



Republic of the Philippines
NATIONAL POLICE COMMISSION
NATIONAL HEADQUARTERS PHILIPPINE NATIONAL POLICE
OFFICE OF THE CHIEF, PNP
Camp Crame, Quezon City

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PNP MEMORANDUM CIRCULAR
Number 2015 084

**PARAMETERS IN THE CONDUCT OF TEST AND EVALUATION FOR
CARTRIDGE, 40MM LOW VELOCITY (LV) AND HIGH VELOCITY (HV)
HIGH EXPLOSIVE DUAL PURPOSE (HEDP) DURING
POST-QUALIFICATION AND ACCEPTANCE**

1. REFERENCE: Republic Act (RA) No. 9184 entitled: "An Act Providing for the Modernization, Standardization and Regulation of the Procurement Activities of the Government and for other Purposes and its Revised Implementing Rules and Regulations (RIRR)."

2. RATIONALE:

- a. To establish test and evaluation procedures for post qualification and acceptance tests for Cartridge, 40mm; and
- b. To ensure compliance with the requirements on Cartridge, 40mm during procurement, evaluation, and/or acceptance by the Philippine National Police (PNP).

3. PURPOSE:

This PNP Memorandum Circular (MC) sets forth the procedures and standards in the conduct of Test and Evaluation of Cartridge, 40mm for Post-Qualification and Acceptance.

4. DEFINITION OF TERMS:

For purposes of this PNPMC, the following terms shall mean:

- a. **Acceptance Test** - A particular test conducted after the Post-Qualification Test on the delivered items to ensure compliance with the Bidding Documents, Supply Contract, the NAPOLCOM Approved Specifications, these test parameters, and other requirements of the PNP.
- b. **Automatic Grenade Launcher (AGL)** - A weapon particularly designed to launch Cartridge, 40mm in quick succession from an ammunition belt or a large-capacity ammunition magazine.

- c. **Ammunition** - One or more loaded cartridges consisting of a primed case, propellant, and projectile(s). Three main types are rimfire, centerfire, and shotshell.
- d. **Arming Distance** - The distance travelled by a projectile from a launching point (muzzle of the grenade launcher) to a certain point at which it is expected to become armed and detonated.
- e. **Cartridge** - A unit of ammunition, made up of a cartridge case, primer, powder, and bullet/projectile. Also called a "round".
- f. **Cartridge Case** - The container for all the other components that comprise a cartridge.
- g. **Critical Defect** - a defect that from judgment and experience by the Committee/TWG would result in hazardous or unsafe conditions for the individual using or maintaining the ammunition, or a defect that indicates likely to prevent performance of the tactical function of the ammunition.
- h. **Defect** - Any nonconformity of the unit product to the NAPOLCOM Approved Specifications, these test parameters, and other requirements of the PNP.
- i. **Dent** - a slight depression on any part of the Cartridge made by a blow or by the exertion of pressure.
- j. **Failed** - The submitted samples shall have failed the tests when it incurred three minor defects/two major defects/one critical defect or when the said samples are inconsistent with the NAPOLCOM approved specifications, these test parameters and other relevant requirements of the PNP.
- k. **Grenade Launcher** - is a weapon which launches a specially designed grenade (Cartridge, 40mm) with more accuracy, higher velocity, and with greater distances than an ordinary infantry man can throw it. They are either in the form of standalone weapons or attachments to rifles.
- l. **Major Defect** - a defect, other than critical, that is likely to result in failure, or in reducing materially the use of the ammunition for its intended purpose.
- m. **Military Standard 105-E** - A United States Defense Standard that provided procedures and tables for sampling by attributes based on Walter A. Shewhart, Harry Romig, and Harold Dodge sampling inspection theories and mathematical formulas. It is widely adopted outside of military procurement applications.
- n. **Minor Defect** - a defect that is not likely to reduce materially the use of the ammunition for its intended purpose or its established standards having little bearing of the effective use or operation of the ammunition.

- o. **NAPOLCOM Approved Specifications** - A NAPOLCOM approved resolution defining the minimum standard specifications for Grenade Launcher Cartridge, 40mm, High Explosive Dual Purpose (HEDP), Low Velocity (LV).
- p. **Post-Qualification Test** - Test conducted to the submitted samples to check its compliance with the NAPOLCOM approved specifications, these test parameters, and other requirements of the PNP prior to the Acceptance Test.
- q. **Primer** - A component of a cartridge made up of an impact sensitive chemical mixture which ignites the powder charge to propel the projectile in a cartridge.
- r. **Projectile** - A component of a cartridge propelled by the force of gases produced by the rapid burning of the powder charge.
- s. **Sample/s** - Consists of one or more units of product drawn from a lot or batch, the units of the sample being selected at random is without regard to their quality.
- t. **TWG (Technical Working Group)** - a group of people composed of Uniformed and Non-uniformed Personnel of the PNP tasked to conduct test and evaluation of Cartridge, 40mm during post-qualification and acceptance.

