

HEADQUARTERS  
PHILIPPINE ARMY  
OFFICE OF THE ARMY CHIEF QUARTERMASTER  
Fort Andres Bonifacio, Metro Manila

**TEST AND EVALUATION PROCEDURE**  
TIRE, 9.00 - 20 with QM SPEC NR OE-23T920 dated 30 May 2017

**A. POST QUALIFICATION INSPECTION**

**SECTION 1A – GENERAL**

1.1. **AUTHORITY:** The Test and Evaluation (T&E) is being conducted in line with the provisions of the RA 9184.

1.2. **OBJECTIVES:** The objective of this T&E is to determine the responsiveness of the Bidder with the Single/Lowest Calculated Bid (LCB / SCB) to the technical specification as endorsed by the Bids and Awards Committee (BAC).

1.3. **SCOPE:** This T&E Procedure will be conducted on the samples of TIRE, 9.00 - 20, test reports, certification and brochures submitted by the Bidder with the SCB/LCB as part of the post qualification procedure by the BAC.

1.4. **METHODOLOGY:** The tests include physical, dimensional, strength test and evaluation of documents that will support the compliance of the TIRE, 9.00 - 20 to the specification. Records check will also be conducted as appropriate including third party publications.

1.5. **REFERENCES:**

1.5.1. Philippine National Standard for Pneumatic Tires, PNS25: 1994

1.5.2. ISO 4209-1:2001 International Standard (minimum) – Truck and Bus Tires and Rims (Metric Series)

1.6. **POST QUALIFICATION CRITERIA:** Post Qualification evaluation shall be based on a Pass (P) or Fail (F) criteria. Any major defect found shall be evaluated as “Failed” and two (2) or more minor defects found shall be evaluated as “Failed”.

**SECTION 2A – PROCEDURES**

**1. Allocation Of Samples**

One (1) sample shall be submitted to undergo physical, dimensional and tire strength. Previous test results on visual, dimensional and plunger test that is within the period of three (3) years and evaluated as passed can be used in lieu of submission of required samples.

**2. Physical Inspection**

2.1 **Purpose:** To determine the conformance of the physical characteristics, external workmanship of the Tires to the minimum requirements of the specifications.

2.2 Procedure:

2.2.1 Visually inspect the completeness, overall appearance and presence of the required symbols or markings on the tire sample/s.

2.2.2 Standard:

- 2.2.2.1 With the Tire's required appropriate size of flap and tubes.
- 2.2.2.2 With the required Traction Design (Lug/Directional)
- 2.2.2.3 With PS or ICC Quality Mark or Certificate of Exemption from DTI in case the product offered are beyond the minimum standard of DTI.
- 2.2.2.4 With Brand Name or Trade Name.
- 2.2.2.5 Tire Designation Markings: Manufacturer's Standard for Tire, 9.00 - 20. (Tire Size and Ply Rating, Load Index/Rating).
- 2.2.2.6 With Maximum Air Pressure Markings.
- 2.2.2.7 With identifiable markings for country of origin if imported
- 2.2.2.8 With Manufacturing Date Code (within 1 year prior to delivery date)
- 2.2.2.9 With Maximum Load Capacity marking
- 2.2.2.10 No evident damage on tread, sidewall, ply, cord, inner liner and including damage on flap or tube/tube valve. No bead separation, chunking, broken cords, cracking or open splices.

3. Dimensional Test

3.1 Purpose: To determine the actual dimensions of the tire sample/s.

3.2. Procedure:

3.2.1. The tire set sample/s shall be mounted on its corresponding rim (178 mm width) and inflated to the indicated maximum permissible inflation pressure at maximum load as labeled on the tire sidewall. The tire shall be allowed to stand for a minimum of 24 hours at room temperature. The pressure thereafter should be measured and adjusted to within 10kPa of the pressure specified for the tire type, being the ideal condition for measurement of the tire. Measure the Overall Diameter, Overall Width and Size Factor by hanging the tire to avoid any obstruction from any external factor which may affect the dimensional test.

3.2.2. Overall Diameter shall be determined to the nearest millimeter by measuring the outside circumference by a tape and then divide the value by constant 3.1416 ( $\pi$ ). or by means of a measuring device calibrated to show directly the diameter of the tire.

