

INSTITUTE FOR PLASMA RESEARCH

An Aided institute of department of Atomic Energy, Govt. of India)
Near Indira Bridge, Bhat. DIST.GANDHINAGAR - 382 428 (INDIA)
PHONE :(079-2396 2000),FAX :91-079-23962277
Web : www.ipr.res.in

MINOR FABRICATION WORKS ENQUIRY

Office Copy

ENQUIRY NO :IPR/MFW/18-19/106

Date : 02-08-2021

Due Date : 15-09-2021 13:00 IST

Please send your offer in sealed envelope specifying Inquiry No, Date & Due Date, ALONG WITH your credentials for the following items:

Important Note:

Please note that e-mail quotations are not acceptable however you may send your queries (if any) to **rajendra@ipr.res.in**

Please Ensure that your sealed quotation reaches this office not later than above mentioned due date and time.

Kindly go through the following document properly before Quoting which are available on the IPR web portal i.e., <http://www.ipr.res.in/documents/tenders.html/> attached here with.

1. Technical specification as enclosed.
2. Instruction to the bidders & terms and Condition (refer Form NO:**IPR-MFW-01-V1**)
3. Bidding format(refer Biddingformat MFW-Bid.pdf)

GST fro Goods and Services (IGST/CGST/SGST TAX BENEFITS): PLEASE REFER clause no:8 of Form No:**IPR-MFW-01-V1**

QUOTATION SHOULD BE ADDRESSED TO **E. RAJENDRA KUMAR** ONLY.


Sr.No.	Description	Quantity	Rate
1	FABRICATION AND SUPPLY OF PF-1 Coil	2	No.
2	FABRICATION AND SUPPLY OF PF-2 Coil	2	No.
3	FABRICATION AND SUPPLY OF PF-3 coil	2	No.
4	FABRICATION AND SUPPLY OF TR-1 coil	2	No.
5	FABRICATION AND SUPPLY OF TR-2 coil	2	No.
6	FABRICATION AND SUPPLY OF TR-3 coil	2	No.

Free Issue Material

Sr.No.	Description	Quantity	Unit	Value
--------	-------------	----------	------	-------

Note : Please quote with complete technical details (Technical Compliance sheet and product data sheet)

Encl:As per attachment


Sd/-
E. RAJENDRA KUMAR
Scientific Officer-H

TECHNICAL SPECIFICATIONS FOR FABRICATION AND SUPPLY OF “PF AND TR COILS”

1. DESCRIPTION:

Total 12 nos. of Poloidal Field (PF) coils and Transformer (TR) coils in 6 pair of identical coils are to be fabricated and supplied by the vendor to IPR, Gandhinagar. All these coils shall be wound with continuous length of enamelled Electrolytic Tough Pitch (ETP) copper with square cross section. Details of each coil with its conductor size are specified in attached engineering drawings. The enamelled copper conductor is wrapped with insulation tape (with 50% overlap) prior to winding of the coils. After winding is completed, outer insulation is wrapped covering all the turns of coil (with 50% overlap in every layer) and each coil has to be vacuum impregnated further. The outer insulation wrapping and vacuum impregnation is meant for ground insulation and to provide mechanical stability to the coil during handling.

This specification document describes the details of various coils, procedure for winding & vacuum pressure impregnation of coils, their acceptance criteria, deliverables etc.

2. ELIGIBLE VENDORS:

The vendor should have the expertise in fabrication of similar type of electro-magnet coils. The vendor should have sufficient in-house coil fabrication, insulation wrapping, and inspection facilities sufficient to carry out this entire work.

3. SCOPE OF WORK:

3.1 The vendor has to submit an offer for fabrication and supply of coils (total 12 nos.) to IPR, Gandhinagar in accordance with the specifications and drawings as mentioned below.

3.2 Engineering drawings of 6 pair of PF and TR coils are provided by IPR as attached with this document. Based on the technical specifications and engineering drawings provided, the vendor has to prepare and submit a working document (a hard copy and/or a soft copy in electronic media) to obtain approval from IPR. The working document should contain fabrication drawings, plan of material procurement, details of fabrication plan, VPI procedure and fabrication schedule. The fabrication work shall start only after the working document prepared by the vendor is approved by IPR.

3.3 PF coil details:

- a) PF1 coils: Qty: 2 Nos. as per drawing No.: IPR/21/A3/PF_01_COIL/8966
- b) PF2 coils: Qty: 2 Nos. as per drawing No.: IPR/21/A3/PF_02_COIL/8967
- c) PF3 coils: Qty: 2 Nos. as per drawing No.: IPR/21/A3/PF_03_COIL/8968

3.4 TR coil details:

- a) TR1 coils: Qty: 2 Nos. as per drawing No.: IPR/21/A3/TR_01_COIL/8969
- b) TR2 coils: Qty: 2 Nos. as per drawing No.: IPR/21/A3/TR_02_COIL/8970
- c) TR3 coils: Qty: 2 Nos. as per drawing No.: IPR/21/A3/TR_03_COIL/8971

3.5 Vendor shall procure all the raw material required for completing the job specified in this tender. Raw materials such as enamelled ETP copper, polyster film insulation tape, consumable materials (cleaning tapes/agents, terminal lugs etc.) and accessories

- required during execution of this entire work shall be in the scope of vendor. Vendor shall ensure the quality of the materials procured as per the material specifications provided by IPR. Vendor shall submit the material test certificates for ETP copper and Polyester insulation tape obtained from government authorized labs to IPR for approval.
- 3.6 The vendor shall not do any modifications in the drawings and fabrication plans without prior approval of IPR.
 - 3.7 The vendor shall carry out the coil winding work in a clean environment to eliminate dust, oils etc., over the coil surfaces. Hammering on the coil layers shall be avoided.
 - 3.8 All the coils shall be wound with continuous length of enamelled ETP copper without any joints. Further, the vendor must ensure that the direction of winding throughout the coil must be same.
 - 3.9 Winding of the conductor around the coil winding fixture shall be with suitable pre-tension in order to avoid waviness, bulging & large gaps in the adjacent turns/layers and complete the specified number of coil turns and layers as per the respective drawings.
 - 3.10 At every turn change-over junction/bend, the bulging of the conductor shall be avoided and provide additional insulation to sufficient length to avoid any spring back.
 - 3.11 Parallel clamps with soft pads shall be used to clamp progressively for every layer while winding of coil turns. Further, similar clamps at 4-6 places shall be used to hold all the turns together after winding and outer insulation completion.
 - 3.12 The coil end terminal conductor should be bent properly with suitable radius.
 - 3.13 The completed wound coils shall be taken out from the fixture, and provide a tight layer of polyester film insulation tape around the complete coil. Each coil has to be vacuum impregnated further.
 - 3.14 Both the coils in each pair should be similar in size, geometry and electrical parameters.
 - 3.15 Any item/service, which may not have been specifically mentioned herein but are needed for completion of the fabrication work, shall also be treated as included and the same shall also form part of supply, unless otherwise specifically excluded.
 - 3.16 The vendor shall perform the acceptance tests as mentioned below section 5.1, for the fabricated coils along with the IPR representatives. Dispatch clearance will be provided by the IPR purchase officer only after successful testing and acceptance of IPR.
 - 3.17 The vendor shall deliver the coils only after the receipt of dispatch clearance from IPR.
 - 3.18 The vendor has to arrange to deliver the coils to IPR with suitable packaging to ensure no damage occurs to the coils during transport.
 - 3.19 IPR will perform the site acceptance tests as mentioned below section 5.2. The coils will be accepted only after the successful site acceptance tests at IPR.
 - 3.20 The details of applicable drawings, materials specification, inspection, acceptance tests are given below.
 - 3.21 **Vacuum Pressure Impregnation (VPI) of Coils:** The vendor shall develop the procedure for the Vacuum Pressure Impregnation (VPI) of the insulated coil assemblies considering the insulation used for these coils. Following requirements are to be considered for the VPI process:

