



भारतीय प्रौद्योगिकी संस्थान इन्दौर
सिमरोल, खण्डवा रोड, इन्दौर, भारत, पिन - 453 552
Indian Institute of Technology Indore
Simrol, Khandwa Road, Indore, India PIN - 453 552

IIT Indore

Certificate by the Mechanical and Civil Engineering Department for MMS

This is to certify that the MMS structure drawings No. 4800026385, 4800026389, and 4800026383, 4800026557, 4800026556, and 4800026554 (copy enclosed) supplied by M/S Shakti Energy Solutions private limited is evaluated at our Mechanical and Civil Engineering Department facility at Indian Institute of Technology (IIT), Indore and it is found superior to the MMS structure specified in the Specification of Solar Water Pumping System notified by the Ministry of New and Renewable Energy (MNRE) vide F. No: 41/3/2018-spv Division dated 17/07/2019 (Clause 3.5.1).

The following are the changes when compared to the MNRE's MMS suggestive design: -

S. No.	According to the MNRE MMS	According to the vendor MMS
1.	2- PV Module MMS (4800026166)	2- PV Module MMS (4800026385)
2.	6- PV Module MMS (4800024837)	6- PV Module MMS (4800026389)
3.	10- PV Module MMS (4800024839)	10- PV Module MMS (4800026383)
4.	NA	3- PV Module MMS (4800026557)
5.	04 - PV Module MMS (4800026168)	4- PV Module MMS (4800026556)
6.	08 - PV Module MMS	08- PV Module MMS (4800026554)

These are the following improvements in the MMS design submitted by the vendor over the MNRE's MMS suggestive design: -

In all the six stated design drawings above the C-Type purlin is replaced with Z-purlin for more strength

Note: The drawings with the abovementioned design improvement are attached.

Dr. Ankur Miglani
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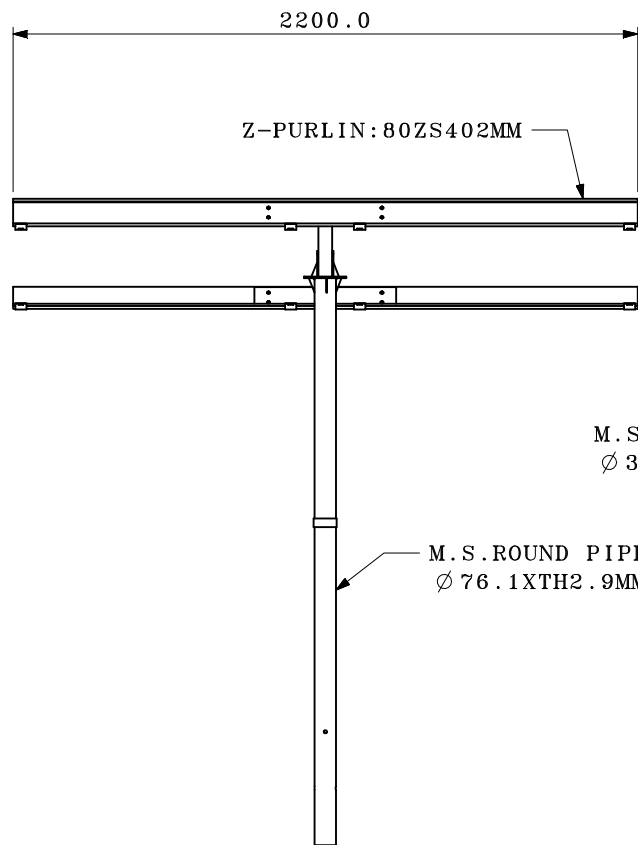
Dr. Sandeep Chaudhary
Professor
Department of Civil Engineering
Indian Institute of Technology Indore
Simrol, Indore 453552

Dr. Pavan Kumar Kankar
Associate Professor
Department of Mechanical Engineering
IIT Indore

