

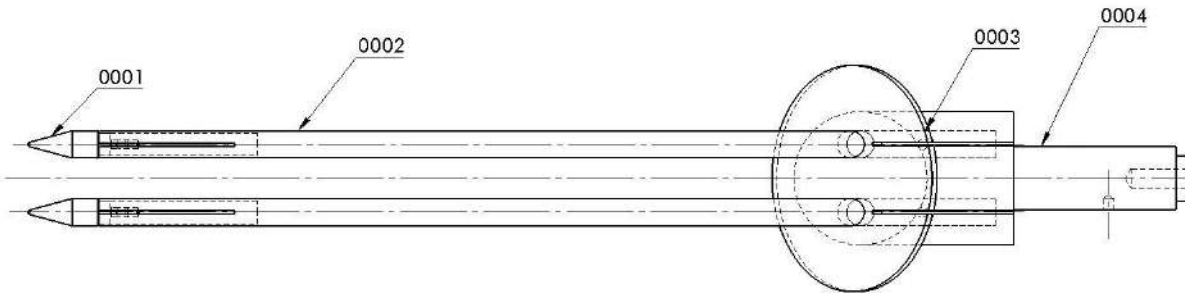
# MECHANICAL ENGINEERING PORTFOLIO

Angga Surya Anggana, B.S.M.E.

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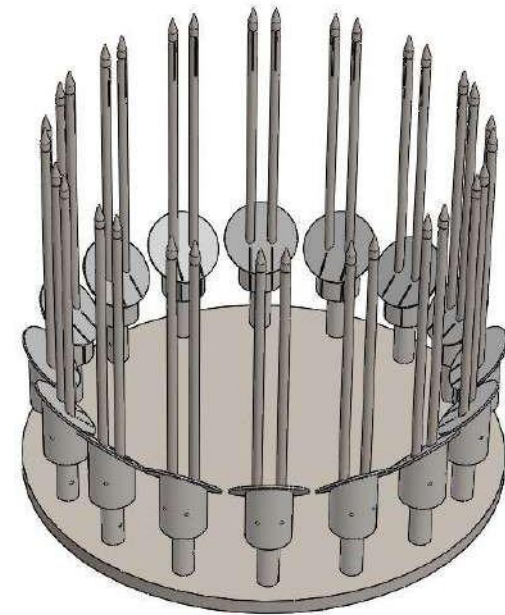
# Auto Meganetoshi (New Development)

Automation can reduce labour costs and avoid human work accidents.  
Precise production equipment for automation is needed for the constant desired quality of the product made.

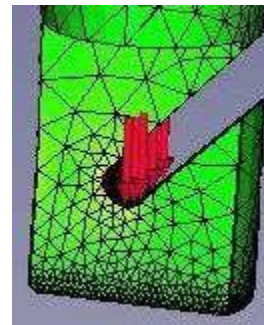
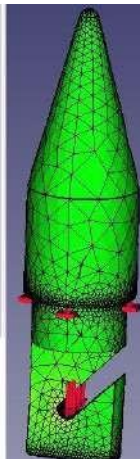


Projected Assembly Drawing

0004	Bar Holder
0003	Plate Guide Bar
0002	Indexed Bar
0001	Guide Pin
Part No.	



Perspective View Made with SolidWorks



Minimum Factor of Safety  
(FoS) = 21.1

Stress Distribution on Guide Pin (SUS 304)  
when Handling Calculated with CalculiX

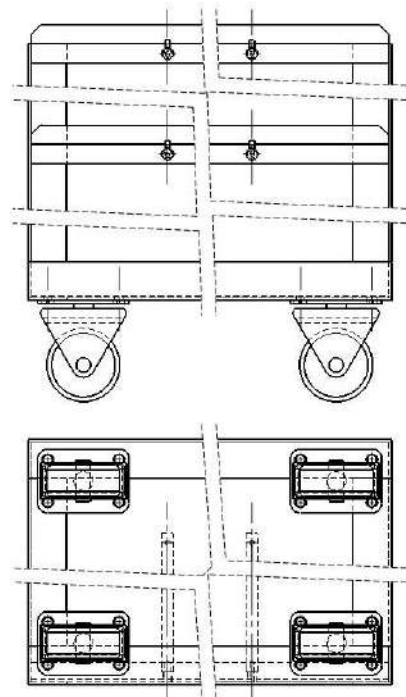
## Services Include

Mechanical Concept Development, Detailed Design for Manufacturing, Material Selection, Analysis, Prototyping, Trial, and Vendor Liaison.

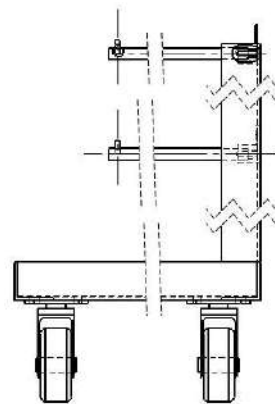
# Rack Tube Silicon (New Development)

The proper place for placing process equipment can make longer usage ages of its equipment. Space availability on the production floor has become a common issue for layout.

Save spacing production floor mostly needed for an efficient layout.



