

## **HMX based Pressable High Explosive Compositions (PBXP-203) for Precursor (PC) of Tandem Warhead**

This technology includes the processing of **HMX / Wax based Pressable High Explosive Compositions (PBXP-203) for PC of Tandem Warhead**. The High Explosive composition having characteristics of lower sensitivity, high density, high VoD and pressable composition has been developed by mixing bimodal HMX with ceresin wax in water based slurry at high temperature. Raw materials and equipment such as mixers, ovens, and test facilities required for the preparation and characterization of HE composition are indigenously available. The HE composition developed using this technology can be adopted for single action pressing of shaped charge and similar type of warheads to achieve desired high order penetration with optimized weight. Exhaustive studies have been carried out to finalize the high VoD HE compositions and their filling weight to realize the penetration performance against hard targets.

Static evaluation trials of this composition in pellet form have been completed successfully. The ingredients for making this high explosive for warhead of missile are indigenously available.

### **Application Areas:**

HMX based Pressable High Explosive Compositions using wax as binder is used for PC of Tandem Warhead and is meant to initiate the Explosive Reactive Armour (ERA) fitted on Tanks.

### **Unique Selling Point (USP):**

All the developmental trials of composition have been completed successfully. All the raw materials and equipments required for the preparation of HE composition are indigenously available.

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

**To,**

**The Director**

**High Energy Materials Research Laboratory (HEMRL),**

**DRDO, Govt. of India, Ministry of Defence,**

**Sutarwadi, Pune-411 021**

**[Email-director.hemrl@gov.in](mailto:email-director.hemrl@gov.in)**

**Phone No:020-25869230/ 25912101**

**Fax No: 020-25869316**

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

**To,**

**The Director,**

**Directorate of Industry Interface & Technology Management (DIITM),**

**Room No. 447, DRDO Bhawan, Rajaji Marg, New Delhi-110 011**

**[Email-diiitm.hqr@gov.in](mailto:Email-diiitm.hqr@gov.in)**

**Phone: 011-23007446**

**Fax No. 011-23793008**

**PART-1**

**1.1.1 General Information**

<b>1.</b>	<b>Name of the Technology requested for Technology Transfer (Technology name and concerned Lab, Category)</b>	
<b>2.</b>	<b>Name of the industry/ organization</b>	
<b>3.</b>	<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	
<b>4.</b>	<b>Point of Contact</b> Name Designation Address Mobile No Ph No Email ID	
<b>5.</b>	<b>NAME OF CMD/ MD /PARTNERS/ PROPRIETOR/ etc</b> Name Designation Address Mobile No Ph No Email ID	
<b>6.</b>	<b>Date of Incorporation of company</b>	
<b>7.</b>	<b>Foreign Direct Investment in company (if any in %)</b>	
<b>8.</b>	<b>Shareholding pattern</b>	
<b>9.</b>	<b>Turn over as per Audited Balance Sheet for the preceding three years.</b> Year ____ Year ____ Year ____	
<b>10.</b>	<b>Annual budget for R&amp;D during last three years (if any)</b> Year ____ Year ____ Year ____	
<b>11.</b>	<b>Income Tax returns for the preceding three years period</b>	

	Year _____ Year _____ Year _____	
<b>12.</b>	<b>Nature of company</b> DPSU, Private Limited, Public Limited, Partnership, Proprietary, Ex- Serviceman Unit	
<b>13.</b>	<b>Category of industry</b> Large Scale, Medium Scale, Small Scale, Micro, Startup	
<b>14.</b>	<b>MSME Registration No</b>	
<b>15.</b>	<b>Certificates of registration as a manufacturing unit, if any.</b>	
<b>16.</b>	<b>If Startup, DPIIT Registration No</b>	
<b>17.</b>	<b>UDYOG AADHAR No</b>	
<b>18.</b>	<b>PAN Number</b>	
<b>19.</b>	<b>Details of Industrial license for defence manufacturing issued by DPIIT (if any)</b>	
<b>20.</b>	<b>Details of PESO license (if any)</b>	
<b>21.</b>	<b>GST Number</b>	
<b>22.</b>	<b>Nature of business</b> Manufacturing/ Sole Selling or Authorized Agent/ Assembler/ Traders/ Dealer/ Processor/ Repacker/ Others	
<b>23.</b>	<b>Details of current products and services</b> Products and services Supplied (please specify Govt/ Domestic market/ Export)	
<b>24.</b>	<b>Record of past performance</b> (e.g., Supply orders executed against of Ministry of Defence orders, Public Sectors and Paramilitary Forces, if any).	
<b>25.</b>	<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>	
<b>26.</b>	<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	
<b>27.</b>	<b>ISO/ ISI certification or any other certification</b> (If yes, give details)	
<b>28.</b>	<b>Relevant clearances form the authorities/ ministries</b> (if any)	
<b>29.</b>	<b>Capacity and capability to undertake developmental work and to accept attendant financial and commercial risks.</b>	
<b>30.</b>	<b>Capacity/capability to market the product through the marketing network, sales and service network, reliability to maintain confidentiality.</b>	

## PART-2

### 1.1.2 Infrastructure and other Information

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

#### **Appendix 'A' Details of current products:**

Sl.no	Type	Description	Licensed/installed capacity	Annual production for preceding 3 years
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#### **Appendix 'B' Details of foreign collaboration, if any**

Sl.no	Product	Name & address of collaborator	Year	Remarks
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#### **Appendix 'C' Details of products developed for services**

Sl.no	Nomenclature of stores	Order no and date	Remarks
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#### **Appendix '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
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**Appendix '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 :

**Appendix 'F'          Principal customers:**

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

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

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

**Appendix '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:

### **List of Support 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 form 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 industrials license for defence manufacturing be provided by the industry seeking ToTs.
- (s) Application cum Industry Assessment Form.