

Defence General Munitions 12.7mm Armour Piercing Incendiary

Invitation to Tender Evaluation (ITT) Technical Criteria Annex

Version 1.0 REDACTED

10th August 2022

CONTENTS

1 INTEROPERABILITY	4
1.1 INTERFACE	4
2 MUZZLE VELOCITY	5
2.1 MUZZLE VELOCITY CONSISTENCY	5
3 CONSISTENCY	6
3.1 ACCURACY CONSISTENCY	6
4 BALLISTIC PERFORMANCE	7
4.1 [Information has been redacted]	7
5 HARD TARGET EFFECT	8
5.1 [Information has been redacted]	8
5.2 [Information has been redacted]	9
5.3 [Information has been redacted]	10
6 TECHNICAL SPECIFICATIONS	11
6.1 BASIC TECHNICAL DATA PACK (TDP)	11
7 SOCIAL VALUE	12
7.1 MAC 2.2 TACKLING SOCIAL INEQUALITY	13
7.2 MAC 4.2 FIGHTING CLIMATE CHANGE	14
7.3 MAC 6.2 EQUAL OPPORTUNITY	15

KEY

Symbol/ Term	Reference
Weapon System A	[Information has been redacted]

References

A	Climatic Categories, ref AOP15/JSP/Def-Stan applicable.
B	AEP-97 Multi-Calibre Manual of Proof and Inspection (M-CMOPI) For NATO Small Arms Ammunition: [Information has been redacted]
C	AEP-97 Multi-Calibre Manual of Proof and Inspection (M-CMOPI) For NATO Small Arms Ammunition: [Information has been redacted]
D	DEFSTAN 00-810 Marking of Ammunition & Associated Packages
E	STANAG 4170 Principles and Methodology for the Qualification of Explosive Materials for Military Use – Edition 2
F	DEFSTAN 13-098 Requirements for the Provision of Munitions Technical Data for the ASTRID Base Inventory System
G	DEF STAN 13-129 Requirements for Explosives Hazard Data Sheets for MOD Use
H	DEF STAN 13-099 Requirements for Defense Munitions Publications

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I	STANAG 4147 Chemical Compatibility of Ammunition Components with Explosives (Non-Nuclear Applications).
J	DEFSTAN 07-085 Design Requirements for Weapons and Associated Systems
K	DEF STAN 05-101 Proof of Ordnance, Munitions, Armour and Explosives – Parts 1-3
L	DEFSTAN 00-035 Test CL29, Shallow Water Immersion

1 INTEROPERABILITY

1.1 INTERFACE

Aim.

To award a contract for the procurement of 12.7mm API nature that is optimised to interface, in terms of safety and performance, with Weapon System A.

Background.

The user requires a 12.7 API ammunition nature that will interface and function reliably through Weapon System A to reduce the procurement and training burden.

References.

N/A

SRD ID	Priority	Subject
[Information has been redacted]	[Information has been redacted]	The ammunition shall interface with and reliably cycle and function through Weapon System A.

Evidence Required.

The Tenderer shall provide test evidence demonstrating that the 12.7mm API ammunition nature functions in Weapon System A by firing 40 rounds fed from the service magazine. No more than 1 stoppage shall occur for the ammunition nature tested, during this demonstration; the stoppage shall be capable of being cleared by the firer and the firer shall be able to continue to fire the Weapon System. The Tenderer shall fire the chosen quantity of rounds in the Weapon System consecutively and without adjusting the Weapon System configuration specified in this test. The only permitted adjustment to the Weapon System configuration during this test shall be the removal and fitting of the magazine and functioning of working parts.

Evidence shall be provided as range test reports, including continuous videos per serial and photographic evidence. The Tenderer shall provide evidence within the test report of the environmental conditions under which these tests were conducted. At minimum, this information shall provide evidence of the atmospheric pressure and temperature at which these tests are undertaken.

The Tender will receive a mark of PASS or FAIL. If a FAIL is received, the Tender will be discounted from the competition and will no longer be evaluated.