- a) The vendor shall provide details of the resin solvent used for the VPI process to IPR. Appropriate resin solvent shall be selected by the vendor considering the insulation used and its needed properties.
- b) The VPI procedure should be carried out ensuring that there is no short circuiting between the conducting components of the coil that are already insulated.
- c) Necessary cut-outs/removable inserts shall be used in those locations wherever it is required, so that the resin does not flow inside.
- d) During the VPI process, the temperature of the coil should not be raised above 90°C.
- e) Extreme care should be taken to ensure that the final dimensions of the coil assembly after VPI shall be as per the drawings.

4. MATERIAL SPECIFICATION:

- a. Enamelled ETP copper conductor:** Continuous enamelled ETP Copper conductor having square cross-section as specified in the drawings shall be procured by the vendor as per the below mentioned properties. The vendor should purchase excess length of conductor sufficiently more than the requirement of the coils.

Sr. No.	Parameter	Specifications
1	Material	Enamelled Electrolytic Tough Pitch High conductivity Copper (ETP)
2	Surface Finish	Bright, clean and smooth surface with free from any kind of surface defects. Free from sharp edge, blisters, cracks and die marks with buffed and mechanical polished.
3	Chemical Composition	Minimum 99.90 Cu% purity
4	Electrical Conductivity	Minimum 97% IACS at 20°C
6	Thermal Conductivity	394 (+/-5%) W/m°C
7	Density at 20 °C	8.89 (+/-5%) g/cm ³
8	Tensile Strength	240 – 300 N/ mm ²

* Sample testing: Vendor has to provide the test certificates for copper composition and its electrical conductivity (from Government authorised labs) about the sample materials taken from the insulation bundles.

b. Electrical insulation:

For all the individual copper conductors, inter layer and turn-turn insulation should be Polyester film insulation tape (F class or above). The specified coil insulation thickness should be obtained by uniformly wrapping the insulation tape. At the ends of copper conductor to keep the Polyester film insulation tape integrity with the conductor a Kapton Polyimide Film tape should be wrapped (3 turns) upon the Polyester film insulation tape.

Sr. No.	Insulation material	Dimension in mm Width×Thickness	Usage	Breakdown voltage (±10%)
1.	Polyster film insulation tape (F class or above)	100 × 0.25	All individual copper conductors, inter layer and turn-turn insulation, ground wrap insulation	≥ 25kV/mm
2.	Kapton Polyimide Film tape	50 × 0.07	At the ends of copper conductor to keep integrity of Polyster film insulation tape	≥ 25kV/mm

Sample testing: Vendor has to provide the test certificates for breakdown strength (from Government authorised labs) about the sample materials taken from the insulation bundles

5. INSPECTION & TESTING

5.1 Factory Acceptance Test (FAT):

The vendor should perform all the inspection and testing as mentioned below. All inspection and testing shall be carried out in presence of IPR representatives. Vendor should arrange all required testing equipment (eg. Digital Vernier Gauge, Multi-meter, Megger etc.) to perform the tests at their site.

a. Dimensional Inspection:

The fabricated coils shall be subjected to dimensional checks. All dimensions should be within the tolerances as specified in the drawings. If the dimensions are not within the specified limits then the coil will not be acceptable.

b. Megger test:

Short DC megger test will be performed to measure the Insulation resistance (IR) at different voltages (500V to 1kV). The IR should be > 20 MΩ. IR test will be done between coil and grounded aluminium foil.

c. Hipot test:

Hipot test will be carried out after VPI of the coil. The outer insulated part of the coil is wrapped with aluminium foil and is connected to the ground. High voltage is applied between any one of the terminal of coil and grounded aluminium foil. The voltage is raised from 0 to 2.0 kV DC for PF coils and 0 to 10.0 kV DC for TR coils. The maximum drainage current is to be set at ≤ 2.0 mA/ kV. During testing there should not be any breakdown or tripping of the Hipot tester. If breakdown or tripping occurs, then the coil will not be acceptable.

5.2 Site acceptance tests:

Following inspection/tests for received coils will be carried out at IPR.

- a) Visual inspection for structural integrity of the coils and overall dimensional checks. If there is any damage is observed in any coil due to improper packing and transport, then the coil will not be acceptable.
- b) Short DC megger test will be performed to measure the Insulation resistance (IR) at different voltages (500V to 1kV). The IR should be $> 20 \text{ M}\Omega$. IR test will be done between coil and grounded aluminium foil.

6. CHECK POINTS (CP):

For ensuring timely execution of the job as per technical specifications checkpoint at various stages are proposed as follows.

CP-01: Approval of the engineering drawings and working document by IPR.

CP-02: Approval of material test certificates

CP-03: Approval of winding and dimensional checks before and after VPI

CP-04: FAT for all the 12 nos. of coils

It is mandatory for the supplier to ensure written approval from IPR (through email) at every check point.

7. PACKING & SUPPLY:

After successful performance of factory acceptance tests by IPR representatives and issuance of dispatch clearance by IPR, the fabricated and inspected components shall be suitably packed by vendor to avoid any damage during transportation.