Standard Three Views  
Created



Two Rows Hanger Position Designed  
Instead of Single Row for Save Spacing  
Production Floor



Perspective View Made  
with SolidWorks

## Services Include

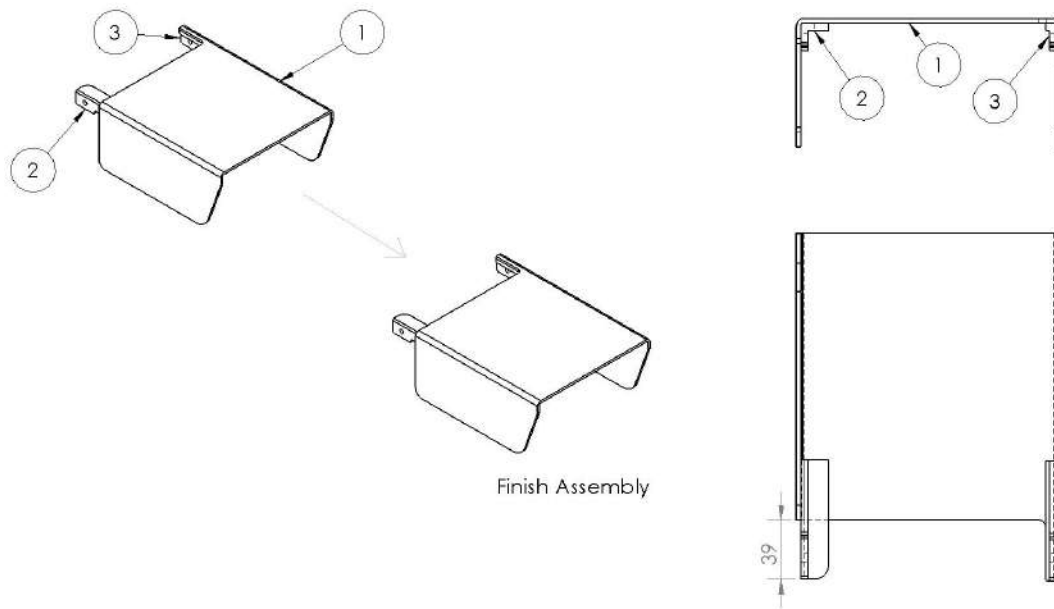
Mechanical Concept Initiation and Development,  
Detailed Design for Manufacturing, Material  
Selection, Trial, and Vendor Liaison.

# Cover NC Grip (Renewal/Localization)

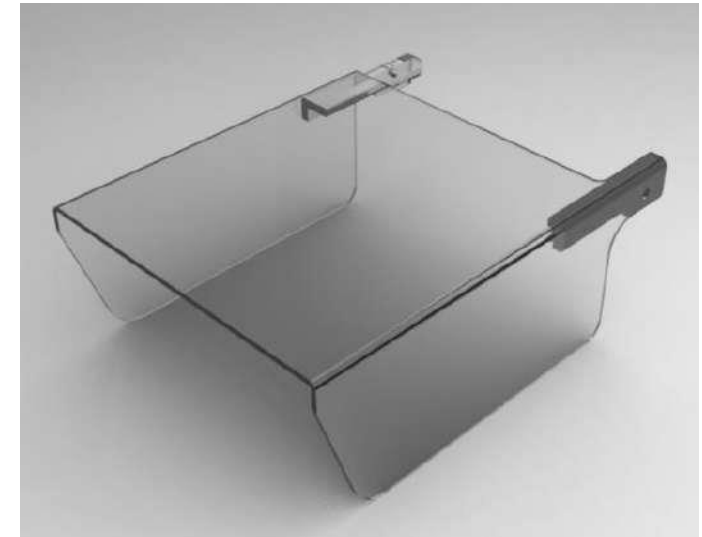
Cover NC Grip is part of the machine attachment enclosure. When this component brake out, it needs reparation if possible. Otherwise making of renewal component needed for replacement.

Measurement, modelling, and drawing from the existing physical object was taken due to the unavailability of drawing in Toyo Seal Indonesia. SolidWorks was used for modelling and drawing.

All parts components use fibreglass material.



Isometric View with Finish Assembly Shown with Three Parts Joined



Rendered Perspective View

## Services Include

Reverse Engineering, Detailed Design for Manufacturing, and Vendor Liaison.