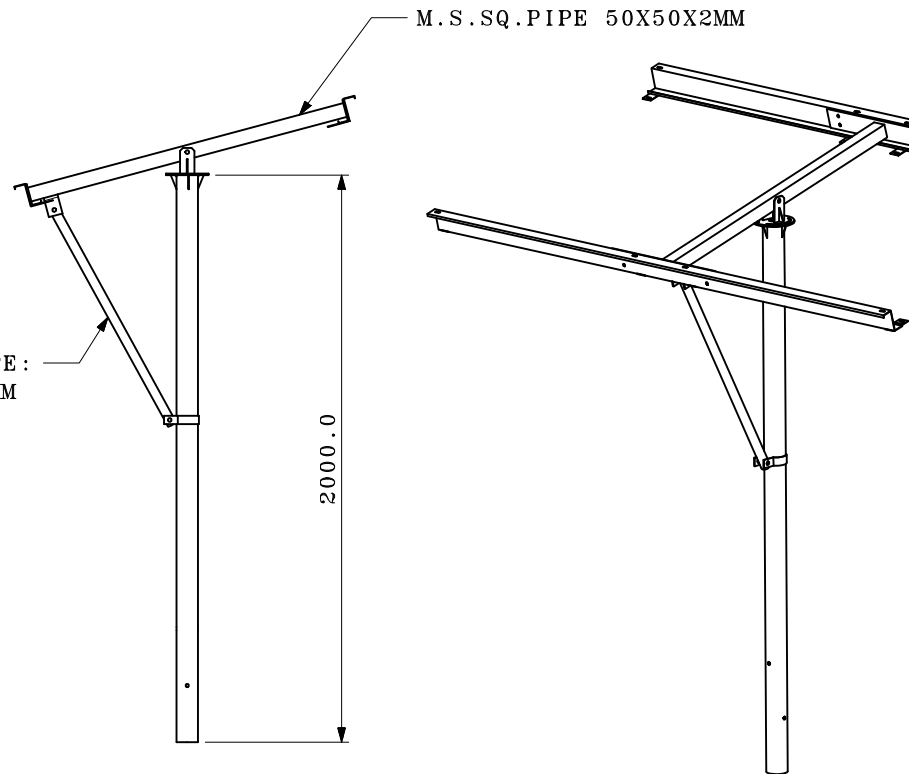
Signature of the concerned authority

Date: 17 Jan. 2022

Place: IIT Indore



FRONT VIEW



SIDE VIEW

ISOMETRIC VIEW

GENERAL NOTE:-

- COMPONENT SHOULD BE MIN. 80 μ m HOT DEEP GALVANIZED COATED. CONFIRMING TO :-
IS 2629: HOT DEEP GALVANIZING PRACTICE
IS 2633: UNIFORMITY OF GALVANIZING COATING
IS 4759: HOT DIP ZINC COATING OF STRUCTURAL STEEL
- WELDING SHOULD BE CHECKED CONFIRMING TO:-
IS 822: PROCEDURE FOR INSPECTION OF WELDS.
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- ALL STEEL SECTIONS SHALL BE THOROUGHLY STRAIGHTENED & WIRE BRUSHED TO ENSURE COMPLETE REMOVAL OF RUST & SCALE.
- DESIGN IS CONFIRMING TO IS 800:2007
- WIND LOADING AS PER IS 875:2015
- THE BASIC WIND SPEED IS 150 KM/HR AS MENTIONED IN MNRE SPECIFICATION CIRCULAR NO. F NO. 41/3/2018-SPV DIVISION DATED 17/07/2019

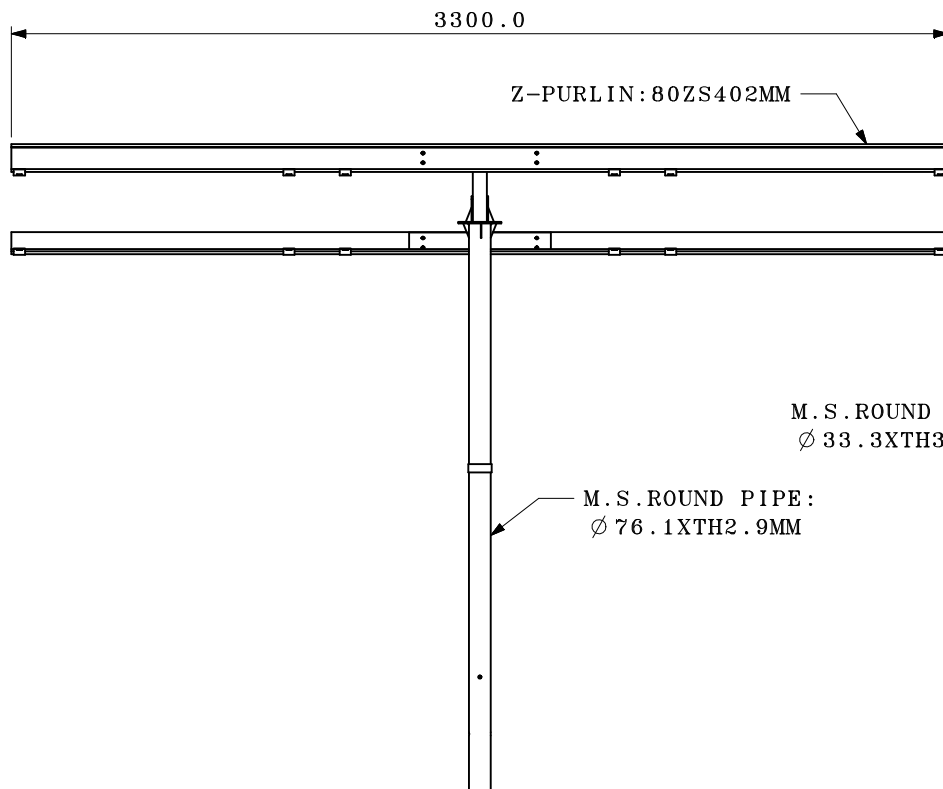
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07 July 2021

