

**TECHNICAL SPECIFICATION OF VERY SHORT RANGE AIR DEFENCE (VSHORAD)**

Ser	Fact	Technical Specification																																										
1.	Name	Very Short Range Air Defence (VSHORAD)																																										
2.	Country of Origin	Group B																																										
3.	Country of Manufacture	Group B																																										
4.	Country of Assembly	Group B																																										
5.	Year of Manufacture	Not before the contract year																																										
6.	System Configuration	Standard Configuration: Every 100 sets of products include: <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>a.</td> <td>Missile in Tube (MIT)</td> <td>100 Sets</td> </tr> <tr> <td>b.</td> <td>Firing/Launching Un</td> <td>50 Sets</td> </tr> <tr> <td>c.</td> <td>Battery Cooling Unit (BCU)</td> <td>200 Sets</td> </tr> <tr> <td>d.</td> <td>MIT Packing box</td> <td>50 Sets</td> </tr> <tr> <td>e.</td> <td>Optical Aiming Device (OAD)</td> <td>50 Sets</td> </tr> <tr> <td>f.</td> <td>IR Night Sight</td> <td>10 Sets</td> </tr> <tr> <td>g.</td> <td>IFF device (Optional)</td> <td>-</td> </tr> <tr> <td>h.</td> <td>Test Equipment</td> <td></td> </tr> <tr> <td>(1)</td> <td>Comprehensive Test cabin (CTC)</td> <td>01 Set</td> </tr> <tr> <td>(2)</td> <td>Portable Test Equipment</td> <td>03 Sets</td> </tr> <tr> <td>J.</td> <td>Training Equipment</td> <td></td> </tr> <tr> <td>(1)</td> <td>Operation Training Equipment</td> <td>03 Sets</td> </tr> <tr> <td>(2)</td> <td>Digital Aiming Training Equipment</td> <td>03 Sets</td> </tr> <tr> <td>(3)</td> <td>Teaching Training Material</td> <td>05 Sets</td> </tr> </table>	a.	Missile in Tube (MIT)	100 Sets	b.	Firing/Launching Un	50 Sets	c.	Battery Cooling Unit (BCU)	200 Sets	d.	MIT Packing box	50 Sets	e.	Optical Aiming Device (OAD)	50 Sets	f.	IR Night Sight	10 Sets	g.	IFF device (Optional)	-	h.	Test Equipment		(1)	Comprehensive Test cabin (CTC)	01 Set	(2)	Portable Test Equipment	03 Sets	J.	Training Equipment		(1)	Operation Training Equipment	03 Sets	(2)	Digital Aiming Training Equipment	03 Sets	(3)	Teaching Training Material	05 Sets
a.	Missile in Tube (MIT)	100 Sets																																										
b.	Firing/Launching Un	50 Sets																																										
c.	Battery Cooling Unit (BCU)	200 Sets																																										
d.	MIT Packing box	50 Sets																																										
e.	Optical Aiming Device (OAD)	50 Sets																																										
f.	IR Night Sight	10 Sets																																										
g.	IFF device (Optional)	-																																										
h.	Test Equipment																																											
(1)	Comprehensive Test cabin (CTC)	01 Set																																										
(2)	Portable Test Equipment	03 Sets																																										
J.	Training Equipment																																											
(1)	Operation Training Equipment	03 Sets																																										
(2)	Digital Aiming Training Equipment	03 Sets																																										
(3)	Teaching Training Material	05 Sets																																										
7.	Maximum Range	To be mentioned																																										
8.	Minimum Range	To be mentioned																																										
9.	Maximum Attitude/Height	To be mentioned																																										
10.	Minimum Height	To be mentioned																																										
11.	Type of Target	Armed helicopter, jet fighter UAV, cruise missile, etc.																																										
12.	Maximum Target Speed	To be mentioned																																										
13.	Maximum Maneuverable Overload of Target	To be mentioned																																										
14.	<b>Single Shot Kill Probability (SSKP)</b>																																											
	a. Aircraft	To be mentioned																																										
		To be mentioned																																										
	b. Missile	To be mentioned																																										
		To be mentioned																																										
15.	Identification of Friend or FOE (IFF) (Optional): Details such as Model of IFF interrogator, operational mode etc to be mentioned. The IFF must match with the IFF system used by BAF. Detail information on BAF's IFF system will be provided by the users on request.	To be mentioned																																										
16.	Electronic Counter Measure (ECCM) Capability	To be mentioned in details																																										
17.	Number of Crew(s)	To be mentioned																																										