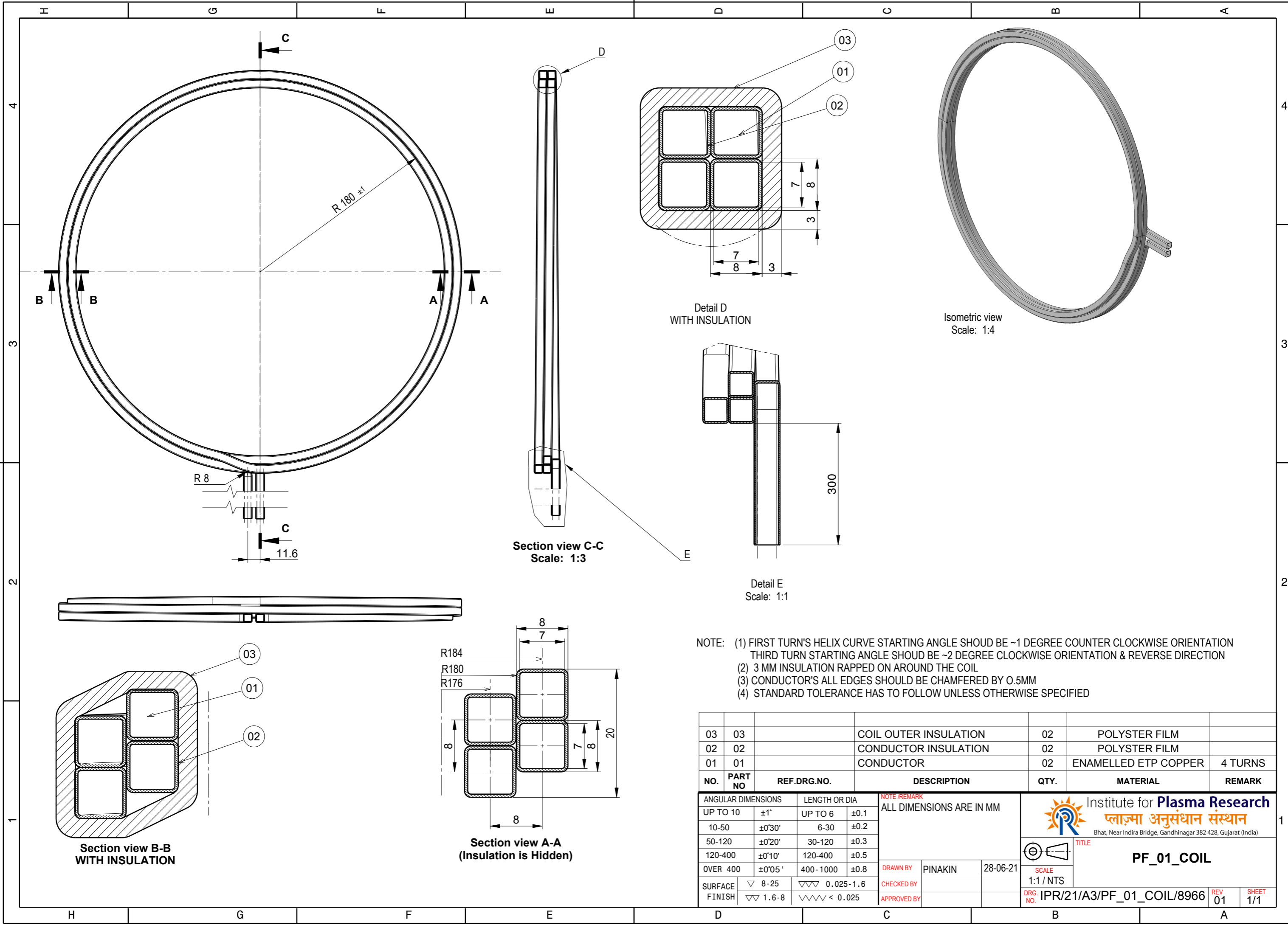
The package shall be delivered to IPR, Gandhinagar at following address; Assistant Store Officer, Institute for Plasma Research, Nr. Indira Bridge, Bhat, Gandhinagar-382428, Gujarat.

8. Delivery period:

All 12 Nos. of coils, with proper packing shall be delivered within four months from the date of release of work order.

Technical Compliance Sheet for PF and TR coils


Sr No.	IPR specifications	Vendor specifications
1.	Scope of supply: 12 nos. of PF and TR coils in 6 pairs of identical coils has to be fabricated and supplied by winding enamelled ETP copper conductor as per given “ Technical specification document ” and “ Engineering drawings ”.	
2.	Joint less winding: Each of the coil must be wound with single and continues ETP copper conductor only.	
3.	Fabrication and inspection facilities at vendor site: The details of fabrication and inspection facilities presently available with the bidder shall be submitted along with the quotation. Further, vendor shall have all the related test equipments like digital Vernier gauge, Megger, Multi-meter etc. to be used during factory acceptance test.	
4.	Vacuum Pressure Impregnation of coils as per technical specifications	
5.	Material specifications: i. Enamelled Electrolytic Tough Pitch (ETP) copper of size as specified in engineering drawings. ii. Inter-turn insulation material is polyester film tape. Further, Kapton tape to be used at end terminals of the coil.	
6.	Factory Acceptance Tests (FAT) at vendor’s side (please follow technical specification document for details): i. Dimensional checks as per fabrication drawings Pre & post winding and after vacuum impregnation ii. Hipot test to be carried out after vacuum pressure impregnation of the coil	
7.	Number of unit: 12 nos. of coils in 6 pairs of identical coils	
8.	Delivery of the coils: The coil must be delivered within four months from the date of release of the work order.	



NOTE: (1) FIRST TURN'S HELIX CURVE STARTING ANGLE SHOULD BE ~1 DEGREE COUNTER CLOCKWISE ORIENTATION
 THIRD TURN STARTING ANGLE SHOULD BE ~2 DEGREE CLOCKWISE ORIENTATION & REVERSE DIRECTION
 (2) 3 MM INSULATION RAPPED ON AROUND THE COIL
 (3) CONDUCTOR'S ALL EDGES SHOULD BE CHAMFERED BY 0.5MM
 (4) STANDARD TOLERANCE HAS TO FOLLOW UNLESS OTHERWISE SPECIFIED

NO.	PART NO	REF.DRG.NO.	DESCRIPTION	QTY.	MATERIAL	REMARK
03	03		COIL OUTER INSULATION	02	POLYSTER FILM	
02	02		CONDUCTOR INSULATION	02	POLYSTER FILM	
01	01		CONDUCTOR	02	ENAMELLED ETP COPPER	4 TURNS

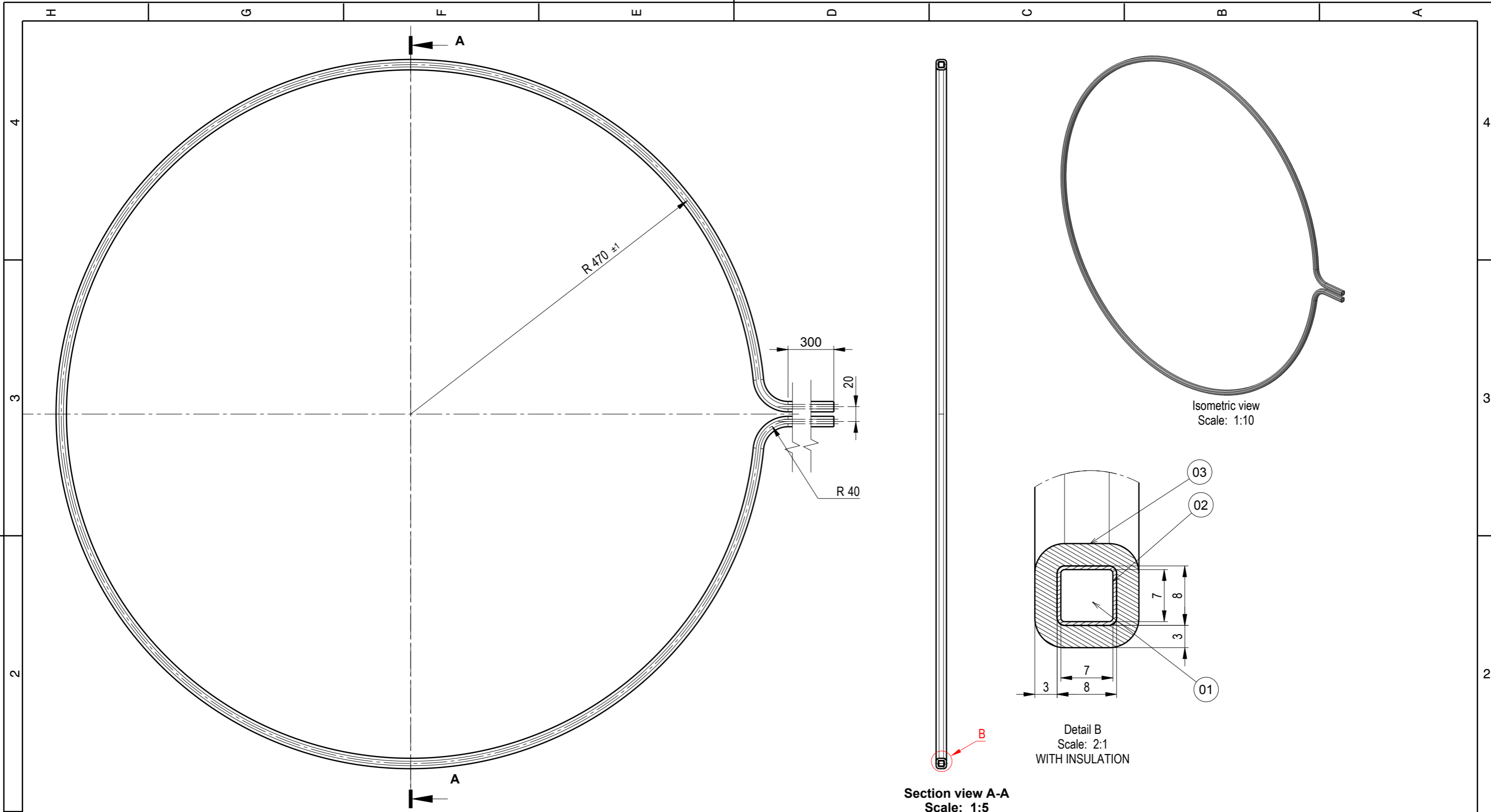
ANGULAR DIMENSIONS		LENGTH OR DIA		NOTE/REMARK		
UP TO 10	±1°	UP TO 6	±0.1		ALL DIMENSIONS ARE IN MM	
10-50	±0°30'	6-30	±0.2			
50-120	±0°20'	30-120	±0.3			
120-400	±0°10'	120-400	±0.5			
OVER 400	±0°05'	400-1000	±0.8			
SURFACE FINISH	▽ 8-25	▽▽▽ 0.025-1.6		DRAWN BY	PINAKIN	28-06-21
	▽▽ 1.6-8	▽▽▽▽ < 0.025		CHECKED BY		
				APPROVED BY		