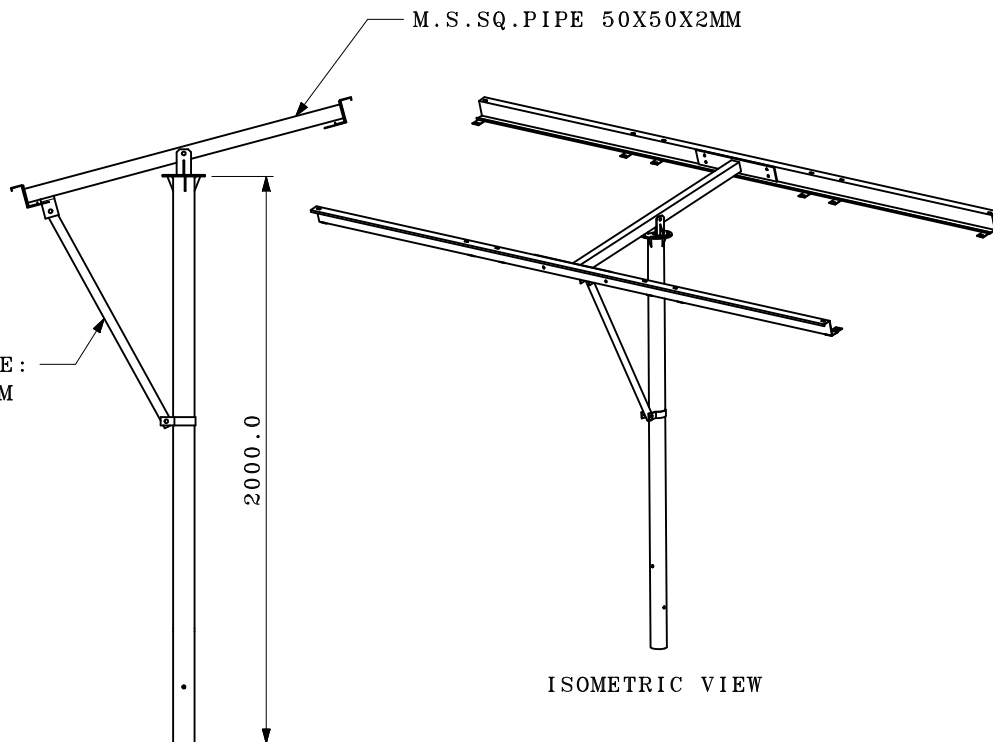
Dr. Pavan Kumar Kankar
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Dr. Sandeep Chaudhary
Professor
Department of Civil Engineering
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Simrol, Indore 453552

1) REMOVE SHARP EDGES 2) DRAWING NOT TO BE SCALE 3) OPEN TOLERANCE ARE ± 0.2		REV.-R1	DESCRIPTION:-PURLIN THICKNESS CHANGED AS PER STAAD RESULT		
ALL DIMENSIONS ARE IN MM. UNLESS OTHERWISE SPECIFIED				NAME	DATE
TITLE :- GAD OF SSMT 02-PLATE-F (4132018)			DRAWN	DEEPAK	25.05.21
			REVISION	DEEPAK	05.07.21
			APPROVED	SUNITA	05.07.21
			SHEET	1 OF 2	
			DRG.NO.	4800026385	R1



FRONT VIEW



ISOMETRIC VIEW

[Signature]