3.2.3. Overall Tire Width is the average of maximum widths including the sidewalls, side ribs, bars decorations, letters or numerals. The width shall be measured by nearest millimeters at four different points equally distributed around the tire and the result averaged.

3.2.4. Size Factor shall be the sum of overall diameter and overall width.

3.2.5. Standard:

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Parameters	Directional Traction Design	Lug Traction Design
Size Factor (mm)	1,260 (minimum)	1,260 (minimum)
Overall Tire Width (mm)	275 (maximum)	275 (maximum)
Overall Diameter (mm)	1,069 (maximum)	1,089 (maximum)

#### 4. Tire Strength Test

4.1. Purpose: To determine the strength of the tire

4.2. Procedure:

4.2.1. To be conducted by Philippine Geo Analytics Inc (PGAI) if done in-Country or equivalent government recognized testing center at the country of origin.

4.2.2. Force a required size cylindrical steel plunger rod with a hemispherical end at 5 equally distributed points perpendicularly into the tread rib as near to the centerline as possible, avoiding penetration into the groove, at the rate of 50 mm/min±10 mm/min.

4.2.3. The plunger is stopped before reaching the rim or the standard required tire strength value is reached without the tire breaking.

4.2.4. Standard: Tire Strength requirement based on PNS 25:1994 standards if done in-Country or its equivalent standard used at the country of origin if conducted thereat.

### B. PRE-DELIVERY INSPECTION

#### SECTION 1B – GENERAL

1.1. AUTHORITY: The Test and Evaluation (T&E) is being conducted in line with the provisions of the RA 9184.

1.2. OBJECTIVES: The objective of this T&E is to determine the compliances to the technical specification of the samples selected at random during Pre-delivery Inspection (PDI).

1.3. SCOPE: This T&E Procedure will be conducted on the samples of TIRE, 9.00 - 20 taken at random by the PDI Team.

1.4. METHODOLOGY: The tests include physical inspection, dimensional, strength test and evaluation of documents that will support the compliance of the TIRE, 9.00 - 20 to the specification. Records check will also be conducted as appropriate including third party publications.

#### SECTION 2B – PROCEDURES

2.1. The Pre-Delivery Inspection (PDI) Team or its representatives shall ensure that the complete quantity stated in the contract is packed/palletized prior to inspection.

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2.2. The PDI team shall conduct random sampling from the lot or lots. The samples shall be properly segregated, packed, marked and secured by the members/representatives of the committee.

2.3. Technical inspection and test shall be conducted on the representative samples of the lot by visual, dimensional and strength test to determine the over-all workmanship, markings, size and appropriate packaging of the items.

2.4. Functional Test will be done to determine the functional performance of the tire.

2.5. Results obtained shall be recorded and evaluated to determine the compliance of the items to Technical Specifications and as basis for acceptance or rejection of the lot or lots.

### SECTION 3B - TEST PARAMETERS

#### 1. Allocation Of Samples

Two (2) samples shall be picked at random from the delivery to undergo tire strength. If one (1) tire fails on the strength test, the other one may be substituted to the failed tire. Number of samples to be selected for Visual Inspection shall be based on Mil Std 105E dated 10 May 1989.

#### 2. Physical Inspection

2.1 Purpose: To determine the conformance of the physical characteristics, external workmanship of the Tires to the minimum requirements of the specifications.

2.2 Procedure:

2.2.1 Visually inspect the completeness, overall appearance and presence of the required symbols or markings on the tire sample/s.

2.2.2 Standard:

- 2.2.2.1 With the Tire's required appropriate size of flap and tubes.
- 2.2.2.2 With the required Traction Design (Lug/Directional)
- 2.2.2.3 With Brand Name or Trade Name.
- 2.2.2.4 Tire Designation Markings: Manufacturer's Standard for Tire, 9.00 - 20. (Tire Size and Ply Rating, Load Index/Rating).
- 2.2.2.5 With Maximum Air Pressure Markings.
- 2.2.2.6 With identifiable markings for country of origin if imported
- 2.2.2.7 With Manufacturing Date Code (within 1 year prior to delivery date)
- 2.2.2.8 With Maximum Load Capacity marking
- 2.2.2.9 No evident damage on tread, sidewall, ply, cord, inner liner and including damage on flap or tube/tube valve. No bead separation, chunking, broken cords, cracking or open splices.

