



PROPERTIES & FACILITIES DEPARTMENT
OLD AIRPORT, KALINA, SANTA CRUZ (E), MUMBAI 400 029
CABLE : AIRINDIA TEL : 2626 5555 FAX : 2615 7130 INTERNET:
www.airindia.in

TENDER NO: PF / C / 09 / 05 DATED : 30-09-2011

*APP MODIFIED BITUMEN WATERPROOFING TREATMENT TO
LARGE ENGINE TEST HOUSE, CF6, CFM56 & TO OTHER
SHOPS OF ENGINE OVERHAUL DEPARTMENT AT OLD
AIRPORT, SANTACRUZ (E), MUMBAI-400 029.*

NAME & ADDRESS OF THE CONTRACTOR:

TELEPHONE NOS.

OFFICE : _____

RESIDENCE : _____



CONTRACT ADMINISTRATION PROFORMA

T.NO. PF/C/09/05

DATE: 30-09-2011

NAME OF THE WORK : APP modified bitumen waterproofing treatment to Large Engine Test House, CF6, CFM56 & to other shops of Engine Overhaul Department at Old Airport, Santacruz (E), Mumbai-400 029.

1. Estimated Cost of Work : **Rs.19,85,000/-**
2. The Tender documents consists of the following:
 - i) Contract Administration Proforma
 - ii) Conditions of Contract (to be referred to in our Contract Admin office at OAP).
 - iii) Additional Conditions
 - iv) Additional Specifications
 - v) Schedule of Quantities
3. The Tenderer is required to pay Earnest Money of **Rs.49,625/-** (Rupees Forty-nine Thousand Six Hundred Twenty-five Only)

[NOTE : EMD is to be paid in Cash only for amount of upto Rs.10,000/- which payment is to be made to the Cashier, Cash Section, Finance Dept., Old Airport, Santa Cruz (E), Mumbai 400 029. For EMD amount more than Rs.10,000/-, payment has to be made by way of DD / PAY ORDER payable to " Air-India" at Mumbai.]
4. The completed Tender Documents in Cover no: 2, accompanied by the Earnest Money Receipt / DD / Pay Order and the Acceptance Letter in Cover no: 1, addressed to the Dy.General Manager – P&F Dept., Air-India, Santa Cruz (E) should be deposited in the Tender Box kept in Admin Office before 3:00 PM on **24-11 -2011**.
5. Tenders will be opened on the same day at 3:30 p.m. in the Office of the Dy.General Manager, Properties & Facilities Dept., Air-India, Old Airport, Santa Cruz (E), Mumbai 400 029 in the presence of any intending tenderers who may wish to be present.
6. In case the Tenderer does not wish to quote for the work, he may please send a regret letter on the date of opening of the Tender.

7. In case the Tenderer does not wish to quote for the work, he may please send a regret letter on the date of opening of the Tender.

8. EARNEST MONEY / SECURITY DEPOSIT :

- a) Earnest Money Deposit : Rs.49,625/-
- b) Additional Security Deposit to be made within 15 days of date of issue of WO : Nil
- c) Retention Percentage from Running / Final Bill : 7.5% (Seven & half %)
- d) Total Security Deposit : 10% (TEN PERCENT) (excluding amount on Item No.5)
8. Time allowed for the execution of the work: 03 (Three) Months

9. DEFECTS LIABILITY PERIOD:

- √a) Building works / concrete pavements : 12 Months√
- b) Repair Works / Asphaltic Pavements : 06 Months (N/A)
- c) Electrical & Mechanical works : 12 Months (N/A)
10. Minimum value of work to be done between Two consecutive Running Account Bills For claiming by the Contractor : Rs.6.00 Lakhs
11. Likely period for Honouring Running Account Bill after proper submission : N/A
12. Likely period for Honouring Final Bill After proper submission : N/A
13. Percentage permitted in Rate Analysis For Extra / Deviated items to cover Overheads and Profits. : 20%(TWENTY PERCENT)
14. Retention Amount : 10% of the value of Item No. 05 till 03 years as Performance Leak proof Guarantee

SIGNATURE OF ENGINEER-IN-CHARGE
CONTRACTS SECTION

T.NO.: PF / C/ 09 /05

Date : 30 / 09 / 2011

Sub : APP modified bitumen waterproofing treatment to Large Engine Test House, CF6, CFM56 & to other shops of Engine Overhaul Department at Old Airport, Santa Cruz (E), Mumbai-400 029

ADDITIONAL SPECIFICATIONS

The each layers of five layered Atactic Polypropylene Polymer modified bitumen membrane shall consist of the following :

1 st layer (<i>top layer</i>)	Plain finished layer.
2 nd layer	APP modified bitumen
3 rd layer (<i>middle layer</i>)	Non – woven spun bonded polyester matt of 160 to 180 gms / sqm.
4 th layer	APP modified bitumen.
5 th layer (<i>bottom layer</i>)	Thermo fusible polyethylene.