Institute for Plasma Research
 प्लाज्मा अनुसंधान संस्थान
Bhat, Near Indira Bridge, Gandhinagar 382 428, Gujarat (India)

TITLE
PF_01_COIL

SCALE
 1:1 / NTS


DRG. NO. IPR/21/A3/PF_01_COIL/8966 **REV** 01 **SHEET** 1/1



NOTE: (1) 3 MM INSULATION RAPPED ON AROUND THE COIL
 (2) CONDUCTOR'S ALL EDGES SHOULD BE CHAMFERED BY 0.5MM
 (3) STANDARD TOLERANCE HAS TO FOLLOW UNLESS OTHERWISE SPECIFIED

NO.	PART NO	REF.DRG.NO.	DESCRIPTION	QTY.	MATERIAL	REMARK
03	03		COIL OUTER INSULATION	02	POLYSTER FILM	
02	02		CONDUCTOR INSULATION	02	POLYSTER FILM	
01	01		CONDUCTOR	02	ENAMELLED ETP COPPER	1 TURN

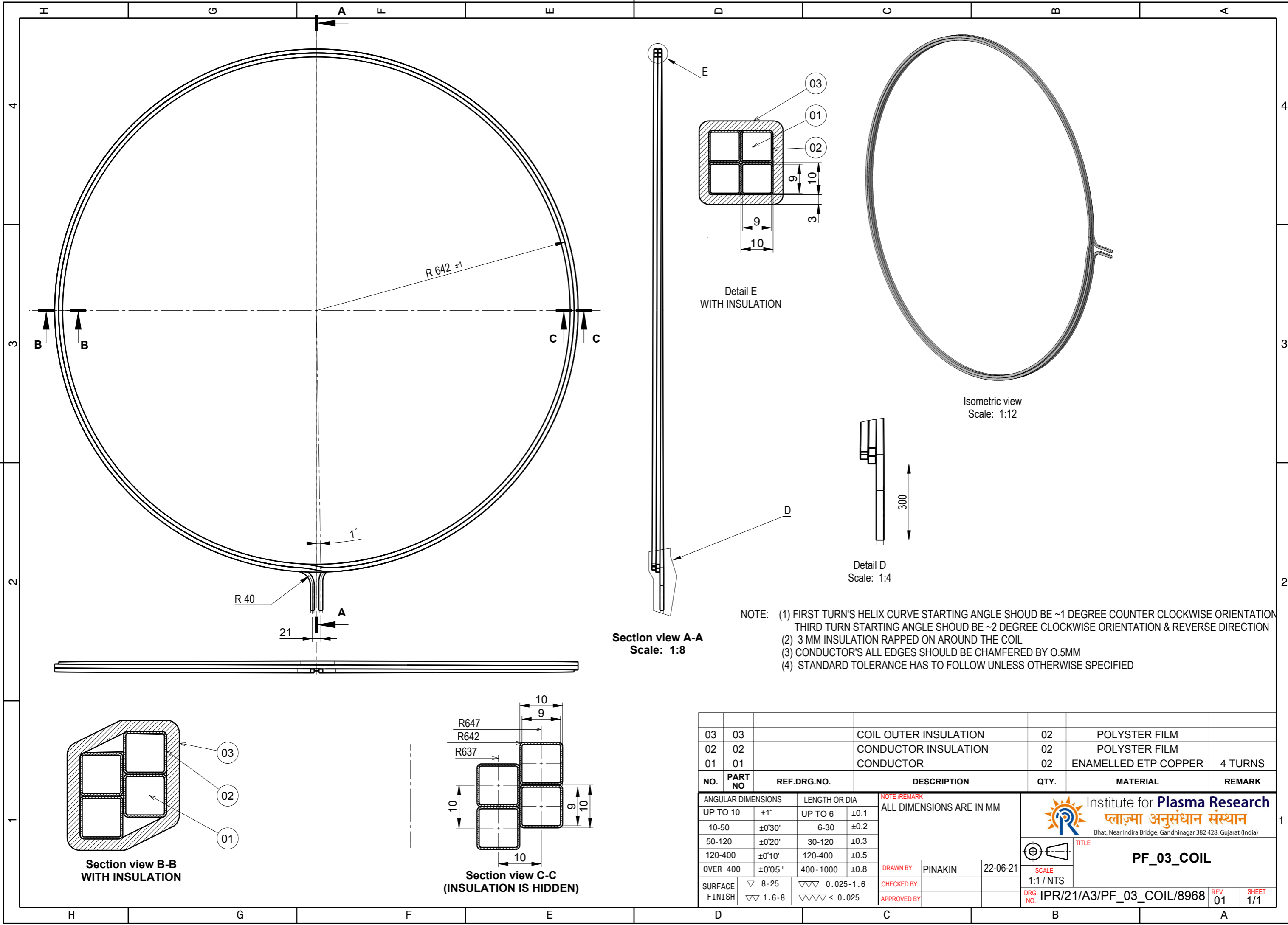
ANGULAR DIMENSIONS	LENGTH OR DIA	NOTE /REMARK		
UP TO 10	±1'	UP TO 6	±0.1	ALL DIMENSIONS ARE IN MM
10-50	±0'30'	6-30	±0.2	
50-120	±0'20'	30-120	±0.3	
120-400	±0'10'	120-400	±0.5	
OVER 400	±0'05'	400-1000	±0.8	
SURFACE FINISH	▽ 8-25	▽▽▽ 0.025-1.6		
	▽▽ 1.6-8	▽▽▽▽ < 0.025		