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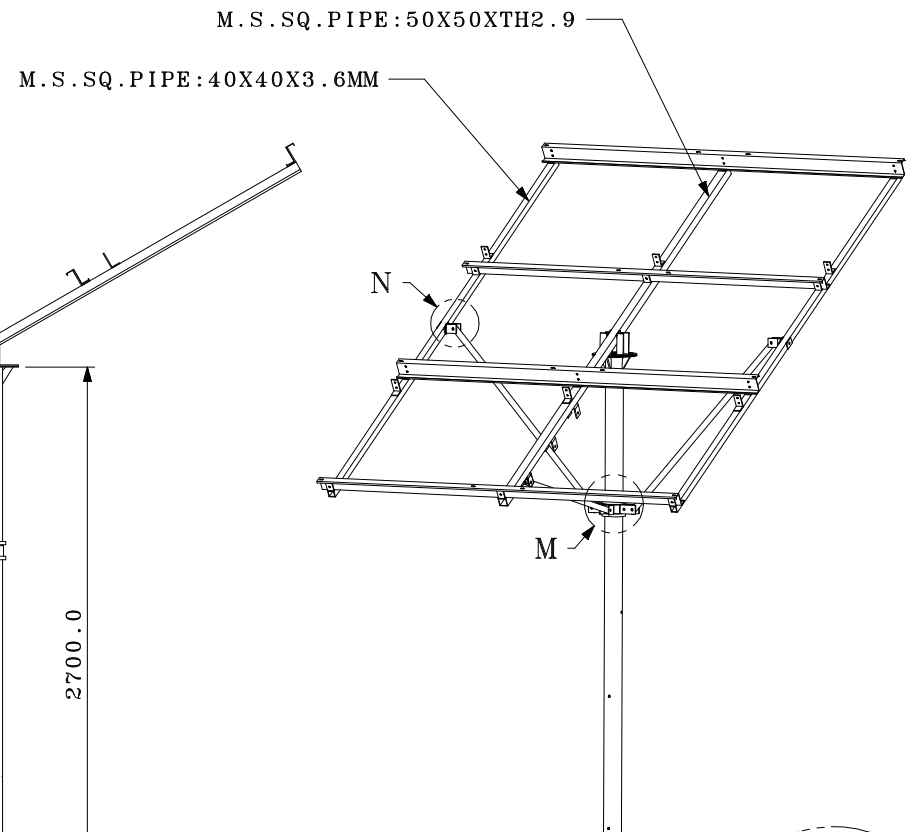
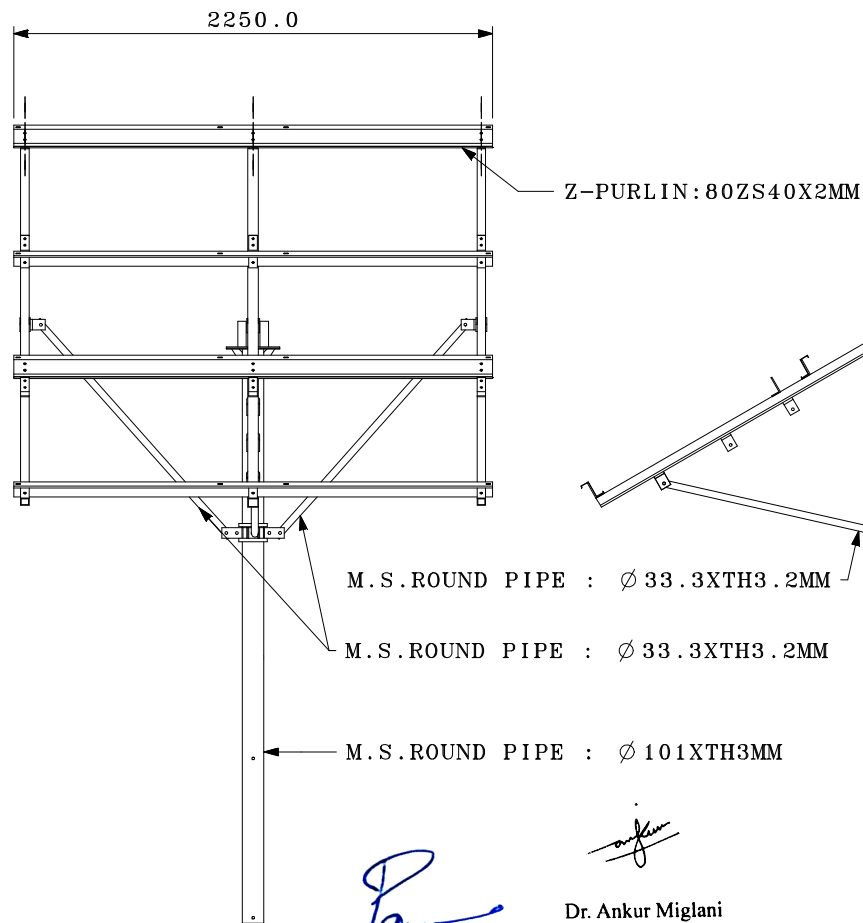
[Signature]
Dr. Sandeep Chaudhary
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27 July 2021

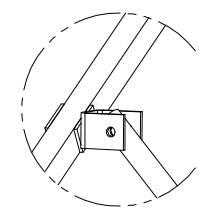
GENERAL NOTE:-

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CONFIRMING TO :-
IS 2629: HOT DEEP GALVANIZING PRACTICE
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MNRE SPECIFICATION CIRCULAR NO. F NO. 41/3/2018-SPV DIVISION DATED 17/07/2019

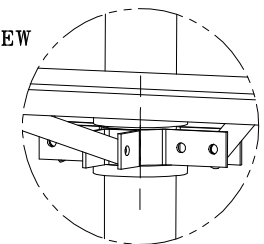
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ALL DIMENSIONS ARE IN MM. UNLESS OTHERWISE SPECIFIED				NAME	DATE
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			REVISION		
	SCALE	MATERIAL	WEIGHT	APPROVED	DATE
	NTS	IS 2062/IS4923	42.6KG	SUNITA	24.05.21
			SHEET	1 OF 2	
			DRG.NO.	4800026557	R0



ISOMETRIC VIEW



DETAIL N



DETAIL M

GENERAL NOTE:-

- COMPONENT SHOULD BE MIN. 80 μ m HOT DEEP GALVANIZED COATED.
CONFIRMING TO :-
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BRUSHED TO ENSURE COMPLETE REMOVAL OF RUST & SCALE.
- DESIGN IS CONFIRMING TO IS800:2007
- WIND LOADING AS PER IS 875:2015
- THE BASIC WIND SPEED IS 150 KM/HR AS MENTIONED IN
MNRE SPECIFICATION CIRCULAR NO. F NO. 41/3/2018-SPV DIVISION DATED 17/07/2019