The technical properties of the membrane shall conform to the following :

<u>Sr.no.</u>	<u>Properties</u>	<u>Result</u>	<u>Test method</u>
1)	Softening point	145 ⁰ - 150 ⁰ C	ASTM D – 36
2)	Penetration @ 25 ⁰ C	15 – 25 dmm	ASTM D – 5
3)	Water absorption, wt @ 23 ⁰ C 24 hours.	< 0.50	ASTM D – 5147
4)	Heat resistance at 80 – 100 ⁰ C.	No flow	ASTM D – 5147
5)	Tensile strength @ 23 ⁰ C <u>±</u> 2.		
6)	Longitudinal – N / 5cm	700	ASTM D – 5147
	Transverse – N / 5cm	450	ASTM D – 5147
	Elongation % @ 23 ⁰ C <u>±</u> 2.		
	Longitudinal	45	ASTM D – 5147
	Transverse	45	ASTM D - 5147

ADDITIONAL SPECIFICATIONS

The list (in alphabetical order) of manufacturer / their authorized representatives / their brand names are given below for guidance.

1)	M/s Chowgule Industries Ltd.	Imperbit / Ekoguard
2)	M/s Choksey Chemicals Pvt. Ltd.	Polymod
3)	M/s Pagel Concretech	Vertoasfalto - Breiglas – Viapol
4)	M/s Percept Engineers Pvt. Ltd.	Polyplus

The samples shall be tested for the above properties before procurement of material and the same shall be got approved by the EIC. One test shall be carried out per every lot received at site or per every 1000sqm., whichever is lower, at contractor's risk and cost. The work shall be got done through the approved applicator of manufacturer / their authorised representative of membrane.

The bitumen primer shall conform to IS 3384 or as per specifications of membrane manufacturer. The bitumen primer shall have a density of 0.87 to 0.89 kgs. / litres at 25⁰C and its viscosity shall be 70 – 160 cps.

The surface to be waterproofed shall be cleaned completely and shall be free of dust, oil, protruding nails etc. A coat of bitumen primer shall be applied to the cleaned surfaces @ 0.20 to 0.30 litres / sqm. The primer shall be allowed to dry completely before application of the membrane.

Membranes shall be fixed by torch welding by trained / experienced applicator. The membrane rolls shall be lined up and spread open over the area to which they are to be fixed. The rolls shall be laid so that the next overlaps the first by at least 10cms along the side lap and end laps shall be a minimum of 15cms. The membrane shall be rolled back without changing the given orientation. They shall be unrolled once again while torching / heating the underside sufficiently to cause surface melting. The membrane shall be pressed firmly to have sufficient bond with the surface without any air entrapment. Uneven or excessive heating shall be avoided. The sheets fixed by under / over heating, in the opinion of the EIC, shall be removed and new sheets shall be provided at no extra cost.

: 3 :

T.NO.: PF / C/ 09/ 05

Date : 30 / 09 / 2011

ADDITIONAL SPECIFICATIONS

The lap joints shall be heated from top to produce a thin bead of molten bitumen at the seam, which shall be smoothed out with the trowel, ensuring a properly welded joint. All angles and abutments shall be sealed with extra care to ensure full bondage.

Grooves shall be made on all exposed edges (*wherever sheets are to be fixed in an upward direction*) and membranes shall be sealed well into the grooves at no extra cost.

Date :

Place :

SIGNATURE OF THE TENDERER WITH RUBBER STAMP



Sub : APP modified bitumen waterproofing treatment to Large Engine Test House, CF6, CFM56 & to other shops of Engine Overhaul Department at Old Airport, Santa Cruz (E), Mumbai-400 029