Institute for Plasma Research
 प्लाज्मा अनुसंधान संस्थान
 Bhat, Near Indira Bridge, Gandhinagar 382 428, Gujarat (India)

TITLE
PF_02_COIL

DRAWN BY: PINAKIN 28-06-21
 CHECKED BY:
 APPROVED BY:

SCALE: 1:1 / NTS
 DRG. NO. IPR/21/A3/PF_02_COIL/8967 REV 01 SHEET 1/1



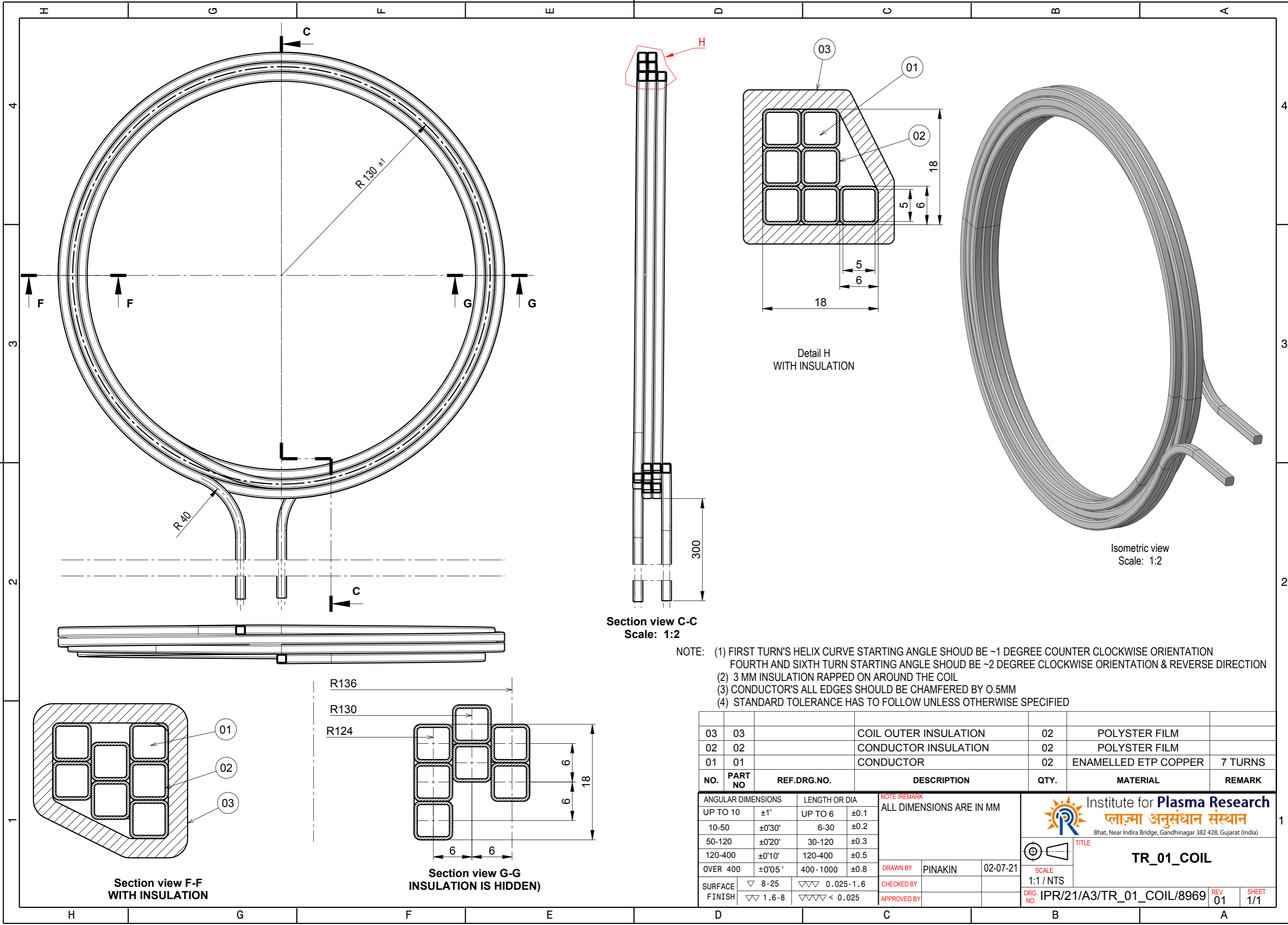
- NOTE: (1) FIRST TURN'S HELIX CURVE STARTING ANGLE SHOULD BE ~1 DEGREE COUNTER CLOCKWISE ORIENTATION
 THIRD TURN STARTING ANGLE SHOULD BE ~2 DEGREE CLOCKWISE ORIENTATION & REVERSE DIRECTION
 (2) 3 MM INSULATION RAPPED ON AROUND THE COIL
 (3) CONDUCTOR'S ALL EDGES SHOULD BE CHAMFERED BY 0.5MM
 (4) STANDARD TOLERANCE HAS TO FOLLOW UNLESS OTHERWISE SPECIFIED

NO.	PART NO	REF.DRG.NO.	DESCRIPTION	QTY.	MATERIAL	REMARK
03	03		COIL OUTER INSULATION	02	POLYSTER FILM	
02	02		CONDUCTOR INSULATION	02	POLYSTER FILM	
01	01		CONDUCTOR	02	ENAMELLED ETP COPPER	4 TURNS

ANGULAR DIMENSIONS	LENGTH OR DIA	NOTE/REMARK	
UP TO 10	$\pm 1'$	ALL DIMENSIONS ARE IN MM	
10-50	$\pm 0'30''$	UP TO 6	± 0.1
50-120	$\pm 0'20''$	6-30	± 0.2
120-400	$\pm 0'10''$	30-120	± 0.3
OVER 400	$\pm 0'05''$	120-400	± 0.5
		400-1000	± 0.8
SURFACE FINISH	$\nabla 8-25$	$\nabla \nabla \nabla 0.025-1.6$	
	$\nabla \nabla 1.6-8$	$\nabla \nabla \nabla < 0.025$	

DRAWN BY	PINAKIN	22-06-21
CHECKED BY		
APPROVED BY		

		Institute for Plasma Research प्लाज्मा अनुसंधान संस्थान Bhat, Near Indira Bridge, Gandhinagar 382 428, Gujarat (India)	
		TITLE PF_03_COIL	
SCALE 1:1 / NTS		DRG. NO. IPR/21/A3/PF_03_COIL/8968	
		REV 01	SHEET 1/1



Section view C-C
Scale: 1:2

Detail H
WITH INSULATION

Isometric view
Scale: 1:2

- NOTE: (1) FIRST TURN'S HELIX CURVE STARTING ANGLE SHOULD BE ~1 DEGREE COUNTER CLOCKWISE ORIENTATION
 FOURTH AND SIXTH TURN STARTING ANGLE SHOULD BE ~2 DEGREE CLOCKWISE ORIENTATION & REVERSE DIRECTION
 (2) 3 MM INSULATION RAPPED ON AROUND THE COIL
 (3) CONDUCTOR'S ALL EDGES SHOULD BE CHAMFERED BY 0.5MM
 (4) STANDARD TOLERANCE HAS TO FOLLOW UNLESS OTHERWISE SPECIFIED