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27 July 2021

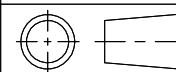
Dr. Sandeep Chaudhary
Professor
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Indian Institute of Technology Indore
Simrol, Indore 453552

- REMOVE SHARP EDGES
- DRAWING NOT TO BE SCALE
- OPEN TOLERANCE ARE ± 0.2

REV.-R0 DESCRIPTION:

ALL DIMENSIONS ARE IN MM. UNLESS OTHERWISE SPECIFIED

TITLE :-GAD OF SSMT 04-PLATE-F (4132018)



SCALE
NTS

MATERIAL

WEIGHT

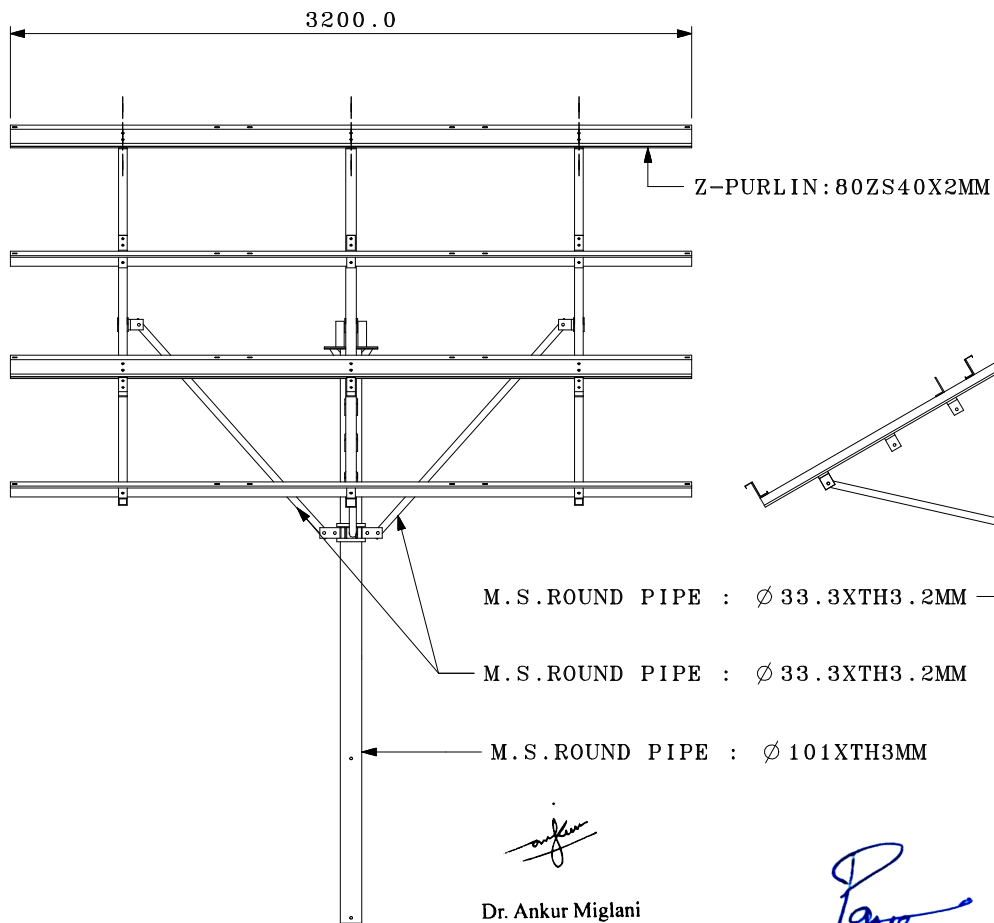
IS 2062/IS4923

113.0kg



SHAKTI PUMPS (INDIA) LTD. PITHAMPUR

	NAME	DATE
DRAWN	DEEPAK	24.05.21