# Rubber Seal Jig Dryer (Renewal/Localization)

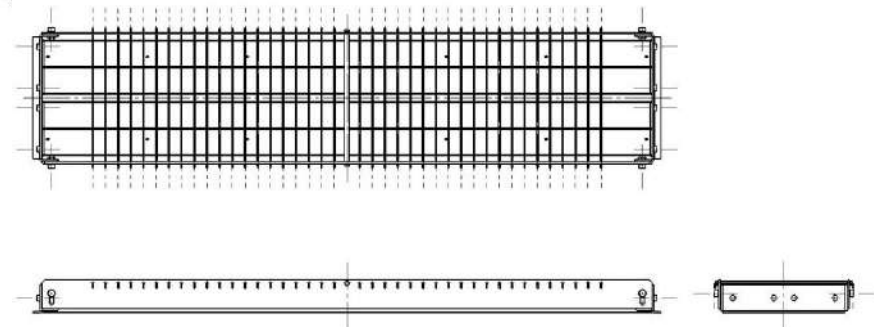
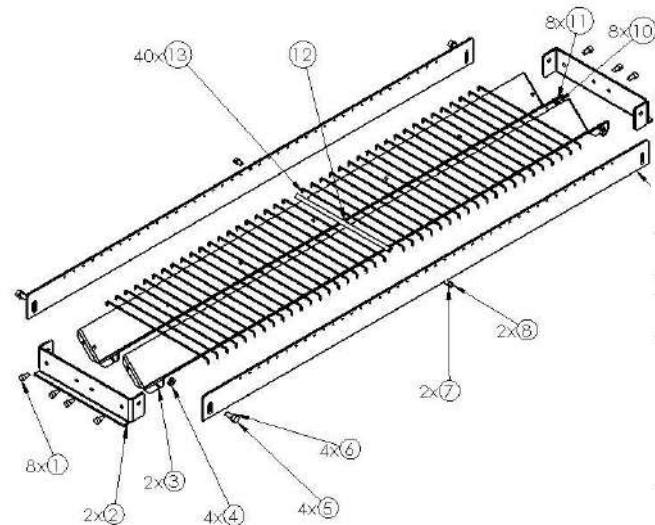
Due to lack of quantity available of specific process equipment regarding of increase order from an external customer for Rubber Seal AMNR type, Toyo Seal Indonesia needs extra additional jig quantity. The jig is already available in small quantities but the drawing is not available yet.

New drawing needed to produce this jig, so measurement was taken and modeling of physical object with its drawing done with SolidWorks.



Rendered Perspective View

No.	Part Name	Qty.
1	L-Bolt M5	8
2	Holder	2
3	V Plate	2
4	Hexagonal Nut M6	4
5	L-Bolt M6	4
6	Washer M6	4
7	Washer M4	2
8	L-Bolt M4	2
9	Slide Frame	2
10	Hexagonal Nut M5	8
11	Spring Washer M5	8
12	Center Shaft	1
13	Round Bar	40



Standard 3 Views

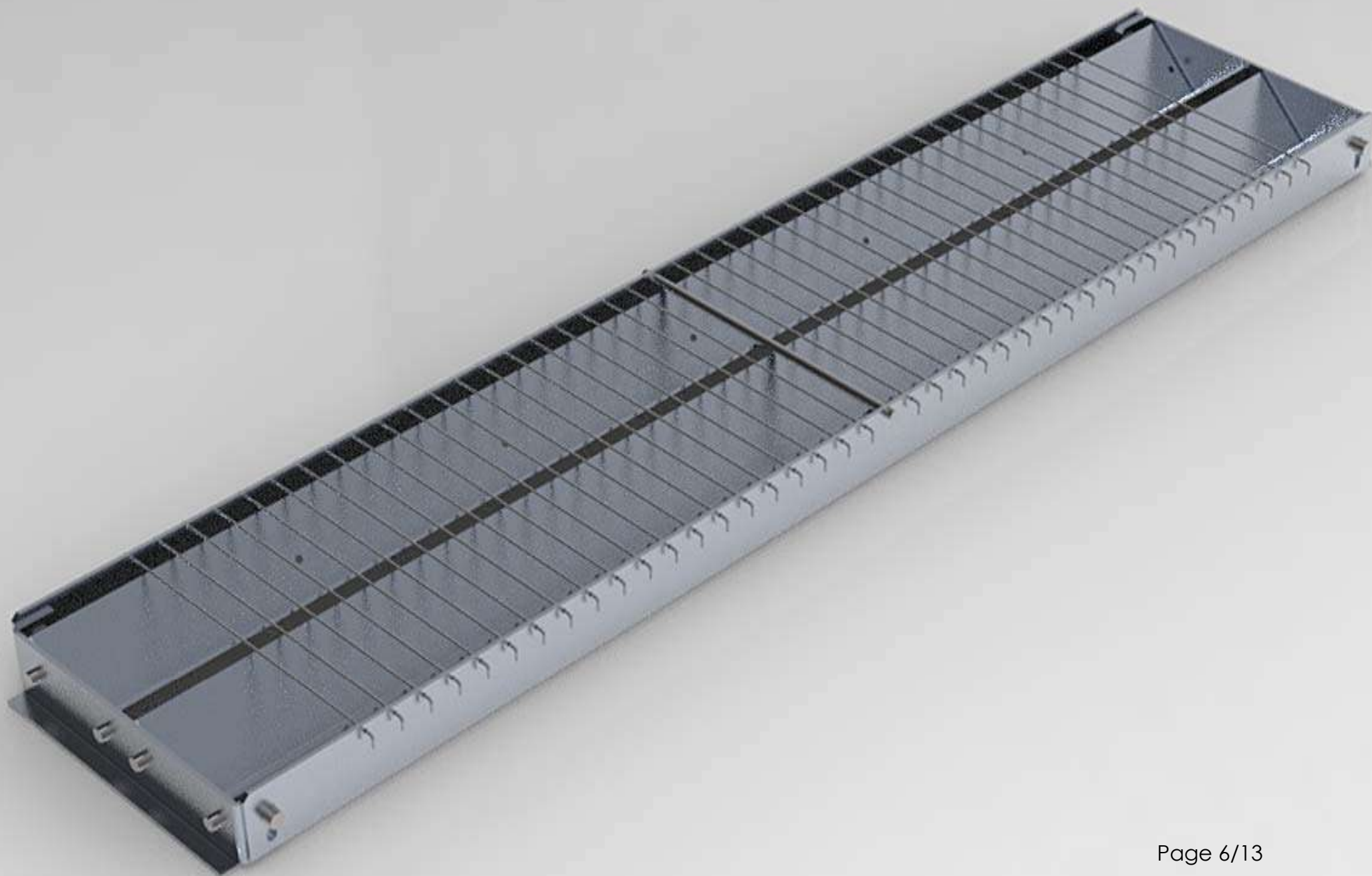
Exploded View with Bill of Material of Rubber Seal Jig Dryer  
Shown for Clarity of Its Component