NO.	PART NO	REF.DRG.NO.	DESCRIPTION	QTY.	MATERIAL	REMARK
03	03		COIL OUTER INSULATION	02	POLYSTER FILM	
02	02		CONDUCTOR INSULATION	02	POLYSTER FILM	
01	01		CONDUCTOR	02	ENAMELLED ETP COPPER	7 TURNS

ANGULAR DIMENSIONS	LENGTH OR DIA	NOTE/REMARK
UP TO 10	±1'	UP TO 6 ±0.1
10-50	±0'30'	6-30 ±0.2
50-120	±0'20'	30-120 ±0.3
120-400	±0'10'	120-400 ±0.5
OVER 400	±0'05'	400-1000 ±0.8
SURFACE FINISH	▽ 8-25	▽▽▽ 0.025-1.6
	▽▽ 1.6-8	▽▽▽▽ < 0.025

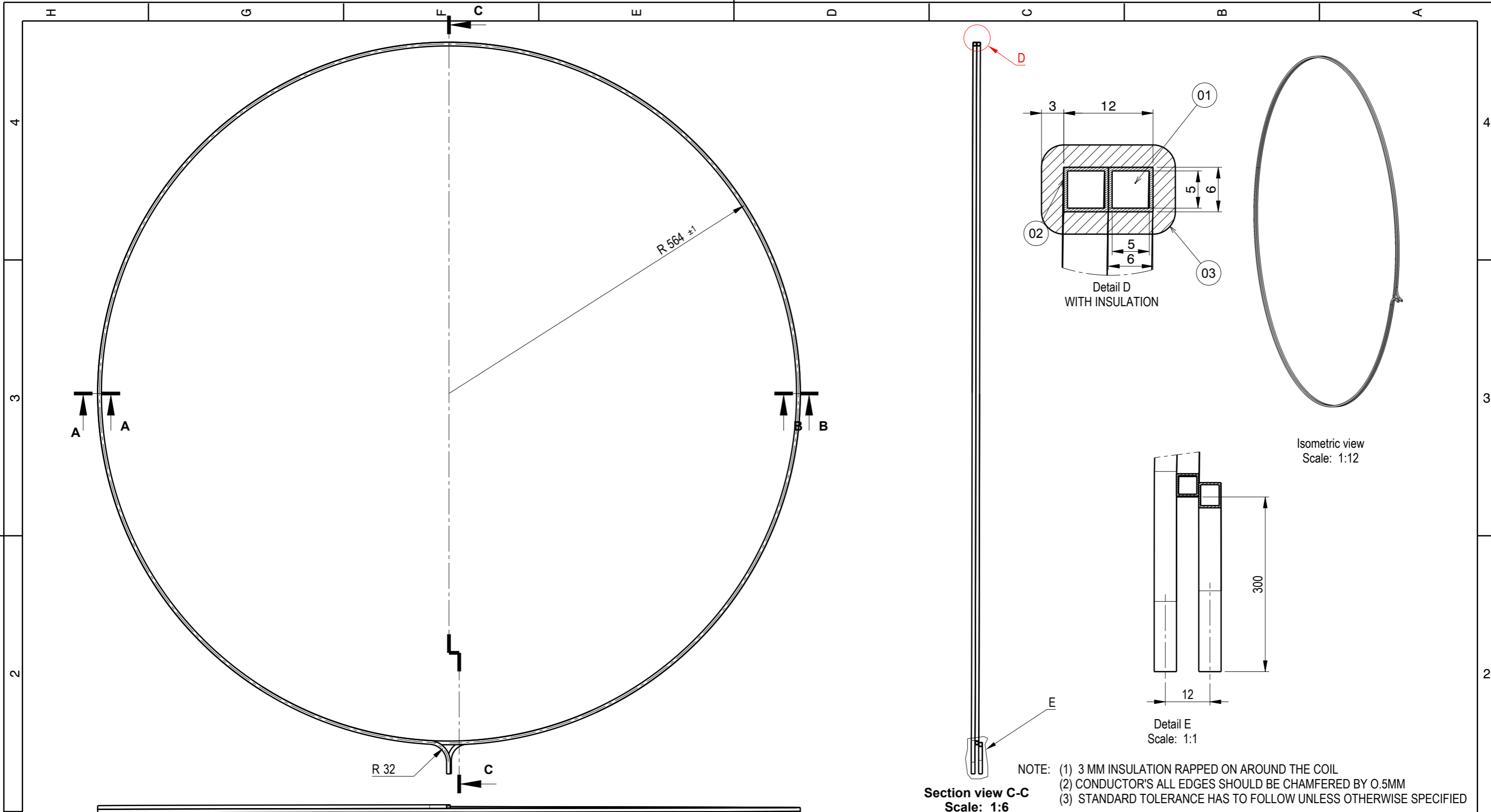
Institute for Plasma Research
 प्लाज्मा अनुसंधान संस्थान
 Bhat, Near Indira Bridge, Gandhinagar 382 428, Gujarat (India)

TR_01_COIL

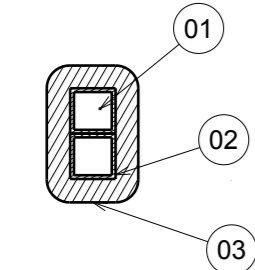
SCALE: 1:1 / NTS

DRG. NO. IPR/21/A3/TR_01_COIL/8969 REV 01 SHEET 1/1

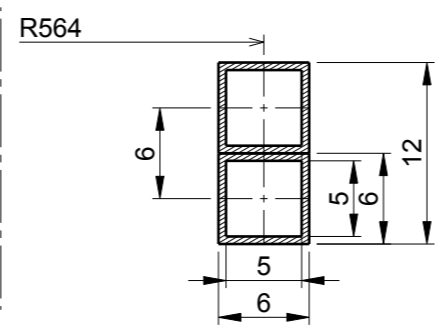
DRAWN BY: PINAKIN 02-07-21
 CHECKED BY:
 APPROVED BY:



NOTE: (1) 3 MM INSULATION RAPPED ON AROUND THE COIL
 (2) CONDUCTOR'S ALL EDGES SHOULD BE CHAMFERED BY 0.5MM
 (3) STANDARD TOLERANCE HAS TO FOLLOW UNLESS OTHERWISE SPECIFIED



Section view A-A
Scale: 1:1



Section view B-B
(INSULATION IS HIDDEN)