REVISION		
APPROVED	SUNITA	24.05.21
SHEET	1 OF 1	
DRG.NO.	4800026556	R0



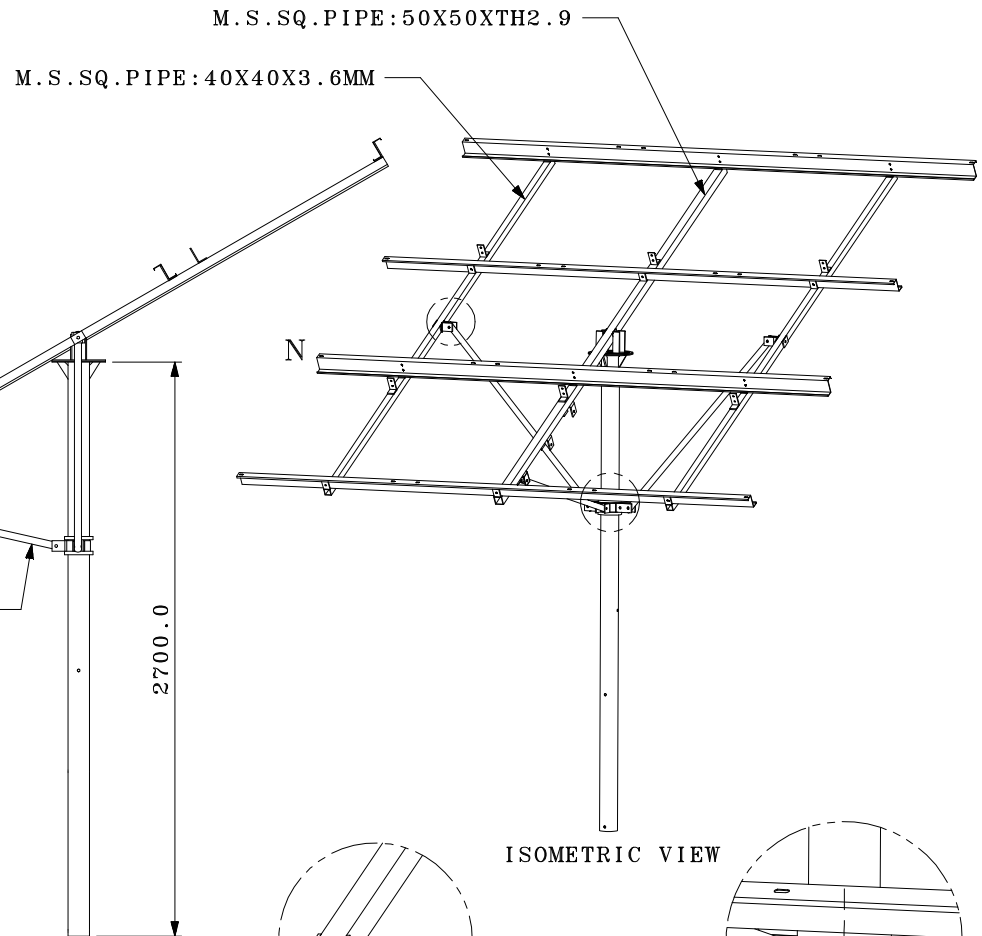
Dr. Ankur Miglani
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07 July 2021

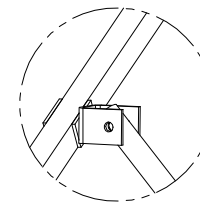
GENERAL NOTE:-

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CONFIRMING TO :-
IS 2629: HOT DEEP GALVANIZING PRACTICE
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MNRE SPECIFICATION CIRCULAR NO. F NO. 41/3/2018-SPV DIVISION DATED 17/07/2019

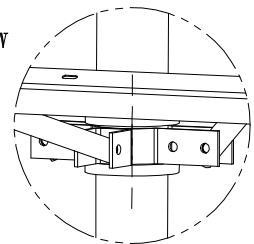
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Simrol, Indore 453552