Full Evidence	Evidence presents full compliance with technical evaluation criteria for 12.7mm API ammunition and does not present more than 1 stoppage per 40 rounds.
No Evidence and Non-Compliant Evidence	Evidence does not demonstrate full compliance with technical evaluation criteria for 12.7mm API ammunition natures.

SCORING GUIDANCE

1.1 Interface	Scoring Scale
Full Evidence	PASS
No evidence and Non-Compliant Evidence	FAIL

2. MUZZLE VELOCITY

2.1 MUZZLE VELOCITY CONSISTENCY

Aim.

To award a contract for a 12.7mm API nature that's Muzzle Velocity (MV) has Standard Deviation (SD) of no more than [Information has been redacted].

Background.

The user requires a 12.7mm API that has a consistent Muzzle Velocity.

References.

N/A

SRD ID	Priority	Subject
[Information has been redacted]	[Information has been redacted]	The ammunition shall have a muzzle velocity (through a cold barrel) with a SD of no more than [Information has been redacted] Round groups.

Evidence Required.

The Tenderer must fire 3 x 10 round groups from Weapon System A. The tenderer will measure and document the muzzle velocity of each shot fired. The tender will then calculate the Standard Deviation of the 30 MV's recorded.

The Tenderer shall fire the rounds, consecutively and without adjusting the weapon specified. The only permitted adjustment to the weapon during this test shall be the removal and fitting of the magazine and release of working parts.

The Tenderer shall provide evidence including but not limited to the weapon used and test data specifying the muzzle velocity of each shot as well as the SD of the muzzle velocity recorded over the 3 groupings. Evidence that is accurately modelled from data obtained from criteria other than specified will be accepted.

The tender will receive a mark of either 10, 7, 5, 3 or 0.

Excellent	Evidence demonstrates that the 12.7mm API [Information has been redacted] over 3 lots of 10 rounds when fired through weapon configuration A.
Very Good	Evidence demonstrates that the 12.7mm API [Information has been redacted] over 3 lots of 10 rounds when fired through weapon configuration A.
Good	Evidence demonstrates that the 12.7mm API [Information has been redacted] over 3 lots of 10 rounds when fired through weapon configuration A.
Poor	Evidence demonstrates that the 12.7mm API [Information has been redacted] over 3 lots of 10 rounds when fired through weapon configuration A.
No Evidence or Non-Compliant Evidence	Evidence does not demonstrate that the 12.7mm API [Information has been redacted] over 3 lots of 10 rounds when fired through weapon configuration A.

SCORING GUIDANCE

2.1 MUZZLE VELOCITY CONSISTANCY	Scoring Scale
Excellent	10
Very Good	7
Good	5
Poor	3
No Evidence and Non-Compliant Evidence	0

3 CONSISTENCY

3.1 ACCURACY CONSISTENCY

Aim.

To award a contract for the 12.7mm API nature that is consistently accurate. Consistency testing shall be conducted at 100m.

Background.

The user requires 12.7mm API ammunition to be consistent and accurate at long ranges.

References.

N/A

SRD ID	Priority	Subject
[Information has been redacted]	[Information has been redacted]	The ammunition shall be able to consistently hit a [Information has been redacted]. Demonstration testing to be conducted at 100m

Evidence Required.

The Tenderer must fire a minimum quantity of 3 groups of 5 rounds of 12.7mm API rounds at a distance of 100m from the target using Weapon System A. The Tenderer will then measure and document the Minute of angle (MOA) of the fall of shots.

The only permitted adjustment to the Weapon System configuration during this test shall be the removal and fitting of the magazine and release of working parts. The Tenderer shall not make any other system changes or modifications, such as use of suppressors.

The Tenderer shall provide evidence including but not limited to the test data specifying the MOA of the shots as well as a photo of the target after use with a visible ruled scale. Evidence that is accurately modelled from data obtained from criteria other than specified will be accepted.

The tender will receive a mark of either 10, 7, 5, 3 or 0.

