

QRS OF ASSAULT RIFLES 7.62 X 39MM

Sl. No	Parameters	Requirement
1.	Calibre	7.62 mm
2.	Ammunition	7.62 x 39 mm (Compatible with Indian make Ammunition)
3.	Type of Fire	Automatic/Semi automatic
4.	Cyclic rate of Fire	600 Round/minute Minimum)
5.	Overall Length :- Butt retracted / Folded/fixed	Folded/retracted – 750 mm (Maximum) Extended / Fixed – 950 mm (Maximum) including muzzle attachment and excluding Bayonet.
6.	Operation	Gas
7.	Locking	Rotating Bolt
8.	Bayonet	Multi Purpose
9.	Weight of the Rifle with empty magazine (Including muzzle attachment, piccating rail and cleaning rod. Excluding Bayonet & Sight	Maximum 4.0 Kg
10.	Barrel	Chromium Plated
11.	Ejection Pattern	Front angular 15° to 75°
12.	Safety	Mechanical and applied safety (Unobstructed in folded condition).
13.	Rifling	4 Grooves (Minimum)
14.	Life of Barrel	15,000 rds (Minimum)
15.	Ability to Withstand impact	Should be able to withstand an impact of free fall from 6' height on hard surface.
16.	Shine and colour of the furniture / Metal	Black with matte finish without shine
17.	Furniture	a) Butt stock Assembly (i) Fixed - FRP (ii) Folded / retractable – Metallic b) Guard hand Upper (i) Upper-FRP (ii) Lower – FRP c) Pistol grip – FRP d) Magazine-Metallic/FRP (To be specified by the user in the TE)
18.	Capacity of Magazine	30 rds minimum
19.	Effective Range	300 meters minimum
20.	Muzzle Velocity	700 ± 10 m/s with OEM ammunition. Ammunition to be provided by the OEM. 610 ± 10 m/s with OFB, Indian make ammunition. Ammunition will be provided by user.
21.	Flash Eliminator	Essential
22.	Provision for mounting UBGL 40 mm	Weapon should be able to mount UBGL (Type of UBGL to be specified by the user)
23.	Picattiny rail for Reflex and PNV Sight	Optional (To be specified by the user in the TE)
24.	Tritium Sight	Coating on rear and front sight
25.	Tactical light & Laser Designator	Provision for attachment

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26.	Accuracy				
	Range (M)	Sight at A (M)	No of Rounds	Accuracy H x V (mm)	MP1 (mm)
i)	100	200	6 out of 7 (SS)	84 x 84	0 to 125 UP 42 L or R
ii)	200	200	6 out of 7 (SS)	168 x 168	0 to 250 UP 84 L or R
27.	Operating / Storage temperature				
a)	Operating temperature			-40° C to + 50° C	
b)	Storage temperature			-40° C to + 50° C	
c)	Humidity			95% at 25° C	
28.	Engineering Support Package				
	The manufacturer should provide engineering support package including :-				
a)	Technical literature.				
b)	Training manuals, Repair Manuals, User hand books and Preservation instructions to be provided in English.				
c)	Illustrated spare parts list duly priced.				
d)	List of STEs/ SMTs/Test Jigs/Gauges for Base and Field Repairs to be provided.				
e)	Recommended list of spare for ten years to be provided.				
f)	Undertaking for spare back up by the OEM for next 15 years.				

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J N Choudhury

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TRIAL DIRECTIVES FOR ASSAULT RIFLES 7.62 X 39MM