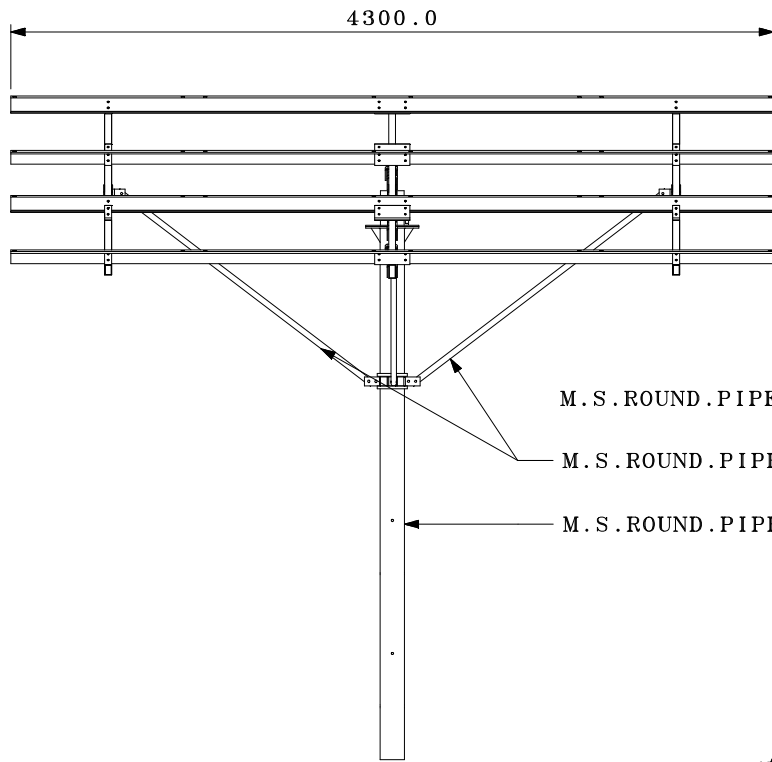


DETAIL N

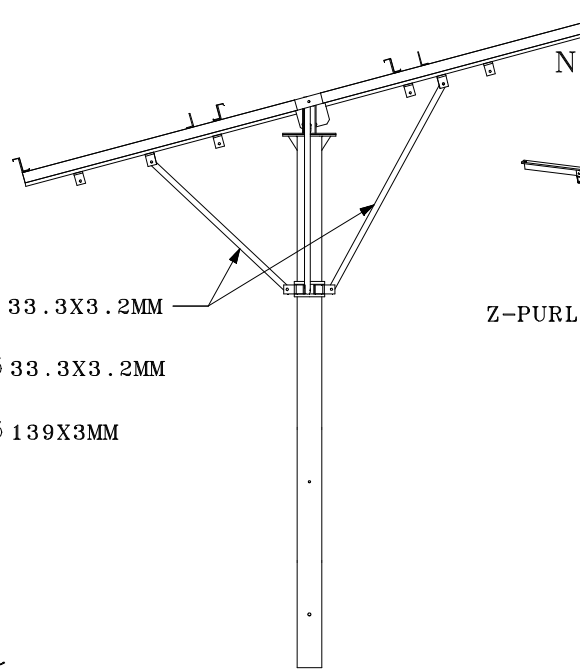


DETAIL M

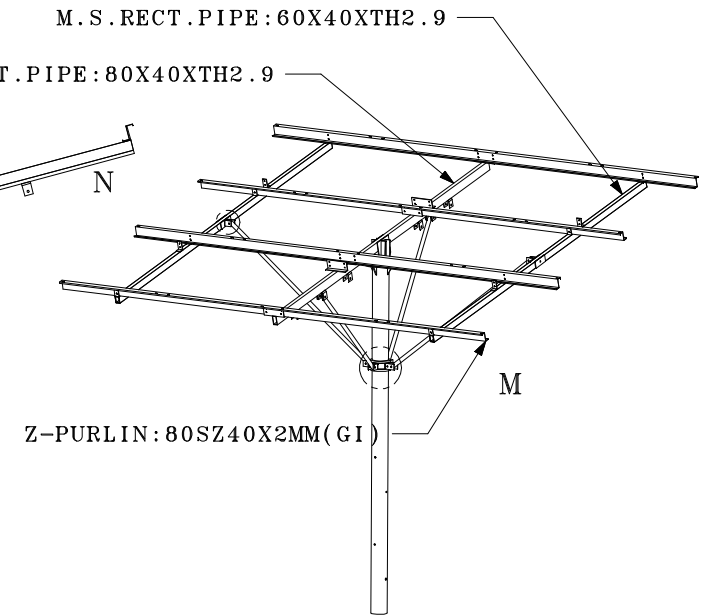
1) REMOVE SHARP EDGES 2) DRAWING NOT TO BE SCALE 3) OPEN TOLERANCE ARE ± 0.2		REV.-R1	DESCRIPTION: THICKNESS OF PURLIN CHANGED AS PER STAAD RESULT		
ALL DIMENSIONS ARE IN MM. UNLESS OTHERWISE SPECIFIED				NAME	DATE
TITLE :-GAD OF SSMT 06-PLATE-F (4132018)				DRAWN	DEEPAK 03.06.21
				REVISION	DEEPAK 05.07.21
	SCALE	MATERIAL	WEIGHT	APPROVED	SUNITA 05.07.21
	NTS	IS 2062/IS4923	120kg	SHEET	1 OF 1
				DRG.NO.	4800026389 R1



FRONT VIEW



SIDE VIEW



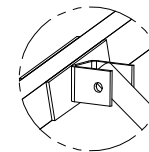
ISOMETRIC VIEW

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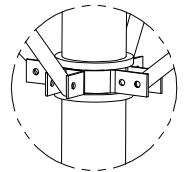
27 July 2021