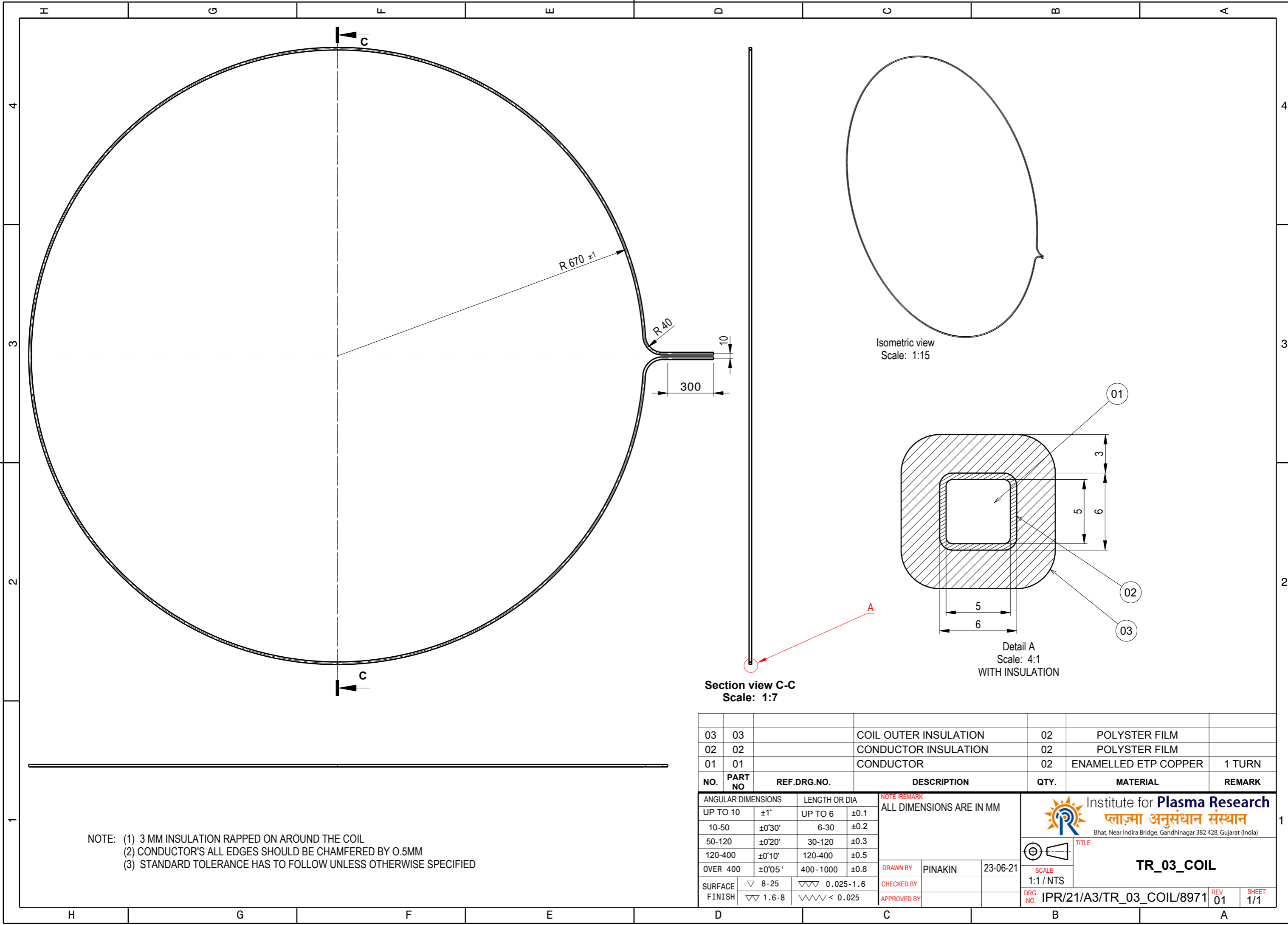
NO.	PART NO	REF.DRG.NO.	DESCRIPTION	QTY.	MATERIAL	REMARK
03	03		COIL OUTER INSULATION	02	POLYSTER FILM	
02	02		CONDUCTOR INSULATION	02	POLYSTER FILM	
01	01		CONDUCTOR	02	ENAMELLED ETP COPPER	2 TURNS

ANGULAR DIMENSIONS	LENGTH OR DIA	NOTE/REMARK
UP TO 10	±1'	UP TO 6 ±0.1
10-50	±0'30'	6-30 ±0.2
50-120	±0'20'	30-120 ±0.3
120-400	±0'10'	120-400 ±0.5
OVER 400	±0'05'	400-1000 ±0.8

SURFACE FINISH	▽ 8-25	▽▽▽ 0.025-1.6
	▽▽ 1.6-8	▽▽▽▽ < 0.025

DRAWN BY	PINAKIN	28-06-21
CHECKED BY		
APPROVED BY		

		Institute for Plasma Research प्लाज्मा अनुसंधान संस्थान Bhat, Near Indira Bridge, Gandhinagar 382 428, Gujarat (India)	
		TR_02_COIL	
DRG. NO. IPR/21/A3/TR_02_COIL/8970		REV 01	SHEET 1/1



NOTE: (1) 3 MM INSULATION RAPPED ON AROUND THE COIL
 (2) CONDUCTOR'S ALL EDGES SHOULD BE CHAMFERED BY 0.5MM
 (3) STANDARD TOLERANCE HAS TO FOLLOW UNLESS OTHERWISE SPECIFIED

NO.	PART NO	REF.DRG.NO.	DESCRIPTION	QTY.	MATERIAL	REMARK
03	03		COIL OUTER INSULATION	02	POLYSTER FILM	
02	02		CONDUCTOR INSULATION	02	POLYSTER FILM	
01	01		CONDUCTOR	02	ENAMELLED ETP COPPER	1 TURN

ANGULAR DIMENSIONS	LENGTH OR DIA	NOTE /REMARK
UP TO 10	±1'	UP TO 6 ±0.1
10-50	±0'30'	6-30 ±0.2
50-120	±0'20'	30-120 ±0.3
120-400	±0'10'	120-400 ±0.5
OVER 400	±0'05'	400-1000 ±0.8
SURFACE FINISH	▽ 8-25	▽▽▽ 0.025-1.6
	▽▽ 1.6-8	▽▽▽▽ < 0.025

INSTITUTE FOR PLASMA RESEARCH
 प्लाज्मा अनुसंधान संस्थान
 Bhat, Near Indira Bridge, Gandhinagar 382 428, Gujarat (India)