Excellent	Evidence demonstrates that 12.7mm API has [Information has been redacted] at 100m using Weapon System A.
Very Good	Evidence demonstrates that 12.7mm API has [Information has been redacted] at 100m using Weapon System A.
Good	Evidence demonstrates that 12.7mm API has [Information has been redacted] at 100m using Weapon System A.
Poor	Evidence demonstrates that 12.7mm API has [Information has been redacted] at 100m using Weapon System A.
No Evidence or Non-Compliant Evidence	Evidence does not demonstrate that 12.7mm API has [Information has been redacted] at 100m using Weapon System A.

SCORING GUIDANCE

3.1 ACCURACY CONSISTENCY	Scoring Scale
Excellent	10
Very Good	7
Good	5
Poor	3
No Evidence and Non-Compliant Evidence	0

4 BALLISTIC PERFORMANCE

4.1 [Information has been redacted]

Aim.

To award a contract for a 12.7mm API nature that shall [Information has been redacted] out to specified ranges.

Background.

The user requires a 12.7mm API nature that remains effective at the maximum possible range by [Information has been redacted]

References.

A. Climatic Categories, ref AOP15/JSP/Def-Stan applicable.

SRD ID	Priority	Subject
[Information has been redacted]	[Information has been redacted]	The ammunition shall [Information has been redacted]

Evidence Required.

The Tenderer shall provide test evidence to demonstrate that the 12.7mm API [Information has been redacted] in the specified operating conditions when fired from Weapon System A.

The Tenderer shall provide a test report that includes [Information has been redacted]. Data should be provided for at least 10 shots. Evidence that is accurately modelled from live firing data obtained at a shorter range and extrapolated will be accepted.

Tender will receive a mark of either 10 or 0.

Full Evidence	Evidence demonstrates 12.7mm API will [Information has been redacted] at a range of greater than 1500m.
No Evidence or Non-Compliant Evidence	Evidence demonstrates 12.7mm API does not [Information has been redacted] at a range of at least 1500m.

SCORING GUIDANCE

4.1 [Information has been redacted]	Scoring Scale
Full Evidence	10
No Evidence and Non-Compliant Evidence	0

5 HARD TARGET EFFECT

5.1 [Information has been redacted]

Aim.

To award a contract for a 12.7mm API nature that can [Information has been redacted].

Background.

The user requires a 12.7mm API nature that can defeat armour.

References.

- B. AEP-97 Multi-Calibre Manual of Proof and Inspection (M-CMOPI) For NATO Small Arms Ammunition:
[Information has been redacted]

SRD ID	Priority	Subject
[Information has been redacted]	[Information has been redacted]	[Information has been redacted]

Evidence Required.

The Tenderer shall provide evidence to demonstrate that the 12.7mm API ammunition completely passes through [Information has been redacted]. The ammunition shall be fired at zero-degree obliquity (normal to the line of fire) through Weapon System A.

The Tenderer shall provide evidence to demonstrate that [Information has been redacted].

The Tenderer shall provide evidence in the format of a test report demonstrating the testing methodology, supported by video and photographic evidence, and the specification (build standard) for the armour plate that was used. Evidence that is accurately modelled from data obtained from criteria other than specified will be accepted.

The Tender will receive a mark of PASS or FAIL. If a FAIL is received, the Tender will be discounted from the competition and will no longer be evaluated.

Full Evidence	Evidence demonstrates that [Information has been redacted]
No Evidence and Non-Compliant Evidence	Evidence does not demonstrate full compliance with the technical evaluation criteria above.

SCORING GUIDANCE

5.1 [Information has been redacted]	Scoring Scale
Full Evidence	PASS
No Evidence and Non-Compliant Evidence	FAIL

5.2 [Information has been redacted]**Aim.**

To award a contract for a 12.7mm API nature that has an [Information has been redacted].

Background.

12.7mm API shall [Information has been redacted]

References.

- C. AEP-97 Multi-Calibre Manual of Proof and Inspection (M-CMOPI) For NATO Small Arms Ammunition:
[Information has been redacted]

SRD ID	Priority	Subject
[Information has been redacted]	[Information has been redacted]	[Information has been redacted]

Evidence Required.