All sheet metal parts are made from aluminium alloy, fasteners from carbon steel, and other parts from stainless steel. No issues were encountered during process of using this renewal jig.

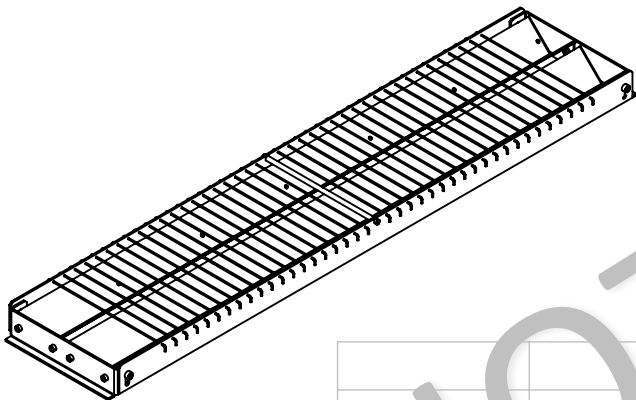
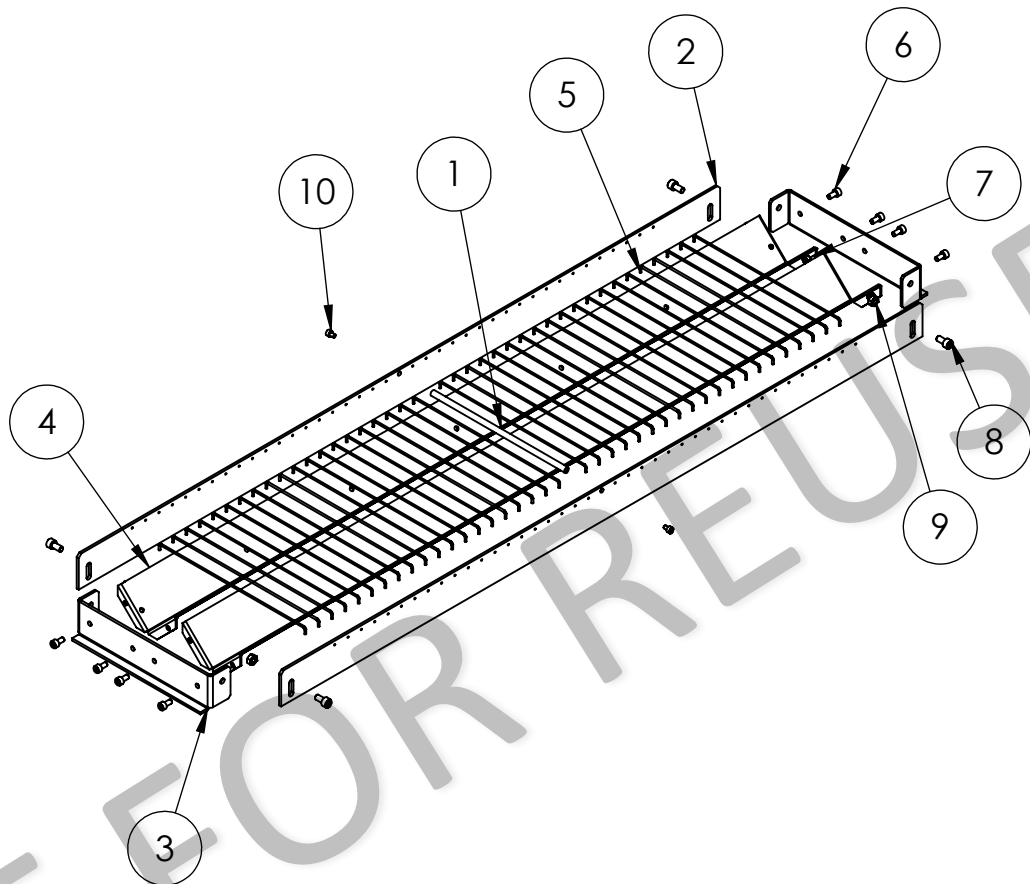
## Services Include

Reverse Engineering, Detailed Design for Manufacturing, Material Selection, Trial, and Vendor Liaison.