Aim

1. To conduct Sample Evaluation Trials of Assault Rifles.

Technical Specifications/ Qualitative Requirements

2. As per Appendix-"A".

Conduct of Trials

3. The Trials will be conducted by a Board of Officers.

Aspects to be studied

4. The following aspects are to be studied:-
 - a) Ease of handling, carriage and transportation.
 - b) Ease or otherwise of field stripping and assembling.
 - c) Suitability of magazines and its capacity.
 - d) Quality and suitability of Wooden/ Plastic furniture.
 - e) Convenience of cocking the weapon.
 - f) Smooth operation of moving parts.
 - g) Ease of zeroing the weapon.
 - h) Suitability of sighting system.
 - i) Maximum effective range.
 - j) Accuracy of the weapon in single shot and automatic mode from 100 mtrs & 200 mtrs.
 - k) Ease of firing in CQB.
 - l) Robustness.
 - m) Stoppage and remedial actions.
 - n) Reliability as per QRs/ Specifications.
 - o) Ejection pattern of the fired case (15⁰ - 75⁰)
 - p) Bayonet fighting.
 - q) Water immersion Test. (one hour)
 - r) Mud test. (Moving/ recoil parts should not be affected)
 - s) Night firing capability.
 - t) Picketing rail should be available.
 - u) Maintainability in field conditions.
 - v) Drop test (from 6 ft height on both hard and soft surface).
 - w) Suitability and adequacy of accessories, spare parts literature and cleaning material.
 - x) Any other point deemed necessary by the Trial Team.
 - y) Any other aspect which BOO / STEC considers necessary for validation of QRs.

Ammunition

5. Compatible with 7.62 mm x 39 mm Indian Ordnance Factory ammunition.

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- 6. (i) All the weapons along with their tools, gauges and accessories (Appendix-'B') received from the firms will be made available to the team.
- (ii) Quantity 15000 rds will be made available per weapon for trial purpose (Total 15000 for testing weapon life as per QRs).

Trial Methodology

- 7. As per Appendix-'C'.

Security

- 8. Attention of trial team is invited to Indian Official Secrets Act, 1950.

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MINIMUM STANDARD ACCESSORIES TO BE PROVIDED WITH EACH ASSAULT RIFLES 7.62 X 39MM

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|------|--|---|--------------|
| I) | Shoulder Strap/ Sling | - | One per wpn. |
| II) | Bayonet with Scabbard | - | One per wpn. |
| III) | Portable case/ Belt attachment pouches
Which accommodate 4 pcs to 30 round
Magazine. | - | One per wpn. |
| IV) | Blank Cartridge nozzle | - | One per wpn. |
| V) | Piccatiny Rail for night vision Sight. | - | One per wpn. |
| VI) | Equipment for cleaning/ cleaning kit | - | One per wpn. |

The cleaning kit should contain the following articles:

- a) Rod cleaning.
- b) Oil bottle.
- c) Mop brush.
- d) Oil brush.
- e) Scourers.
- f) Drift.
- g) Tools for disassembling and mounting the hammer and trigger mechanism.

Handwritten sketches of cleaning tools:
A series of approximately 15 hand-drawn sketches of various cleaning tools, including brushes, rods, and drifts. The sketches are arranged in two rows. The top row contains 10 items, and the bottom row contains 5 items. Some items are labeled with handwritten text, including "DR" and "*****".

TRIAL METHODOLOGY

1. Procedure for conduct of trials and various tests is given in succeeding paragraphs.
2. **Selection of Firers.** Six firers of varying physique, service group and with good firing records will be selected. (4 firers from CAPF and 2 firers from concerned firms).
3. **Familiarization.** Trial team including firers will carry out familiarization with the weapon for one day prior to commencement of trials. During familiarization period, weapons will be fired by all firers during day and night.
4. **Zeroing.** All weapons will be zeroed from 100m prior to commencement of trials. Difficulties if any, in the method and accuracy of zeroing would be recorded.
5. **Test**
 - a) **Physical Characteristics**
 - i) Check weight of weapon as per QRs, deviation, if any, to be recorded.
 - ii) Visual inspection of the furniture with respect to Para 16 of the QRs. Observation, if any, to be recorded.
 - iii) Record method of carriage with/ without sling, in different carrying positions and note the difficulties.
 - iv) **Muzzle velocity test.** After the completion of Technical evaluation, Muzzle Velocity Test to be carried out with OEM ammunition as well as OFB/Indian make ammunition at CFSL, Chandigarh, MHA, before other tests specified in the QRs/Trial Directives are carried out.
 - b) **Ease of Handling**
 - i) Check the ease of holding, aiming, cocking and firing of the weapon.
 - ii) Check ease of stripping and assembling of the weapon.
 - iii) Dry fire the weapon and check ease of loading and unloading.
 - iv) Simulate stoppages and check ease of removal of stoppages.