The Tenderer shall provide evidence to demonstrate that ammunition fired from Weapon System A creates [Information has been redacted]

The tenderer shall provide evidence in the format of a test report demonstrating the weapon used, testing methodology, supported by video and photographic evidence, and proof of the specification (build standard) for the aluminium plate.

Tender will receive a mark of PASS or FAIL. If a FAIL is received, the Tender will be discounted from the competition and will no longer be evaluated.

Full Evidence	Evidence demonstrates that the 12.7mm API [Information has been redacted] when fired from Weapon System A.
No Evidence and Non-Compliant Evidence	Evidence does not demonstrate that [Information has been redacted] when fired from Weapon System A.

SCORING GUIDANCE

5.2 [Information has been redacted]	Scoring Scale
Full Evidence	PASS
No Evidence and Non-Compliant Evidence	FAIL

5.3 [Information has been redacted]**Aim.**

To award a contract for a 12.7mm API nature that shall provide a [Information has been redacted].

Background.

The user requires a 12.7mm API ammunition nature that provides [Information has been redacted].

References.

N/A

SRD ID	Priority	Subject
[Information has been redacted]	[Information has been redacted]	The ammunition shall [Information has been redacted]

Evidence Required.

The Tenderer shall provide evidence to demonstrate that the 12.7mm API ammunition [Information has been redacted].

The tenderer shall provide video and photographic evidence, [Information has been redacted] as well as the distance from target that the ammunition was fired.

Tender will receive a mark of PASS or FAIL. If a FAIL is received, the Tender will be discounted from the competition and will no longer be evaluated.

Full Evidence	Evidence demonstrates that the 12.7mm API provides [Information has been redacted] when fired from Weapon System A.
No Evidence and Non-Compliant Evidence	Evidence does not demonstrate that the 12.7mm API provides [Information has been redacted] when fired from Weapon System A.

SCORING GUIDANCE

5.3 [Information has been redacted]	Scoring Scale
Full Evidence	PASS
No Evidence and Non-Compliant Evidence	FAIL

6 TECHNICAL SPECIFICATIONS

6.1 BASIC TECHNICAL DATA PACK (TDP)

Aim.

To obtain basic technical information of the tendered 12.7 API ammunition as part of a full Technical Data Pack (TDP) that is required following any contract award as a result of this tender.

Background.

DGM require full technical specifications of any 12.7 API ammunition that is contracted and supplied as a result of this competitive tender.

References.

- D. DEFSTAN 00-810 Marking of Ammunition & Associated Packages
- E. STANAG 4170 Principles and Methodology for the Qualification of Explosive Materials for Military Use – Edition 2
- F. DEFSTAN 13-098 Requirements for the Provision of Munitions Technical Data for the ASTRID Base Inventory System
- G. DEF STAN 13-129 Requirements for Explosives Hazard Data Sheets for MOD Use
- H. DEF STAN 13-099 Requirements for Defense Munitions Publications
- I. STANAG 4147 Chemical Compatibility of Ammunition Components with Explosives (Non-Nuclear Applications).
- J. DEFSTAN 07-085 Design Requirements for Weapons and Associated Systems
- K. DEF STAN 05-101 Proof of Ordnance, Munitions, Armour and Explosives – Parts 1-3
- L. DEFSTAN 00-035 Test CL29, Shallow Water Immersion
- M.

SRD ID	Priority	Subject
[Information has been redacted]	[Information has been redacted]	Munition Design, Cartridge Markings, Qualification of Compositions, Composition breakdown and Shallow water immersion

Evidence Required.