ITEM NO.	PART NUMBER	QTY.
1	Center Shaft	1
2	Side Frame	2
3	Holder	2
4	V Plate	2
5	Round Bar	40
6	ISO 4762 M5 x 10 - 10N	8
7	ISO - 4032 - M5 - W - N	8
8	ISO 4762 M6 x 12 - 12N	4
9	ISO - 4032 - M6 - W - N	4
10	ISO 4762 M4 x 6 - 6N	2



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		TOLERANCES:	
		FRACTIONAL ±	
		ANGULAR: MACH ±	BEND ±
		TWO PLACE DECIMAL ±	
		THREE PLACE DECIMAL ±	
		INTERPRET GEOMETRIC TOLERANCING PER:	
		MATERIAL	
		FINISH	
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MFG APPR.		
Q.A.		
COMMENTS:		

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TITLE:		
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SIZE	DWG. NO.	REV
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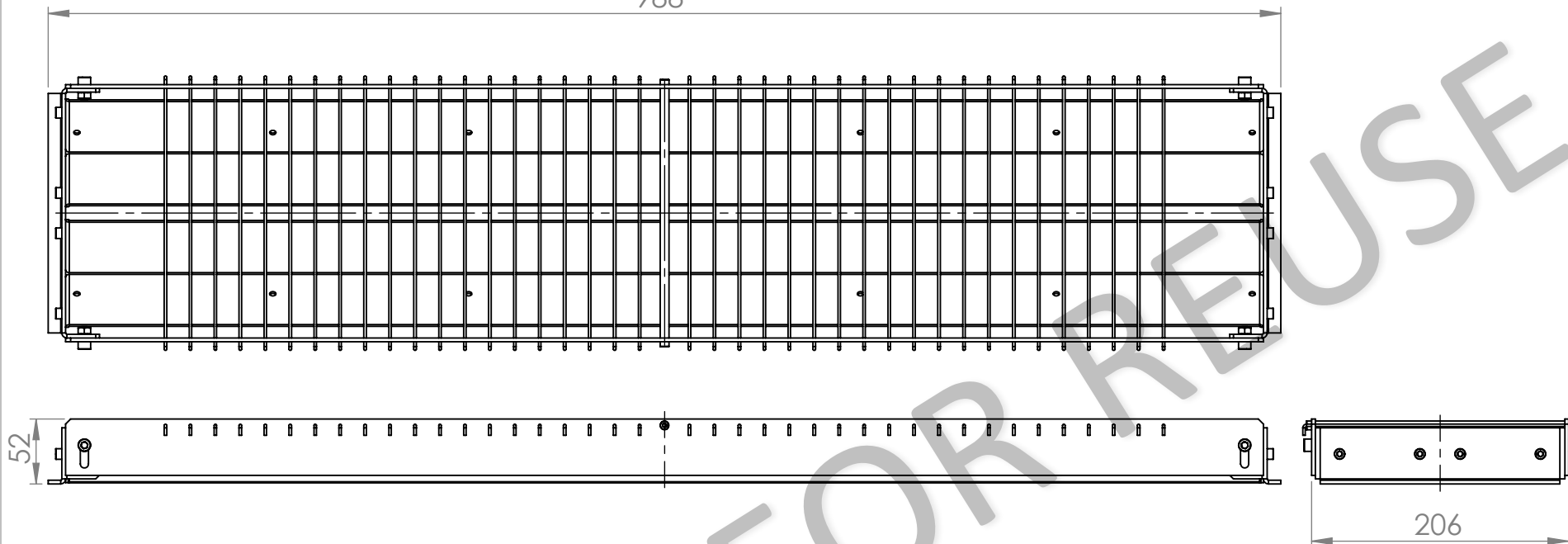
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TWO PLACE DECIMAL  $\pm$   
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INTERPRET GEOMETRIC  
TOLERANCING PER:

MATERIAL

FINISH

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NAME

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MFG APPR.

Q.A.

COMMENTS:

**SEAL POST CURE DRAINER**

TITLE:

STANDARD 3 VIEWS

SIZE

DWG. NO.

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SCALE: FREE

SHEET 2 OF 7

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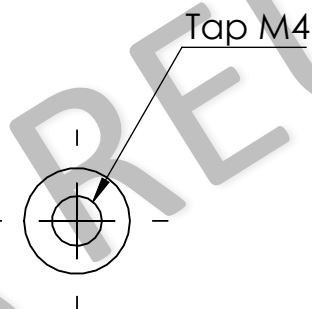
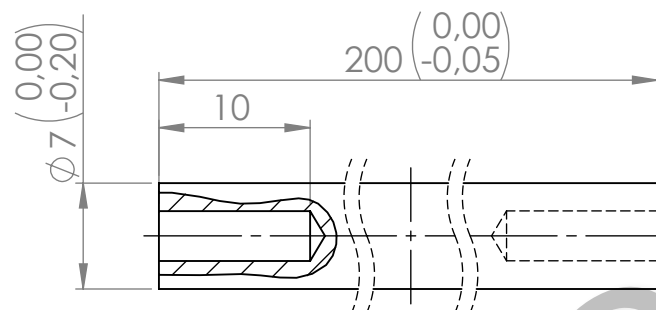
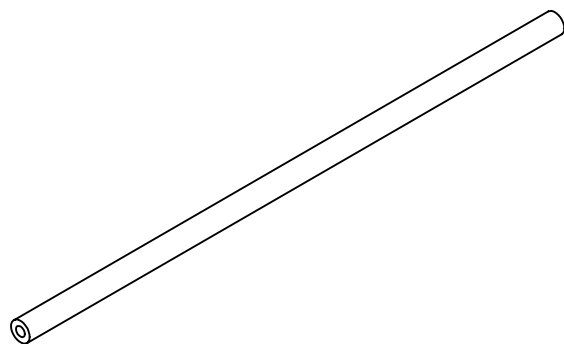