5. GUIDELINES:

- a. Manufacturer/Dealer should certify in formal writing as follows:
 - 1) The ammunition submitted/delivered are Low Velocity or High Velocity (HEDP);
 - 2) For the delivered item, the products are brand new and guaranteed for a minimum of at least one year when stored in the prescribed storage; and
 - 3) The product is delivered not more than one year after the date of manufacture and must be taken from one (1) Lot only.
- b. Samples shall be submitted by the proponent based on Sample Size Code Letter "F" for Mil-Std 105E (Table II-A-Single Sampling Plan for Normal Inspection (Master Table) for post qualification test;
- c. Cartridges shall be selected at random from the delivered samples for Functional Test Prior to Acceptance based on MIL-STD 105E;
- d. Firers/shooters during the tests shall be designated by the TWG/DRD;

- e. During malfunctions/stoppages, counter-checking of the weapon/s and ammunition shall be performed by the TWG/DRD. The result of the check, whether it is attributed to the weapon/s or the ammunition, shooter or other factors, shall be recorded;
- f. All recorded malfunctions shall be classified as minor, major or critical;
- g. A total of three minor defects is considered as failed which means outright disqualification;
- h. A total of two major defects is considered as failed which means outright disqualification;
- i. One critical defect means outright disqualification; and
- j. Problems encountered during the testing not mentioned in the test parameter shall be decided/deliberated by the TWG/DRD.

6. PROCEDURES:

a. POST-QUALIFICATION TEST: (20 rounds sample Cartridge 40mm).

- 1. The submitted samples to be used in the conduct of Functional and Evaluation Test.
- 2. Procedure: The samples shall be submitted for Functional and Evaluation Test.
- 3. Standard: The selection of samples shall be in accordance with Military Standard 105-E shown below:

Military Standard 105-E (Table II-A-Single Sampling Plan for Normal Inspection (Master Table)	
Sample Size Code Letter "F"	MIL-STD 105E; Accept and Reject (Minor=6.5% AQL, Major=4.0% AQL & Critical=0%)

a) VISUAL AND DIMENSIONAL TEST: 100%

- a.1) Purpose: To determine if the ammunition conform to NAPOLCOM Approved Specifications.
- a.2) Procedure: Conduct visual inspection and to determine the actual ammunition dimension, weight, and other characteristics in relation to NAPOLCOM approved specifications.
- a.3) Standards:
 - a.3.1) There must be no evidence of damage in any part of the ammunition;
 - a.3.2) Replacement of ammunition is not allowed; and

a.3.3) The classification of defects are as follows:

Defects	Result		
	Minor	Major	Critical
➤ Does not conform to NAPOLCOM Approved Specifications			X
➤ Dent on any part of the Cartridge	X		
➤ Inverted primer			X
➤ Without primer			X
➤ No marking/label on the Cartridge Case (Manufacturer Standard)		X	
➤ Dirty and oily	X		
➤ Corrosion or evidence of corrosion on any part of the cartridge		X	

b) FUNCTIONAL TEST:

b.1) Purpose: To ensure that the sample ammunition conform to PNP Standards.

b.2) Procedure: Sample ammunition shall be fired and defects/malfunctions will be recorded (See table below):

Ammunition Requirement:

Test Para	Number of Ammunition	Standard
1. Arming Distance	2	Based on the NAPOLCOM Approved Specifications.
2. Functional Test	18	Must fire all rounds

b.3) Standards:

b.3.1) Projectiles must detonate, cartridge case should be easily ejected from the launcher after a round is fired, and the ammunition must be easily fed into the launcher;

b.3.2) Projectile must detonate at a required arming distance as specified in the NAPOLCOM Approved Specifications;

b.3.3) At least Three Grenade Launchers (GL) shall be used for the Low-Velocity 40mm ammunition;

b.3.4) An Automatic Grenade Launcher (AGL) shall be used for the High-Velocity 40mm ammunition;

b.3.5) Replacement of ammunition is not allowed; and

b.3.6) The classifications of defects are as follows:

Defects/Malfunctions	Result		
	Minor	Major	Critical
➤ Fails to fire attributable to the ammunition			X

➤ Fails to detonate at a required arming distance			X
➤ Difficulty in ejecting the cartridge case after firing			X
➤ Ammunition does not fit or difficulty in inserting the round into the Launcher			X
➤ Projectile fails to detonate			X

3. ACCEPTANCE TEST:

a) VISUAL INSPECTION: (100%)

a.1) Purpose: To determine the completeness (quantity) of the delivered items based on the Bid Documents, Supply Contract and its compliance with NAPOLCOM Approved Specifications.

