

## Radar absorbing Paint

The Radar Cross Section (RCS) of an object is dominated by the radar energy returned from various scattering centers of complex shaped targets. The application of Radar Absorbing Paint on these scattering centers attenuates the back reflected radar energy is an effective way of reducing the RCS significantly. These Paints not only have the required functional properties of radar absorption at the desired frequency bands, but are also constrained to be thin and to carry minimum weight penalty. Further, they need to be designed and developed as per the nature of the substrate, and must satisfy the mechanical and environmental stability. In addition, Paint should be such that it can be readily applied in a simple and expeditious manner to achieve the functional thickness on any surface. The proper selection of filler materials and resin matrix is essential to develop such Paint for realization in practical use.

Defence Laboratory, Jodhpur has developed Polyurethane based Radar absorbing Paint using magnetic functional filler material for application on strategic targets for RCS reduction. The polyurethane resin system used in Radar Absorbing Paint has excellent weathering resistance, and capable of withstand very low and high temperature. The magnetic functional filler material with specific size and shape has been used in appropriate ratio in resin matrix to obtain maximum radar absorption properties. The developed paint has capability for its application on airborne as well as land based strategic targets.

**Advantages of Technology:** The developed Radar absorbing Paint has following advantages:

- Exhibit more than 90% microwave absorption
- Room temperature drying and curing for application in field conditions
- Low and high temperature thermal stability
- Resistance to Hydraulic Oil, Water, Air Turbine Fuel
- Capable to withstand thermal shock cycling
- Sustained aerodynamic Vibration
- Can be applied on Al/Al alloy and CFRP composite surface without affecting the structural properties
- Easy application using spray gun on complex objects

Interested companies/ industries are requested to apply against this EoI to following address:-

**Director**

**Defence Laboratory**

Ratanada Palace, Jodhpur, Rajasthan-342011

Phone : 0291-2510275

Fax : 0291-2511191, 0291-2510260

Email : director[dot]dl[at]gov[dot]in

A copy of interest may be sent to the following address (without any attachment):-

**Director**

**Directorate Industry Interface and Technology Management (DIITM)**

Room No 447, DRDO Bhawan, DRDO HQrs, Rajaji Marg, New Delhi – 110011

Phone No: 01123013209/23015291

Fax No: 011-23793008

Email ID: diitm[dot]hqr[at]gov[dot]in

All industries interested in seeking ToT are requested to fill the information sought in Application cum Industry Assessment form given below and provide reference of page no. of supporting document (wherever applicable). The list of documents to be attached is provided in Annexure - I.

**Application cum Industry Assessment Form**

**PART-1**

**General Information**

a)	<b>Name of the Technology requested for Technology Transfer (Technology name and concerned Lab, Category)</b>	
b)	<b>Name of the industry/ organization</b>	
c)	<b>Complete Address and other details</b>	
	<b>Registered Office</b>  State Phone No Fax Email Website	

	<b>Factory</b>  State Phone No Fax Email Website	
4.	<b>Point of Contact</b> Name Designation Address Mobile No Ph No Email ID	
5.	<b>NAME OF CMD/ MD /PARTNERS/ PROPRIETOR/ etc</b> Name Designation Address Mobile No Ph No Email ID	
d)	<b>Date of Incorporation of company</b>	
e)	<b>Foreign Direct Investment in company (if any in %)</b>	
f)	<b>Shareholding pattern</b>	
g)	<b>Turn over as per Audited Balance Sheet for the preceding three years.</b> Year _____ Year _____ Year _____	
h)	<b>Annual budget for R&amp;D during last three years (if any)</b> Year _____ Year _____ Year _____	
i)	<b>Income Tax returns for the preceding three years period</b> Year _____ Year _____ Year _____	

j)	<b>Nature of company</b> DPSU, Private Limited, Public Limited, Partnership, Proprietary, Ex- Serviceman Unit
k)	<b>Category of industry</b> Large Scale, Medium Scale, Small Scale, Micro, Startup
l)	<b>MSME Registration No</b>
m)	<b>Certificates of registration as a manufacturing unit, if any.</b>
n)	<b>If Startup, DPIIT Registration No</b>
o)	<b>UDYOG AADHAR No</b>
p)	<b>PAN Number</b>
q)	<b>Details of Industrial license for defence manufacturing issued by DPIIT (if any)</b>
r)	<b>Details of PESO license (if any)</b>
s)	<b>GST Number</b>
t)	<b>Nature of business</b> Manufacturing/ Sole Selling or Authorized Agent/ Assembler/ Traders/ Dealer/ Processor/ Repacker/ Others
u)	<b>Details of current products and services</b> Products and services Supplied (please specify Govt/ Domestic market/ Export)
v)	<b>Record of past performance</b> (e.g., Supply orders executed against of Ministry of Defence orders, Public Sectors and Paramilitary Forces, if any).
w)	<b>Details of registration with</b> NSIC / SSI, DGS&D, other Defence Department, other Govt. Dept, membership of FICCI/ASSOCHAM/CII or other Industrial Association <b>(Attach relevant copies of registration letters)</b>
x)	<b>Have you already taken any technology from DRDO</b> (If yes, give details attaching separate sheet) Name of the Technology, Lab, Year, License number & Status
y)	<b>ISO/ ISI certification or any other certification</b> (If yes, give details)
z)	<b>Relevant clearances form the authorities/ ministries</b> (if any)
aa)	<b>Capacity and capability to undertake developmental work and to accept attendant financial and commercial risks.</b>
bb)	<b>Capacity/capability to market the product through the</b>