A collection of handwritten signatures and initials in black ink, arranged in two rows. The top row contains approximately eight distinct signatures, and the bottom row contains approximately six. The handwriting is cursive and varies in style, likely representing the names of the individuals involved in the trial methodology.

- c) **Accuracy.** Accuracy will be tested as per Para 26 of QRs.
- d) **Night Firing.** Handling and firing of weapons will be carried out during the night to confirm Para- 24 of the QRs.
- e) **Firing Mechanism**
- i) Safety selector switch. Three positions – Safe, Single and Auto.
 - ii) Safety.
 - aa) Inbuilt safety to avoid accidental fire.
 - ab) The change lever should be positively locked to ensure that weapon fires in the desired mode only when the change lever is in its designated position.
- f) **Sustained Firing Test.** The rifles will be tested for sustained fire by firing 30 rounds (one magazine) per minute (a total of 800 rds to be fired in 100 rds serials) in a judicious mix of single shot and automatic mode.

During sustained firing following aspects will also be checked :-

- i) Cook- off
 - ii) Heating effect due to firing and effect on the furniture and other parts of the weapon on heating.
 - iii) Hot accuracy.
 - iv) Any breakage and stoppage during sustained firing.
 - v) The weapon will be stripped after firing & moving parts will be checked.
- g) **Robustness.** The weapon will be put through normal obstacle course and once again subjected to accuracy and consistency tests.
- h) **Penetration Test.** The lethality of its ammunition at maximum effective range will be checked on a 3.5 mm thick mild steel plate of **Brinell Hardness No. (BHN) 117 to 120** to penetrate the Mild Steel Plaque.
- i) **Water Immersion Test.** To check the effect of water on weapons and ammunition. Loaded weapon would be immersed in water for 60 minutes along with loaded magazine, one cartridge in the chamber with safety catch on 'S' and fired and tested without stoppages.

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j) **Bayonet Test.** Bayonet fighting of dummy to test the bayonet. Other facilities, if provided in the bayonet, such as sawing and wire cutting will also be tested.

k) **Ejection Pattern.** Empty cartridges should eject inside the desired arc of 15 to 75 deg from the axis of fire.

6. **Life of Barrel.** Barrel of the sample weapon should be able to fire a total of 15000 rounds inclusive of the following test, as per the QRs :-

- (a) Muzzle Velocity Test.
- (b) Zeroing.
- (c) Accuracy.
- (d) Penetration Test.
- (e) Sustained Firing Test.
- (f) Night Firing Test.
- (g) Other associated Tests.

<p><i>[Signature]</i> Col A Singh CIOA, SSB</p> <hr/> <p><i>[Signature]</i> (JUGRAJ SINGH) ASST DIR (SA) DGOA</p> <hr/> <p><i>[Signature]</i> CAPT SUNIL KUMAR TEAM CDR, 51 SAG, NSG</p>	<p><i>[Signature]</i> Abhiram Kanhaj DC (ord), CRPF</p> <hr/> <p><i>[Signature]</i> DC Shrivastava NSG</p> <hr/> <p><i>[Signature]</i> (R. S. Choudhury) MAS DC (WE)</p>	<p><i>[Signature]</i> (RBP)</p> <hr/> <p><i>[Signature]</i> Capt N. Kanth TC, NSG</p> <hr/> <p><i>[Signature]</i> (R. K. Sharma) AIS (ord), CBSG</p>	<p><i>[Signature]</i> Maj S. Sachdev HQ NSG.</p> <hr/> <p><i>[Signature]</i> S. P. Sharma PSO (SAFE) BPRD</p> <hr/> <p><i>[Signature]</i> Alok Kumar (DIG/Prov) NSG</p>
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