ADDITIONAL CONDITIONS

1. **TENDERER SHOULD QUOTE THEIR RATES OF INDIVIDUAL ITEMS AND FOR REBATE OFFERED IN FIGURES AS WELL AS IN WORDS. IF THE RATES ARE NOT QUOTED IN WORDS IN ADDITION TO FIGURES, SUCH TENDERS WILL BE REJECTED. INCOMPLETE TENDER IN ANY FORM SHALL BE REJECTED.**
2. The conditions, as per Air-India's standard Booklet, "Conditions of Contract" and Standard Specifications (Air-India) Volumes - I, II & III are both applicable and may please be perused by the quotationers, in Admin Office of P&FD, before submitting the tender. Copies can be purchased, if desired.
3. Intending tenders are advised in their own interest to visit the site of work and familiarise themselves with the site conditions before submitting their quotations.
4. The contractor will not be entitled for any compensation due to enactment of any law regulation etc. on account whether the same is / are enforced by State / Central Govt. during the tenure of the contract. Any other tax like Sales Tax on Works Contract, VAT or levy, octroi, excise duty etc. on materials or any elements in respect of this contract, shall be payable by the contractor and Air India will not entertain any claims whatsoever in this respect. The contractor's rates should cater for the same.
5. Rates for all items must cover the cost of all appropriate materials, labour, machinery, scaffolding, tools and plants and all appliances whatsoever necessary for the complete execution of the work.
6. The premises shall always be kept clean & the company staff shall not be disturbed by the contractor's labourers while working at site.
7. Mobilisation advance shall not be paid by Air-India Ltd on any account.
8. Air-India Ltd. reserves to itself the right to accept or reject any tender either in part or in whole without assigning any reason for doing so & does not bind itself to accept the lowest or any tender.

ADDITIONAL CONDITIONS

9. Various work permits like working at height, hot jobs, electrical supply, and welding job, as applicable for the job with reference to safety precautions will have to be obtained from regulatory sections of Air-India Ltd before starting of the various works.
10. The contractor shall adhere to the rules, regulations & instructions of Security Dept. of Air-India Ltd.
11. Every activity in connection with the subject work shall be carried out necessarily with the prior permission of Engineer-in-Charge or his representatives.
12. The tenderer is advised to sign the tender conditions and the person authorised to sign the tender should sign on all important pages including (i) Additional Conditions, (ii) Special Conditions, (iii) Undertaking, (iv) Last page of Schedule of Quantities, (v) Declaration form.
13. Adequate precaution will have to be taken by the contractor to prevent any injury to the structure / staff or outsiders moving in the premises, while work is in progress.
14. The contractor should also ensure that the workers do not loiter anywhere in the building other than the work site. Any action taken by Security Department against the defaulters shall be contractor's responsibility.
15. While dismantling, contractor should not allow the debris to fall directly on window glass panes / window air conditioners and plinth protection, pavement etc. Necessary arrangements / precautions shall be taken to prevent such incidents at no extra cost. Contractor to note that the damages occurred due to the above shall be rectified at the contractor's own risk and cost.
16. Every portion of work shall be kept clear of accumulation of debris etc. with cleaning up from time to time and delivered up clean and free from all defects of every kind at the completion of the work.
17. No escalation shall be entertained on any account.
18. Contractor shall arrange for Police NOC for obtaining Security passes from Air-India Security. Any expenses towards NOC shall be borne by the contractor.
19. The work shall be carried out by the contractor at any hours convenient to the user's department.

.NO.: PF /C/09/05

Date : 30/09/2011

ADDITIONAL CONDITIONS

20. The agency shall engage a full time technical staff at site to receive Instructions, monitor work as per specifications and all as instructed by Engineer-in-Charge.

PLACE:

DATE:

SIGNATURE OF THE TENDERER WITH RUBBER STAMP



PROPERTIES & FACILITIES DEPARTMENT

T.NO. PF/C/09/05

DATE: 30/09/2011

Sub : APP modified bitumen waterproofing treatment to Large Engine Test House, CF6, CFM56 and to other shops of Engine Overhaul Department at Old Airport, Santa Cruz (E), Mumbai-400 029

SERVICE TAX

As per Government of India notification, it is mandatory for the Contractor (Service Provider) to pay the Service Tax to Central Excise Department and the same shall be reimbursed by Air-India Ltd on production of the documentary proof of payment. The Service Tax shall be of 10.30% or revised time to time on the cost of labour for the work executed. It is estimated labour component @ 30% on the total Tender Cost. It is also notified that the Contractor shall register under Service Tax Category and get a registration number from the Central Excise Dept. for this work.