The basic Technical Data Pack is to include but not be limited to evidence of the following 7 criterion: -

1. All-up round drawing in accordance with Def Stan 13-099
2. Projectile Drawing in accordance with Def Stan 13-099
3. Materials used in accordance with Def Stans 07-085, 13-098 & 13-099
4. Composition Data of Propellant, Primer and Incendiary materials in accordance with Def Stans 07-085, 13-098 & 13-099
5. Qualification Data for example but not limited to NATO, STANAG compliance.
6. Appropriate Safety Data Sheets in accordance with current Health and Safety legislation.
7. Results of proof firings following immersion for 1 hour in 1m of saltwater as per DEF-STAN 00-035 Test CL29.

The tender will receive a mark of either 10, 7, 5, 3 or 0. The mark will be awarded based on the how many of the 7-criterion listed above are evidenced in the Basic TDP.

Excellent	The basic TDP includes evidence of all 7 of the above criteria.
Very Good	The basic TDP includes evidence of 5 or 6 of the above criteria.
Good	The basic TDP includes evidence of 3 or 4 of the above criteria.
Poor	The basic TDP includes evidence of 1 or 2 of the above criteria.
No Evidence or Non-Compliant Evidence	No basic TDP is submitted or the basic TDP does not include evidence of any of the 7 criteria above.

SCORING GUIDANCE

6.1 BASIC TECHNICAL DATA PACK (TDP)	Scoring Scale
Excellent	10
Very Good	7
Good	5
Poor	3
No Evidence and Non-Compliant Evidence	0

7 SOCIAL VALUE

Background

Social Value is the consideration of the social, economic, and environmental impact of projects and programmes for UK public procurement. It has a lasting impact on individuals, communities and the environment, and the Government has significant opportunity and responsibility to maximise Social Value benefits effectively and comprehensively through its commercial activity.

It has been agreed that the three priority Social Value themes that provide a clear focus for Defence and its suppliers in the application and delivery of the Model are:

- a. tackling economic inequality.
- b. fighting climate change; and
- c. equal opportunity.

The three criteria below are intended to give tenderers the opportunity to demonstrate how they plan to best integrate the above three themes into their ways of working and embed the Social Value ethos moving forward.

7.1 MAC 2.2 TACKLING SOCIAL INEQUALITY

Aim.

To create employment and training opportunities particularly for those who face barriers to employment and/or who are located in deprived areas, and for people in industries with known skills shortages or in high growth sectors.

Further Information:

- DEFFORM 47 Annex D – Social Value within the Further Technical Evaluation Criteria and Schedule 13.
 - Paragraph D51 of the DEFFORM 47 Annex D provides examples.

Evidence Required.

Using a maximum of 3000 characters (without spaces included) describe the commitment your organisation will make to ensure that opportunities under the contract deliver the benefits described in the Aim of this criteria. Please include:

- your 'Method Statement', stating how you will achieve this and how your commitment meets the Award Criteria, and
 - a timed project plan and process, including how you will implement your commitment and by when. Also, how you will monitor, measure and report on your commitments/the impact of your proposals.
- You should include but not be limited to:
- timed action plan
 - use of metrics
 - tools/processes used to gather data
 - reporting
 - feedback and improvement
 - transparency
 - how you will influence staff, suppliers, customers and communities through the delivery of the contract to support the Policy Outcome, e.g. engagement, co-design/creation, training and education, partnering/collaborating, volunteering.

The tenderer will receive a mark of 4,3,2,1 or 0. This criterion is worth 5% of the overall marks.

Excellent	The response exceeds what is expected for the criteria. Leaves no doubt as to the capability and commitment to deliver what is required.
Very Good	The response meets the required standard in all material respects. There are no significant areas of concern, although there may be limited minor issues that need further exploration or attention later in the procurement process
Good	The response broadly meets what is expected for the criteria. There are no significant areas of concern, although there may be limited minor issues that need further exploration or attention later in the procurement process
Poor	The response meets elements of the requirement but gives concern in a number of significant areas.
No Evidence or Non-Compliant Evidence	The response does not meet the required standard or does not provide a proposal.

SCORING GUIDANCE

7.1 MAC 2.2 TACKLING SOCIAL INEQUALITY	Scoring Scale
Excellent	4
Very Good	3
Good	2
Poor	1
No Evidence and Non-Compliant Evidence	0

7.2 MAC 4.2 FIGHTING CLIMATE CHANGE

Aim.