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DETAIL N

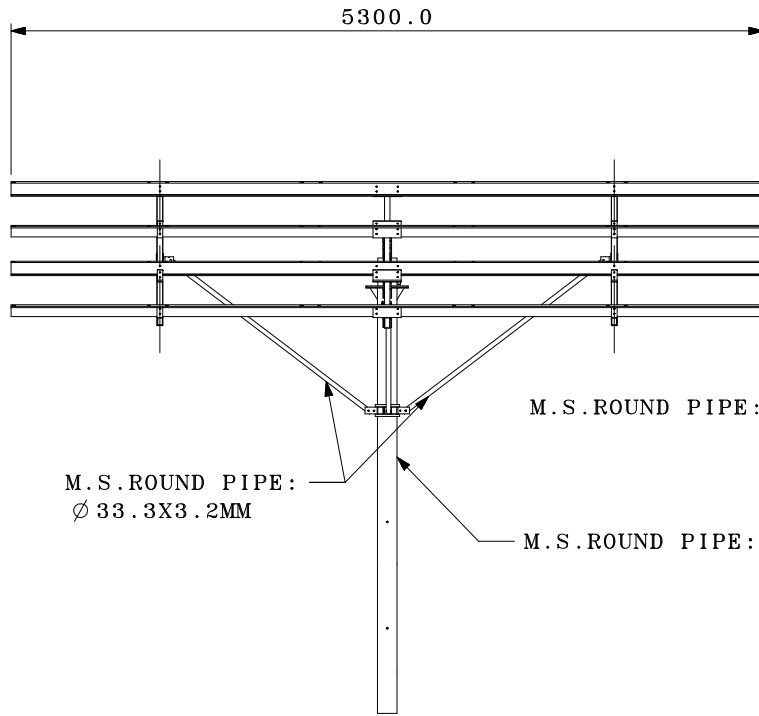


DETAIL M

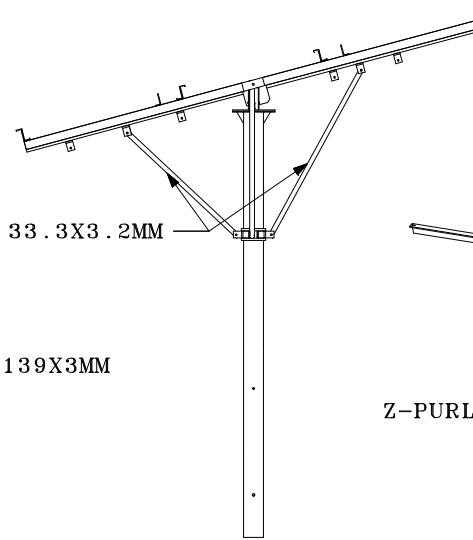
GENERAL NOTE :-

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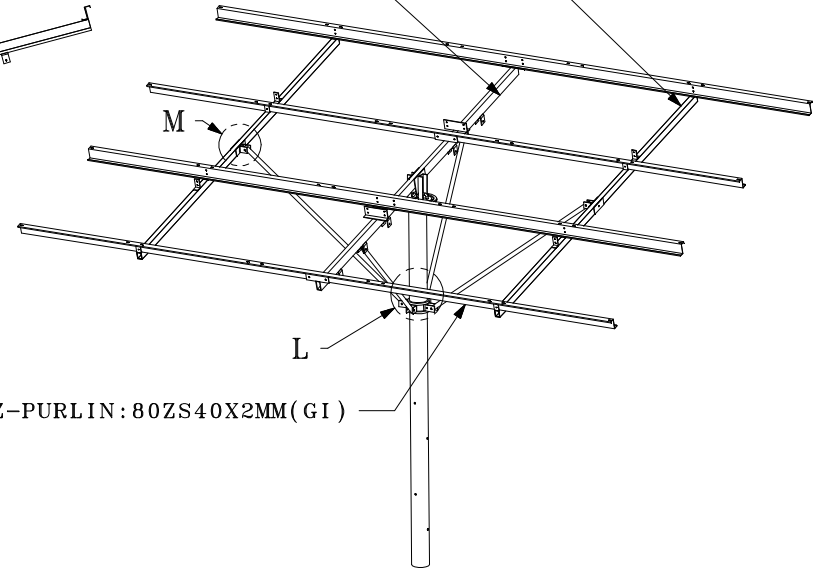
1) REMOVE SHARP EDGES 2) DRAWING NOT TO BE SCALE 3) OPEN TOLERANCE ARE ± 0.2		REV.-R0	DESCRIPTION:		
ALL DIMENSIONS ARE IN MM. UNLESS OTHERWISE SPECIFIED				NAME	DATE
TITLE :- GAD OF SSMT 08-PLATE-F (4132018)				DRAWN	DEEPAK 24.05.21
				REVISION	
				APPROVED	SUNITA 24.05.21
				SHEET	1 OF 2
DRG. NO. 4800026554				R0	



FRONT VIEW



SIDE VIEW

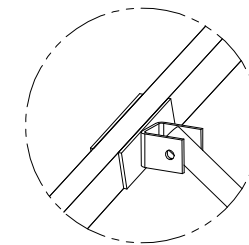


ISOMETRIC VIEW

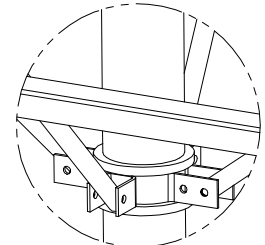
S. Chaudhary
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Simrol, Indore 453552

Ankur Miglani
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Simrol, Khandwa Road, Indore 453 552, India

Pavan Kumar Kankar
Dr. Pavan Kumar Kankar
Associate Professor
Department of Mechanical Engineering
Indian Institute of Technology Indore



DETAIL M




DETAIL L

GENERAL NOTE :-

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07 July 2021

1) REMOVE SHARP EDGES 2) DRAWING NOT TO BE SCALE 3) OPEN TOLERANCE ARE ± 0.2		REV.-R1	DESCRIPTION: THICKNESS CHANGED AS PER MODIFIED STAAD RESULT.		
ALL DIMENSIONS ARE IN MM. UNLESS OTHERWISE SPECIFIED				NAME	DATE
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			REVISION	DEEPAK	05.07.21
			APPROVED	SUNITA	05.07.21
			SHEET	1 OF 2	
 SHAKTI ENERGY SOLUTIONS PVT.LTD.PITHAMPUR			DRG.NO.	4800026383	R1