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ANGULAR: MACH  $\pm$  BEND  $\pm$   
TWO PLACE DECIMAL  $\pm$   
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INTERPRET GEOMETRIC  
TOLERANCING PER:MATERIAL **SUS 304**

FINISH

DO NOT SCALE DRAWING

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DATE

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ANGGA

23/09/19

CHECKED

ENG APPR.

MFG APPR.

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COMMENTS:

SEAL POST CURE DRAINER

TITLE:

**CENTER SHAFT**

SIZE

**A**

DWG. NO.

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SCALE: FREE

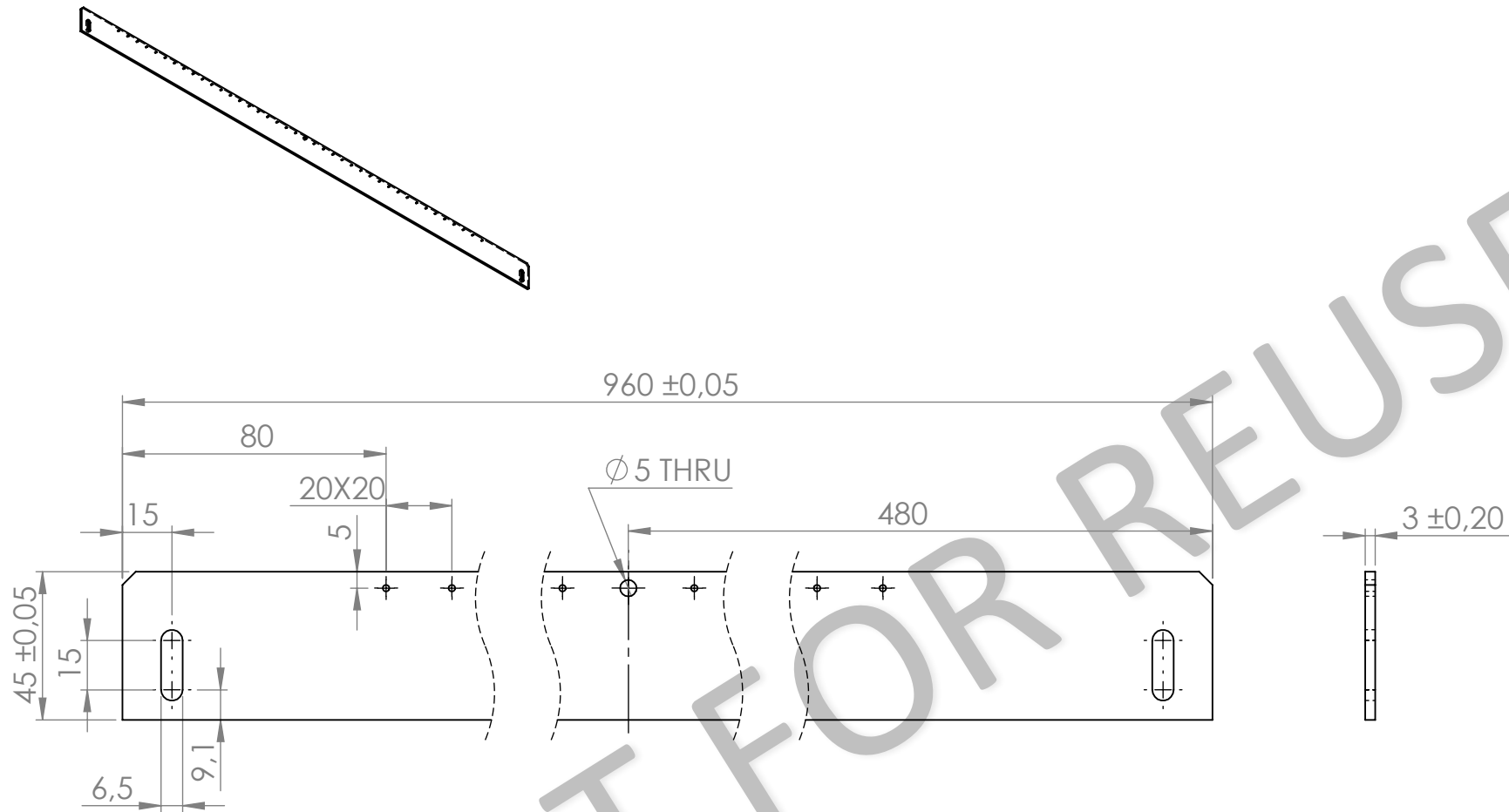
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INTERPRET GEOMETRIC  
TOLERANCING PER:

MATERIAL

AL 6063

FINISH

DO NOT SCALE DRAWING

NAME

ANGGA

DATE

23/09/19

DRAWN

CHECKED

ENG APPR.