a.2) Procedure: Conduct 100% Visual Inspection on the delivered items.

a.3) Standards:

a.3.1) There must be no evidence of defect on any part of the ammunition; and

a.3.2) The classification of defects are as follows:

Defects	Result		
	Minor	Major	Critical
➤ Does not conform to NAPOLCOM Approved Specifications			X
➤ Dent on any part of the Cartridge			X
➤ Inverted Primer			X
➤ Without Primer		X	
➤ No marking/label on the Cartridge Case		X	
➤ Dirty and Oily	X		
➤ Corrosion or evidence of corrosion on any part		X	

b) SAMPLE SIZE

b.1) Purpose: To select samples to be used in the Conduct of Functional and Evaluation Test.

b.2) Procedure: Pick the desired number of samples at random from the delivered ammunition.

Extract of Military Standard 105-E (Table II-A-Single Sampling Plan for Normal Inspection (Master Table))		
Lot or Batch Size of the Delivered Items/Equipment	MIL-STD105E; Accept and Reject (Minor=4.0% AQL, Major=2.5% AQL & Critical=0%) Single Sampling Plan for Normal Inspection	
	General Inspection Levels II	Sample Size
2 to 8	A	2
9 to 15	B	3
16 to 25	C	5

26 to 50	D	8
51 to 90	E	13
91 to 150	F	20
151 to 280	G	32
281 to 500	H	50
501 to 1200	J	80
1201 to 3200	K	125
3201 to 10000	L	200
10001 to 35000	M	315
35001 to 150000	N	500
150001 to 500000	P	800
500001 and over	Q	1,250

b.3) Standard: Quantity of samples selected shall be in accordance with Military Standard 105E.

c) **DIMENSIONAL TEST:**

c.1) Purpose: To determine if the ammunition conform to NAPOLCOM Approved Specifications.

c.2) Procedure: Determine the actual ammunition dimension and other characteristics; and

c.3) Standards:

c.3.1) There must be no evidence of defect on any part of the ammunition; and

c.3.2) The classification of defect are as follows:

Defects	Result		
	Minor	Major	Critical
➤ Does not conform to NAPOLCOM Approved Specifications			X
➤ Dent on any part of the Cartridge			X
➤ Inverted Primer			X
➤ Without Primer		X	
➤ No marking/label on the Cartridge Case		X	
➤ Dirty and Oily	X		
➤ Corrosion or evidence of corrosion on any part		X	

d) **FUNCTIONAL TEST:**

d.1) Purpose: To ensure that the sample ammunition conform to PNP Standards.

d.2) Procedure: Sample ammunition shall be fired and defects/malfunctions will be recorded (See table below):

Ammunition Requirement:

Test Para	Number of Ammunition	Standard
1. Arming Distance	2	Based on the NAPOLCOM Approved Specifications.
2. Functional Test	Based on the Mil-Std 105E	Must fire all rounds

d.3) Standards:

d.3.1) Projectiles must detonate, Cartridge Case should be easily ejected from the Launcher after a round is fired, and the ammunition must be easily fed into the Launcher;

d.3.2) Projectile must detonate at a required arming distance as specified in the NAPOLCOM Approved Specifications;

d.3.3) At least Three Grenade Launchers (GL) shall be used for the Low-Velocity 40mm ammunition;

d.3.4) An Automatic Grenade Launcher (AGL) shall be used for the High-Velocity 40mm ammunition; and

d.3.5) The classifications of defects are as follows:

Defects/Malfunctions	Result		
	Minor	Major	Critical
➤ Fails to fire attributable to the ammunition			X
➤ Fails to detonate at a required arming distance			X
➤ Difficulty in ejecting the cartridge case after firing			X
➤ Ammunition does not fit or difficulty in inserting the round into the Launcher			X
➤ Projectile fails to detonate			X

7. RESCISSION:

All other Test Procedures, Guidelines or SOPs contrary to or inconsistent with the provisions of this Memorandum Circular are hereby rescinded, modified or amended accordingly.

8. EFFECTIVITY:

This MC shall take effect 15 days after filing a copy thereof at the UP Law Center in consonance with Section 3, Chapter 2, Book VII of Executive Order 292 otherwise known as the "Revised Administrative Code of 1987," as amended.




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 Chief, PNP

CPNP Ltrs '15 S063190



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Annex:

- 1 - Waiver Form
- 2 - Mil-Std 105E, Acceptance Quality Level (AQL)

Distribution:

- D-Staff
- P-Staff
- Dirs, NSUs
- AIG, IAS
- RDs, PROs
- DDs, NCRPO

Copy furnished:

- TDCA
- TDCO
- TCDS