

HMX based Pressable High Explosive Compositions (PBXP-202) for Main Charge (MC) of Tandem Warhead

To make high explosive composition / molding powder for MC of Tandem Warhead, slurry methodology was chosen for coating binders on HMX particles. Slurry based method is safe and MEK + water is a conducive medium for coating. A reaction vessel fitted with propeller blades and baffle plates were used for manufacture of high explosive composition. The reaction vessel is of suitable capacity and is fitted with a suitable power pack to rotate the agitator. It is also fitted with cooling and heating arrangements. The other equipments which are required are water heated oven, electronic weighing balance, filter etc.

The high explosive composition / molding powder (**PBXP-202**) having lower sensitivity, high density, high VoD was developed by coating HMX particles with a binder at high temperature. The high explosive composition is used for manufacture of MC which is based on shaped-charge kill-mechanism to destroy/damage the targets by penetration and blast effect. This composition has been proven to have equivalent performance as that of imported origin.

Therefore, this technology has fully matured and it is ready for transfer to any Private Industry and PSU having PESO License.

All the raw materials, equipments and test facilities required for the preparation and characterization of HE composition are indigenously available.

Application Areas:

HMX based Pressable High Explosive Compositions for MC of tandem warhead is used mainly for shaped charge warhead. The HE composition including the HMX and other binders destroys / damages the targets by the penetration and blast effect.

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

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-diitm.hqr@gov.in

Phone: 011-23007446

Fax No. 011-23793008

PART-1

1.1.1 General Information

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

12.	Nature of company DPSU, Private Limited, Public Limited, Partnership, Proprietary, Ex- Serviceman Unit	
13.	Category of industry Large Scale, Medium Scale, Small Scale, Micro, Startup	
14.	MSME Registration No	
15.	Certificates of registration as a manufacturing unit, if any.	
16.	If Startup, DPIIT Registration No	
17.	UDYOG AADHAR No	
18.	PAN Number	
19.	Details of Industrial license for defence manufacturing issued by DPIIT (if any)	
20.	Details of PESO license (if any)	
21.	GST Number	
22.	Nature of business Manufacturing/ Sole Selling or Authorized Agent/ Assembler/ Traders/ Dealer/ Processor/ Repacker/ Others	
23.	Details of current products and services Products and services Supplied (please specify Govt/ Domestic market/ Export)	
24.	Record of past performance (e.g., Supply orders executed against of Ministry of Defence orders, Public Sectors and Paramilitary Forces, if any).	
25.	Details of registration with NSIC / SSI, DGS&D, other Defence Department, other Govt. Dept, membership of FICCI/ASSOCHAM/CII or other Industrial Association (Attach relevant copies of registration letters)	
26.	Have you already taken any technology from DRDO (If yes, give details attaching separate sheet) Name of the Technology, Lab, Year, License number & Status	
27.	ISO/ ISI certification or any other certification (If yes, give details)	
28.	Relevant clearances form the authorities/ ministries (if any)	
29.	Capacity and capability to undertake developmental work and to accept attendant financial and commercial risks.	
30.	Capacity/capability to market the product through the marketing network, sales and service network, reliability to maintain confidentiality.	

PART-2

1.1.2 Infrastructure and other Information

- 1.1 **Total area of factory**
Covered (m²),
Uncovered (m²),
Bonded space available (m²)
- 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 equipments.
- (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 industries license for Defence manufacturing be provided by the industry seeking ToTs.
- (s) Application cum Industry Assessment Form.