## RESTRICTED

Ser	Fact	Technical Specification
18.	<b>Missile In Tube (MIT)</b>	
	a. Total Length	To be mentioned
	b. Total Weight	To be mentioned
	c. Shelf life of MIT	Minimum 15 years
	<b>d. Missile Unit</b>	
	(1) Length	To be mentioned
	(2) Diameter	To be mentioned
	(3) Weight	To be mentioned
	(4) Guidance System	IR Passive Homing/ Initial guidance + Proportional navigation + terminal stage adaptive correction
	(a) Operational Waveband	To be mentioned
	(b) IR instantaneous FoV	To be mentioned
	(c) IR scanning half FoV	To be mentioned
	(d) IR Searching half FoV	To be mentioned
	(e) IR Tracking half FoV	To be mentioned
	(5) Seeker	Dual spectrum (near infrared and middle infrared)
	<b>(6) Warhead</b>	
	(a) Type	Blast and fragmentation
	(b) Weight/Mass	To be mentioned
	(c) Effective killing Radius	To be mentioned
	<b>(7) Fuze</b>	
	(a) Type of Fuze	Both Impact and proximity
	(b) Fuze Operating Distance	To be mentioned
	(c) Circular Detection Range of Fuze	Maximum detecting range 3m
	(d) Self Destruction Time	To be mentioned
	(8) Propulsion	Solid
	(9) Cruising Velocity	To be mentioned
	(10) Available over Load ('g' Factor)	To be mentioned
19.	<b>Launch Tube</b>	
	a. Total Length	To be mentioned
	b. Weight	To be mentioned
	c. Bore sight Base line	To be mentioned
20.	<b>Launching Unit</b>	
	a. Function	Ground energy activation, gyro run-up, missile working state analysis and indication, missile ignition and launching control, etc.
	b. Control Mode	Trigger has two steps, one step controls uncaging, the other step controls firing.
	c. Weight	To be mentioned
	d. Scale	To be mentioned
21.	<b>Battery Cooling Unit (BCU)</b>	
	a. Weight	To be mentioned
	b. Minimum Operation Time	To be mentioned
	c. Scale	To be mentioned
22.	<b>Optical Aiming Device (OAD)</b>	
	a. Use	Used in daylight
	b. Magnification Ratio	To be mentioned
	c. FoV	To be mentioned
	d. Resolution	To be mentioned
	e. Weight	To be mentioned
	f. Scale	To be mentioned
23.	<b>IR Night Sight</b>	
	a. Use	Used in all weather
	b. FoV	To be mentioned
	c. Detection Range	To be mentioned
	d. Start Time	To be mentioned
	e. Continuous Operation Time	To be mentioned

RESTRICTED

Ser	Fact	Technical Specification
	f. Weight	To be mentioned
	g. Type of Battery	To be mentioned
	h. Scale	To be mentioned
24.	<b>Test Equipment</b>	
	a. Composition	To be mentioned
	b. Configuration	To be mentioned
	c. Scale	To be mentioned
25.	<b>Training Equipment</b>	
	a. Composition	Operation training equipment, simulation aiming training equipment, launching training equipment, teaching training equipment.
	<b>b. Operation Training Device (OTD)</b>	
	(1) Composition	To be mentioned
	(2) Scale	To be mentioned
	<b>c. Aiming Training Device/ Training Simulator</b>	
	(1) Composition	To be mentioned
	(2) Scale	To be mentioned
	<b>d. Launch Training Equipment (LTD)</b>	
	(1) Composition	To be mentioned
	(2) Scale	To be mentioned
	<b>e. Teaching Training Equipment (Cutaway model) (TTE)</b>	
	(1) Composition	To be mentioned
	(2) Scale	To be mentioned
26.	<b>Training Requirement:</b> Technical training includes three parts, i.e. weapon system theory training, weapon system operation training, test system operation and repair training. Weapon system theory training mainly explains the general principle of weapon system. Weapon system operation training makes trainee grasp the skills of weapon system operation and routine maintenance. Test system operation and repair training makes trainee grasp the operation and maintenance method of test system.	To be mentioned in details
27.	Spare Parts	To be mentioned in details
28.	Requirement Of Analyzer, Measuring & Testing/Fault Finding And Diagnostic Set, Special Service Tools (SST), Special Service Materials (SSM) And Publications	To be mentioned in details
29.	Model Validity	Minimum 15 years
30.	Warranty	At least 01 (One) year
31.	<b>Special Service Tools (SST) for:</b> a. Missile in Tube: Set with Qty b. Digital Aiming Training Equipment: Set with Qty c. Operation Training Equipment: Set with Qty d. Teaching Training Equipment: Set with Qty	To be mentioned

RESTRICTED

Ser	Fact	Technical Specification
32.	<b>Fast Moving Spare Parts for:</b> a. Missile in Tube: Set with Qty b. Launching Unit: Set with Qty c. Battery Cooling Unit: Set with Qty	To be mentioned
33.	<b>Slow Moving Spare Parts for:</b> a. Missile in Tube: Set with Qty b. Launching Unit: Set with Qty c. Optical Aiming Device: Set with Qty d. IR Night Sight: Set with Qty e. Digital Aiming Training Equipment: Set with Qty f. Launch Training Equipment: Set with Qty g. Operation Training Equipment: Set with Qty h. Teaching Training Equipment: Set with Qty j. Comprehensive Test Cabin: Set with Qty k. Portable Tester: Set with Qty l. Pyrotechnical Meter: Set with Qty	To be mentioned