To Influence staff, suppliers, customers and communities through the delivery of the contract to support environmental protection and improvement.

Further Information:

- DEFFORM 47 Annex D – Social Value within the Further Technical Evaluation Criteria and Schedule 13.
- Paragraph D54 of the DEFFORM 47 Annex D provides examples.

Evidence Required.

Using a maximum of 3000 characters (without spaces included) describe the commitment your organisation will make to ensure that opportunities under the contract deliver the benefits described in the Aim of this criteria. Please include:

- your 'Method Statement', stating how you will achieve this and how your commitment meets the Award Criteria, and
 - a timed project plan and process, including how you will implement your commitment and by when. Also, how you will monitor, measure and report on your commitments/the impact of your proposals.
- You should include but not be limited to:
- timed action plan
 - use of metrics
 - tools/processes used to gather data
 - reporting
 - feedback and improvement
 - transparency

The tenderer will receive a mark of 4,3,2,1 or 0. This criterion is worth 2.5% of the overall marks

Excellent	The response exceeds what is expected for the criteria. Leaves no doubt as to the capability and commitment to deliver what is required.
Very Good	The response meets the required standard in all material respects. There are no significant areas of concern, although there may be limited minor issues that need further exploration or attention later in the procurement process
Good	The response broadly meets what is expected for the criteria. There are no significant areas of concern, although there may be limited minor issues that need further exploration or attention later in the procurement process
Poor	The response meets elements of the requirement but gives concern in a number of significant areas.
No Evidence or Non-Compliant Evidence	The response does not meet the required standard or does not provide a proposal.

SCORING GUIDANCE

7.2 FIGHTING CLIMATE CHANGE	Scoring Scale
Excellent	4
Very Good	3
Good	2
Poor	1
No Evidence and Non-Compliant Evidence	0

7.3 MAC 6.2 EQUAL OPPORTUNITY

Aim.

To support in-work progression to help people, including those from disadvantaged or minority groups, to move into higher paid work by developing new skills relevant to the contract

Further Information:

- DEFFORM 47 Annex D – Social Value within the Further Technical Evaluation Criteria and Schedule 13.
- Paragraph D57 in the DEFFORM 47 Annex D provides examples.

Evidence Required.

Using a maximum of 3000 characters (without spaces included) describe the commitment your organisation will make to ensure that opportunities under the contract deliver the benefits described in the Aim of this criteria. Please include:

- your 'Method Statement', stating how you will achieve this and how your commitment meets the Award Criteria, and
- a timed project plan and process, including how you will implement your commitment and by when. Also, how you will monitor, measure and report on your commitments/the impact of your proposals. You should include but not be limited to:
 - timed action plan
 - use of metrics
 - tools/processes used to gather data
 - reporting
 - feedback and improvement
 - transparency
- how you will influence staff, suppliers, customers and communities through the delivery of the contract to support the Policy Outcome, e.g., engagement, co-design/creation, training and education, partnering/collaborating, volunteering.

The tenderer will receive a mark of 4,3,2,1 or 0. This criterion is worth 2.5% of the overall marks.

Excellent	The response exceeds what is expected for the criteria. Leaves no doubt as to the capability and commitment to deliver what is required.
Very Good	The response meets the required standard in all material respects. There are no significant areas of concern, although there may be limited minor issues that need further exploration or attention later in the procurement process
Good	The response broadly meets what is expected for the criteria. There are no significant areas of concern, although there may be limited minor issues that need further exploration or attention later in the procurement process
Poor	The response meets elements of the requirement but gives concern in a number of significant areas.
No Evidence or Non-Compliant Evidence	The response doesn't meet the required standard or does not provide a proposal.

SCORING GUIDANCE

MAC 6.2 EQUAL OPPORTUNITY	Scoring Scale
Excellent	4
Very Good	3
Good	2
Poor	1
No Evidence and Non-Compliant Evidence: FAIL	0