MFG APPR.

Q.A.

COMMENTS:

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TITLE:

SIDE FRAME

SIZE

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DWG. NO.

REV

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SHEET 4 OF 7

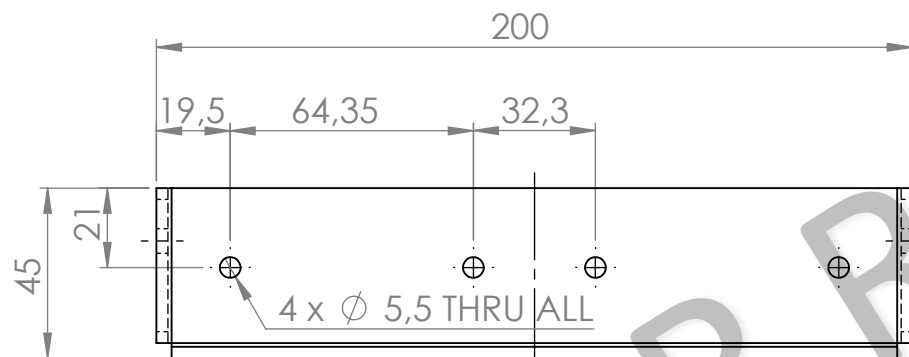
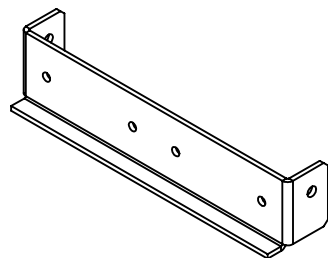
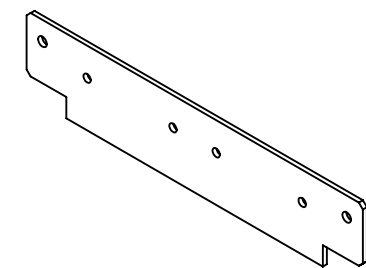
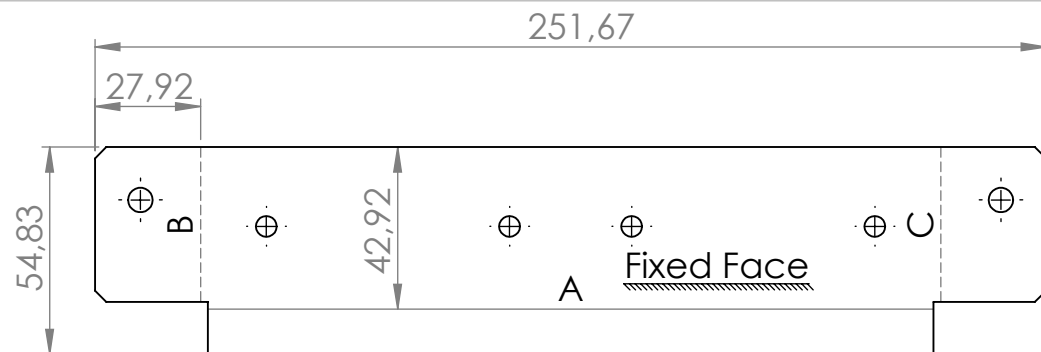
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Page 10/13