	<b>marketing network, sales and service network, reliability to maintain confidentiality.</b>	
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## **PART-2**

### **Infrastructure and other Information**

a.	<b>Total area of factory</b> Covered (m <sup>2</sup> ), Uncovered (m <sup>2</sup> ), Bonded space available (m <sup>2</sup> )	
b.	<b>Ownership of factory</b> Self-owned, partnership, rental	
c.	<b>Electric power</b> Sanctioned Installed Standby (if any)	
d.	<b>Availability of adequate infrastructure</b> (List of machines and their production capacities) and technical expertise	
e.	<b>Name of bank &amp; A/c No</b> Name of bank A/c type A/c no Address of the bank Phone: Email:	

#### **(a) Details of current products:**

Sl.no.	Type	Description	Licensed/installed capacity	Annual production for preceding 3 years

#### **(b) Details of foreign collaboration, if any**

Sl.no.	Product	Name & address of collaborator	Year	Remarks

#### **(c) Details of products developed for services**

Sl.no.	Nomenclature of stores	Order no and date	Remarks

#### **(d) Please give details of important facilities & infrastructure as per following format for:**

- a. Production
- b. Unconventional, special m/c
- c. Testing & quality control facilities

Sl.no.	Description of m/c	Make & model	Qty	date of purchase	Remarks

**(e) Furnish the following details with relevant certificates and documents**

- a. R&D facilities available : .....
- b. Inspection quality control of raw material components : .....
- c. Assistance from central agency for testing / calibration etc. : .....
- d. laboratory and drawing office facility : .....

**(f) Principal customers:**

Sl.no.	Name & address	S.O No. & date	Date of last supply	Products supplied	Value

**(g) Future plan (if any) in respect of expansion programme installation of additional machines/ test facilities etc.**

**(h) Name of the technology requested for transfer** (give self-assessment of your capability to absorb the technology)

**(i) Details of employee as on date on firm's pay roll**

PERMANENT				
Category	Post Held	Number	Qualification	Total Service
Technical	Prod. Manager Q.C. Manager Supervisor Testing Staff (Qc) Skilled workers Unskilled workers, etc.			
Administrative	Purchase Manager Accounts Officer Office Superintendent Clerical Others etc			

TEMPORARY				
Category	Post Held	Number	Qualification	Total Service

Technical	Prod. Manager Q.C. Manager Supervisor Testing Staff (Qc) Skilled workers Unskilled workers, etc			
Administrative	Purchase Manager Accounts Officer Office Superintendent Clerical Others, etc			

**DECLARATION :**

I / we confirm that the information furnished in Part 1 & 2 above is correct. In the event of any information given by me / us is found incorrect / false at any time, I / we understand our EoI for ToT will be cancelled/ rejected without notice, beside any other appropriate action against me / us.

Industry seal

Authorized signatory

Name(s) in capital designation and seal of authorized signatory

dated:

Place:

**Annexure - I**

**List of Supporting documents to be attached with EoI**

- (a) Memorandum and Articles of Association (Should be incorporated as per Indian Companies Act, as amended time to time)
- (b) Certificates of registration as a manufacturing unit, if any.
- (c) Audited Balance Sheet for the preceding three years.
- (d) Income Tax returns for the preceding three year period
- (e) Details of shareholding/ownership pattern especially foreign partners/ shareholders, foreign employees, directors, etc. The company must adhere to the prevailing Govt of India policies and regulations on Foreign Direct Investment (FDI)/DIPP norms as applicable.
- (f) Annual budget for R&D during last three years.

- (g) Numbers and details of IPR or patents, etc., held by the company.
- (h) Number of technically or professionally qualified personnel.
- (i) Record of past performance (e.g., Supply orders executed against of Ministry of Defence orders, Public Sectors and Paramilitary Forces, if any).
- (j) Availability of adequate infrastructure (List of machines and their production capacities) and technical expertise.
- (k) List of Testing and Support equipment's
- (l) ISO/ ISI certification or any other certification
- (m) Relevant clearances from the authorities/ ministries (if any)
- (n) Capacity and capability to undertake developmental work and to accept attendant financial and commercial risks.
- (o) Capacity/capability to market the product through the marketing network, sales and service network, reliability to maintain confidentiality.
- (p) PESO and DPIIT license for explosive handling if ToT is for high energy Material, explosives, propellants, and component/ system dealing with it etc.
- (q) Under taking form company seeking ToT that none of its Directors, Independent Directors, non-executive Directors, Key management personnel are involved in any corrupt practices, unfair means and illegal activities.
- (r) Details of the industrial license for defence manufacturing be provided by the industry seeking ToTs.