PLACE:

DATE:

SIGNATURE OF THE TENDERER WITH RUBBER STAMP



PROPERTIES & FACILITIES DEPARTMENT

T.NO. PF/C/09/05

DATE: 30/09/2011

Sub : APP modified bitumen waterproofing treatment to Large Engine Test House, CF6, CFM56 and to other shops of Engine Overhaul Department at Old Airport, Santa Cruz (E), Mumbai-400 029

SCOPE OF WORK

The scope of work is as following:

1. Removal of existing bitumen tarfelt waterproofing treatment of any thickness and layers and disposing debris out of Air-India Ltd premises.
2. Dismantling of plaster and removal of debris.
3. Providing & Applying waterproofing external plaster.
4. Providing and injecting polymer cement slurry injectors at locations as directed by Engineer-in-Charge.
5. Providing & Laying APP (Atactic Polypropylene Polymer) modified pre-fabricated five layer, 4mm thick finished bitumen membrane as per additional specifications enclosed in this tender.

SIGNATURE OF THE TENDERER WITH RUBBER STAMP



Sub : APP modified bitumen waterproofing treatment to Large Engine Test House, CF6, CFM56 and to other shops of Engine Overhaul Department at Old Airport, Santa Cruz (E), Mumbai-400 029

SCHEDULE OF QUANTITIES

SR NO	DESCRIPTION	QTY	RATE	UNIT	AMOUNT (Rs)
1	Removing carefully the existing waterproofing layer (Tarfelt waterproofing) of any thickness and of any nature, without damaging the roof surface, exposing upto the roof, cleaning the roof surface to receive the waterproof layer including removal of debris out of Air-India Premises also including leveling the undulations with CM 1:3 if any and all as directed by EIC etc. complete with all tools and plants etc. complete.	5000 M ²		M ²	

RATE IN WORDS

2.	Removing cement plaster of any mix and any thickness, from any surface, all including raking out joints, hacking for key, scrubbing down with water and removal of debris out of Air-India premises and all as directed etc. complete.	120 M ²		M ²	
----	--	--------------------	--	----------------	--

RATE IN WORDS

:2:

T.NO. PF/C/09/05

DATE: 30/09/2011

SR NO	DESCRIPTION	QTY	RATE	UNIT	AMOUNT (Rs)
3	Providing and applying external sand faced plaster in CM (1:4) (1 cement : 4 sand) avg. 12mm thick as backing coat over masonry, PCC / RCC surface mixed with waterproofing compound such as "Impermo" or equivalent approved make at the rate of 2% by weight of cement, all as per manufacturer's instructions / specifications and finished with avg. 6mm thick sand faced coat in CM (1:3) (1 cement : 3 sand) in true line and level, including scaffolding filling up log holes in cement concrete, providing drip moulds, grooves, bands, curing etc. complete all as directed by EIC etc. complete. RATE IN WORDS	120 M ²		M ²	
4.	Providing and injecting polymer cement slurry injections in proportion of 2 ltrs of polymer per bag of cement of approved make like ROFF, Sunanda Speciality Coatings Pvt. Ltd., etc to full saturations to the RCC members like RCC column, beam junctions of slab and beam etc or at locations wherever required to achieve water tightness, curing, etc complete as directed RATE IN WORDS	400 kgs		kg	
5.	Providing and laying APP (Atactic Polypropylene Polymer) modified pre- fabricated five layer, 4mm thick plain finished bitumen membrane of approved make over a primer coat of bitumen primer conforming to IS 3384 @ 0.20 to 0.30 litres / sq.m and a finishing coat of red oxide primer @ 0.10 kgs. / sq.m. including preparation of surface, laying of sheets using butane / LPG torch with a minimum of 10cms side lap and 15cms end lap joints all as per membrane manufacturer's specifications and all as directed by EIC including 3 (three) years performance guarantee for leak proof surfaces. RATE IN WORDS	5000M ²		M ²	

...3/-

:3:

T.NO. PF/C/09/05

DATE: 30/09/2011

SR NO	DESCRIPTION	QTY	RATE	UNIT	AMOUNT (Rs)
	<p>NOTE:</p> <p>1. The waterproofing membrane shall confirm to the specifications which is enclosed in the Additional Specifications. 10% of the cost of Item No.05 shall be retained with Air-India for leakproof guarantee for the period of 3 (Three) Years.</p> <p>2. No extra shall be paid for overlaps.</p>				

TOTAL Rs.

TOTAL Rs. IN WORDS

**REBATE _____% IF ANY:
IN FIGURES & WORDS**

GRAND TOTAL Rs.

GRAND TOTAL RS. IN WORDS

NOTE: Kindly do not quote service tax in item rates. The service tax shall be paid applicable to the contractor as stated in service tax clause.

Date :

Place :

SIGNATURE OF THE TENDERER WITH RUBBER STAMP