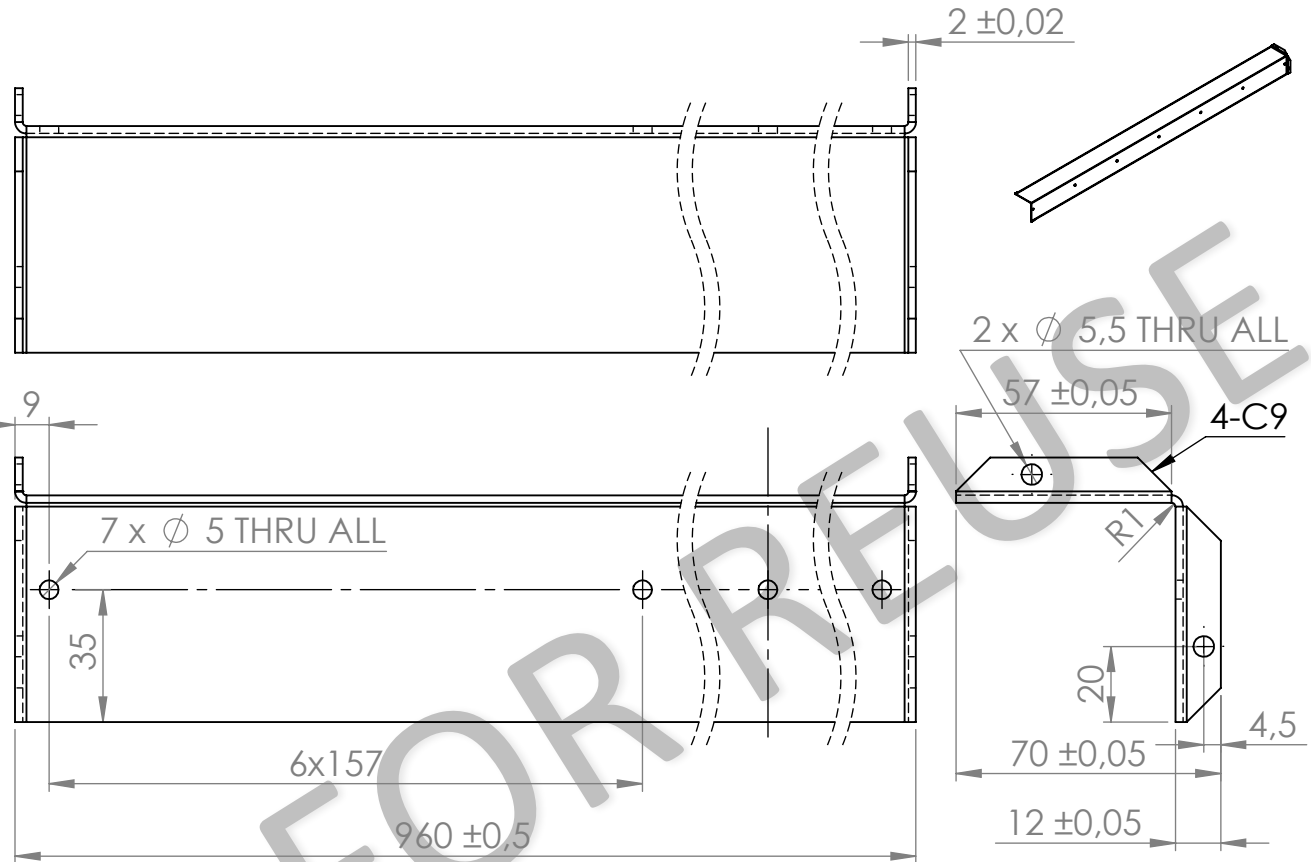
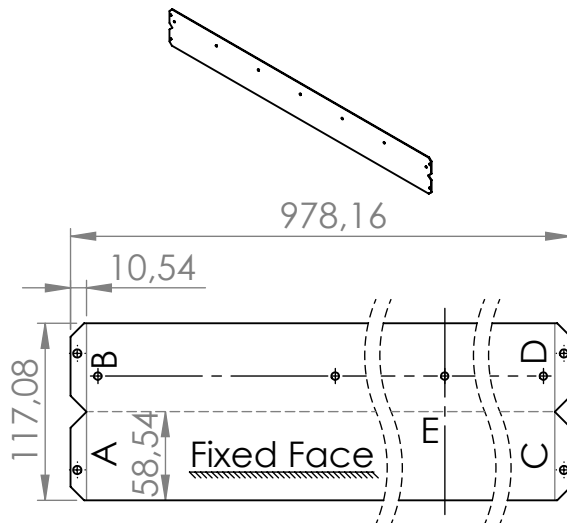
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B	DOWN	90°	1
C	DOWN	90°	1



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B

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B	UP	90°	1
C	UP	90°	1
D	UP	90°	1
E	DOWN	90°	1



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TWO PLACE DECIMAL  $\pm$   
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INTERPRET GEOMETRIC  
TOLERANCING PER:

MATERIAL **AL 6063**

FINISH

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DATE

23/09/19

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MFG APPR.

Q.A.

COMMENTS:

SEAL POST CURE DRAINER

TITLE:

V PLATE

SIZE

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DWG. NO.

REV

SCALE: FREE

SHEET 6 OF 7

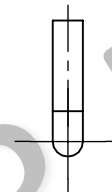
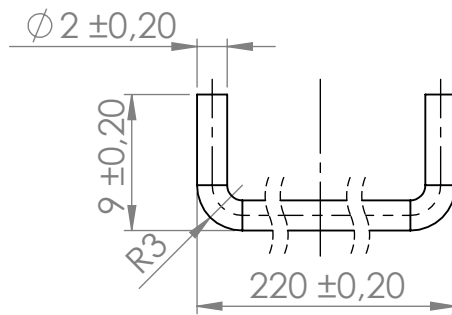
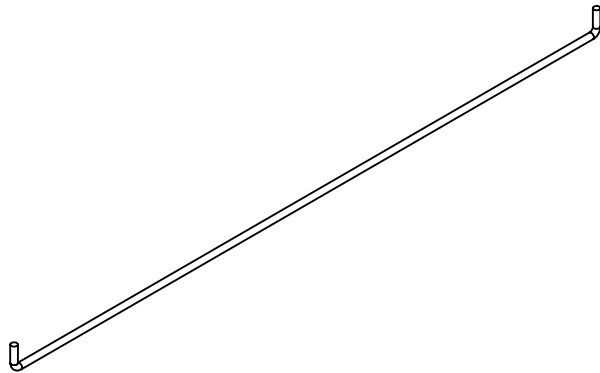
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ANGULAR: MACH  $\pm$  BEND  $\pm$   
TWO PLACE DECIMAL  $\pm$   
THREE PLACE DECIMAL  $\pm$

INTERPRET GEOMETRIC  
TOLERANCING PER:MATERIAL **SUS 304**

FINISH

DO NOT SCALE DRAWING

NAME

DATE

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23/09/19

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Q.A.

COMMENTS:

**SEAL POST CURE DRAINER**

TITLE:

**ROUND BAR**

SIZE

**A**

DWG. NO.

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SCALE: FREE

SHEET 7 OF 7

2

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