAR JOINT-Q3M 7" WALL						
X ± 1	/16	X.X ± 0.030 X.XX ± 0.015 X.XXX ± 0.005		± 1.0°	DATE:	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						
	>				WEIGHT: LBS JOB NO:	SHEET: 1 OF 1 QTY:	SCALE:	SIZE A	PD-72P-01	12	REV.	

3M MORTAR JOINT 72"



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1701 Moler Road Columbus, OH 43207 Phone: 614-444-2184 rfq@afinitas.com



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