TR_03_COIL

SCALE: 1:1 / NTS

DRG. NO. IPR/21/A3/TR_03_COIL/8971

REV 01 SHEET 1/1

DRAWN BY: PINAKIN 23-06-21
 CHECKED BY:
 APPROVED BY:
 TITLE: TR_03_COIL



Form No: IPR-MFW-01.V1

INSTRUCTIONS TO BIDDERS AND TERMS AND CONDITIONS

1. The Quotation and any order resulting from this enquiry shall be governed by our Conditions of Work Order and Contractor quoting this enquiry shall be deemed to have read and understood the same completely.
 2. Where counter terms and conditions have been offered by the Tenderer, the same shall not be deemed to have been accepted by IPR unless our specific written acceptance thereof is obtained.
 3. **Quotation:** Quotation should be submitted in the prescribed QUOTATION FORMAT attached with this Enquiry and the same should be submitted in a sealed envelope super-scribing the same with our enquiry No., date, due date and brief description of item on or before the due date. Late/delayed/incomplete/unsigned quotations will not be considered. Envelopes received without Enquiry number, date, due date and brief description of item may be rejected. The quoted prices should be firm for a period of 90 days from due date for placing order. IPR is not bound to accept lowest rate/s. IPR reserves the right to place on one or more parties. The scope of supply includes insurance by the Contractor.
 4. **Specifications:** Goods should be offered strictly conforming to our specifications/drawings. Deviation, if any, should be clearly indicated by the contractor in their quotation. The Tenderer should also indicate the Make/Type number of the goods offered and catalogues, technical literature and samples, wherever necessary should accompany the quotation. Clarification/s on drawings should be obtained before submitting quotation.
 5. **Terms of Prices:** Quotation should be submitted on door delivery basis without extra charge wherever possible. For quotations on Ex-Works, Ex-godown basis the approximate packing and forwarding charges should be indicated by the contractor. In the case of local contractors, the goods are to be delivered at our stores free of charge.
 - 5.1 In respect of tenders on Ex-works basis, in case the tenderer has not mentioned in the offer packing, forwarding and transportation charges for safe delivery up to Purchaser's site, 2% of the price quoted towards packing (in respect of both local and outstation firms), 1% of the basic price quoted towards safe delivery charges in respect of local tenderer and 3% of the basic price quoted towards safe delivery charges in respect of outstation firm will be added for comparison of offers on safe door delivery at Purchaser's site.
 - 5.2 Prices are required to be quoted according to the units indicated in the tender form/Enquiry. When Quotations are given in terms of units other than those specified in the tender form, relationship between the two sets of units must be furnished
 6. Tender should be free from Correction and Erasures. Corrections, if any, must be attested. All amounts shall be indicated both in words as well as in figures. Where there is difference between amounts quoted in words and figures, amount quoted in words shall prevail. Unsigned quotations will summarily be rejected. If there is a discrepancy between the unit price and total price, unit price shall prevail.
 7. IPR shall be under no obligation to accept the lowest or any tender and reserves the right of acceptance of the whole or any part of the tender or portion of the quantity offered and the tenderers shall supply the same at the rate quoted.
 8. **Goods & Services Tax (GST):** The details of Taxes/GST and other levies legally applicable and intended to be claimed should be clearly indicated in the tender. Where this is not done, no claim on these accounts would be admissible later.
 - a) **GST for Goods (IGST/CGST/SGST TAX BENEFITS):**

IPR is entitled to avail tax benefit as per the following notifications issued by Ministry of Finance, Department of Revenue, Government of India:
(1) No: 47/2017-INTEGRATED TAX (RATE) DATED 14/11/17 for IGST
(2) No: 45/2017-CENTRAL TAX (RATE) DATED 14/11/17 for CGST
And,
IPR is entitled to avail tax benefit as per the following notifications issued by Finance Department, Government of Gujarat:
(1) No. 45/2017-STATE TAX (RATE) DATED 15/11/17 for SGST
As per above notifications IPR will bear only 5% IGST for procurement of goods from outside Gujarat & 2.5% CGST and 2.5% SGST (total 5%) for procurement of goods within Gujarat. Vendors are required to charge tax as per these notifications while quoting/supplying the goods. Deviations, (if any) should be clearly mentioned in the quotation/offer.
- Please specify the HSN codes while quoting.**
- b) **GST for Services:**

As applicable. **Specify the SAC codes wherever services are involved.**
9. **Delivery Date:** Delivery period is essence of the Contract. Contractor must indicate the firm delivery date by which the goods will be dispatched or delivered by them from the date of our order. Delivery period shall be clearly indicated against each item separately.
10. **Price/ Purchase Preference:** Purchase/Price preference to industries will be given as per the policy of the Government of India in force at the time of evaluation provided their offer is in compliance with the conditions of the policy.



11. **Liquidated Damages:** The successful Vendor/Bidder should pay liquidated damages @ ½% (half percent) of the total work order value for the delay of each week in the scheduled date of completion of the work envisaged in the Work Order subject to a maximum of 5% (Five percent) of the total Work Order value.
12. **Inspection:** Goods on its arrival at IPR will be inspected by Stores, and his decision in the matter will be final. However, where the items are required to be inspected at the Contractors Premises, Contractor has to give advance notice regarding readiness of the Goods to enable us to depute our representative for inspection.
13. **Payment:** Payment will be arranged for accepted goods only within 30 days from the date of receipt of goods at IPR and bills in our accounts section, completed in all respects.
14. No correspondence will be entertained within 30 days from the date of receipt of good and bills, whichever is later.
15. **Guarantee:** The Stores offered should be guaranteed for a minimum period of twelve months, from that date of acceptance, against defective Goods, design, workmanship, operation or manufacture. For defects noticed and communicated during the Guarantee period, replacement/rectification should be arranged free of cost within a reasonable period of such notifications. In case where our specifications call for a guarantee period more than 12 months specifically, then such a period shall apply.
16. **Performance Bank Guarantee:** If demanded by IPR, the successful bidder will have to furnish Performance Bank Guarantee for 10% of the order value (basic price) from a Nationalized/Scheduled Bank/State Bank of India, valid throughout the Guarantee/Warranty period. The scheduled banks approved by IPR are Axis Bank, HDFC Bank, ICICI Bank and IDBI Bank. Bank Guarantees submitted other than from banks approved by IPR will not be accepted.
17. **Security Deposit:** If demanded the successful Bidder will have to furnish to the Purchaser an interest free security deposit for 10% (Ten percent) of the order value in the form of Bank Guarantee of an equivalent amount from a nationalized/ scheduled Bank/State Bank of India within 15 days from the date of work order and the said Guarantee should be valid till the goods are accepted by IPR. The scheduled banks approved by IPR are Axis Bank, HDFC Bank, ICICI Bank and IDBI Bank. Bank Guarantees submitted other than from banks approved by IPR will not be accepted. The Security deposit shall be forfeited in case the selected Bidder does not start the work within the time limit specified or fail to complete the work within the stipulated delivery period or fail to comply with any of the terms and conditions in the work order. On successful completion of scope of work and its acceptance by IPR, Contractor should send a letter requesting return of the original BG.
18. The Contractor shall at all times indemnify the purchase against all claims which may be made in respect of the stores for infringement of any right protected by Patent Registration of design or Trade Mark and shall take all risk of accidents or damage, which may cause failure of supply from whatever cause arising and the entire responsibility for sufficiency of all means used by him for the fulfilment of the contract.
19. **Free Issue Material (FIM):** Successful tenderer will have to arrange insurance showing beneficiary as "Institute for Plasma Research" at their risk and cost towards adequate security for the materials/property provided/issued by the Purchaser as Free Issue Material for the due execution of the contract.
20. The Director, IPR reserves the right to accept or reject any quotations fully or partly or to cancel the enquiry without assigning any reason.
21. **Jurisdiction:** The contract shall be governed by the Laws of India for the time being in force. The Courts of Gandhinagar only shall have jurisdiction to deal with and decide any legal or dispute arising out of this Contract.

(This need to be printed in Bidders letter head)

1. Please quote with complete technical details along with technical compliance sheet.
2. Quotation should be submitted in the format given below, else IPR shall not consider the offer by the vendor.

NAME OF PARTY : _____

ENQUIRY NO: _____

QUOTATION No. & DATE : _____

Currency of Quotation: **Indian Rupees**

Sr. No.	Item Description	HSN/SAC Code	Quantity	Unit Rate (Basic)	Packaging & forwarding (P&F)	Applicable GST	Rate (incl P&F and GST)	Total Value
			a	b	c	d	e = b + c + d	f = a * e
1								
2								
3								
4								
5								
6								

Sr. No.	Particular	Remarks
I.	Ex-works / FOR Destination	
II.	Freight	
III.	Insurance	
IV.	Delivery Period	
V.	Payment (IPR terms will apply)	
VI.	Guarantee / Warrantee	
VII.	Validity Period	
VIII.	Discount (if any)	
IX.	Remarks	

Place: Authority Signatory

Date: Company Seal

Note:

1. Bidder should submit the copy of GSTIN / ARN Certificate along with the offer
2. Bidder should specify the SUPPLY and SERVICE rates/ charges separately wherever applicable