#### 3. Dimensional Test

3.1. Purpose: To determine the actual dimensions of the tire sample/s.

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3.2. Procedure:

3.2.1. The tire set sample/s shall be mounted on its corresponding rim (178 mm width) and inflated to the indicated maximum permissible inflation pressure at maximum load as labeled on the tire sidewall. The tire shall be allowed to stand for a minimum of 24 hours at room temperature. The pressure thereafter should be measured and adjusted to within 10kPa of the pressure specified for the tire type, being the ideal condition for measurement of the tire. Measure the Overall Diameter, Overall Width and Size Factor by hanging the tire to avoid any obstruction from any external factor which may affect the dimensional test.

3.2.2. Overall Diameter shall be determined to the nearest millimeter by measuring the outside circumference by a tape and then divide the value by constant 3.1416 ( $\pi$ ). or by means of a measuring device calibrated to show directly the diameter of the tire.

3.2.3. Overall Tire Width is the average of maximum widths including the sidewalls, side ribs, bars decorations, letters or numerals. The width shall be measured by nearest millimeters at four different points equally distributed around the tire and the result averaged.

3.2.4. Size Factor shall be the sum of overall diameter and overall width.

3.2.5. Standard:

Parameters	Directional Traction Design	Lug Traction Design
Size Factor (mm)	1,260 (minimum)	1,260 (minimum)
Overall Tire Width (mm)	275 (maximum)	275 (maximum)
Overall Diameter (mm)	1,069 (maximum)	1,089 (maximum)

4. Tire Strength Test

4.1. Purpose: To determine the strength of the tire

4.2. Procedure:

4.2.1. To be conducted by Philippine Geo Analytics Inc (PGAI) if done in-Country or equivalent government recognized testing center at the country of origin.

4.2.2. Force a required size cylindrical steel plunger rod with a hemispherical end at 5 equally distributed points perpendicularly into the tread rib as near to the centerline as possible, avoiding penetration into the groove, at the rate of 50 mm/min $\pm$ 10 mm/min.

4.2.3. The plunger is stopped before reaching the rim or the standard required tire strength value without the tire breaking.

4.2.4. Standard: Tire Strength requirement based on PNS 25:1994 standards if done in-Country or its equivalent standard used at the country of origin if conducted thereat.

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**C. FINAL INSPECTION**

**SECTION 1C - GENERAL**

- 1.1. **AUTHORITY:** The Test and Evaluation (T&E) is being conducted in line with the provisions of the RA 9184.
- 1.2. **OBJECTIVES:** The objective of this procedure is to ensure the completeness of the delivery site and that the items delivered are the one and the same from those that were inspected during the Pre-delivery inspection.
- 1.3. **SCOPE:** This procedure will be conducted on the delivered TIRES, 9.00 - 20 which were previously inspected during the Pre-delivery inspection.
- 1.4. **METHODOLOGY:** The procedure will involve visual inspection and accounting of the completeness of the item delivered.
- 1.5. **Samples:** 100% of items delivered
- 1.6. The result of the test based on the above criteria shall be the basis for evaluation of the Acceptance Committee in the acceptance/rejection of the above item for use of the PA.

**SECTION 2C – PROCEDURES**

**1. Physical Count**

To determine the completeness of the items delivered, its consistency of the items inspected during Pre-Delivery Inspection vis-à-vis the actual tires delivered, and physical state of the delivered items.

**2. Procedure:**

- 2.1. Account for the completeness (quantity) of the tires delivered including its required size of flaps and tubes.
- 2.2. Visually inspect the physical state of the delivered items.
- 2.3. With PS or ICC Quality Mark or Certificate of Exemption from DTI in case the product offered are beyond the minimum standard of DTI

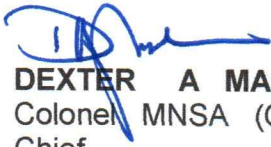
**3. Standard**

- 3.1. The total tires delivered shall be complete in quantity based on the contract.
- 3.2. There shall be no damaged that could affect the functionality and appearance of the delivered items.

Prepared by:

Approved by:

  
**GENERAL C. CONTILLO**  
Major (QMS) PA  
Plans & Research Branch

  
**DEXTER A. MACASAET**  
Colonel MNSA (QMS) PA  
Chief



Army Vision: By 2028, a world-class Army that is a source of national pride.

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Fort Andres Bonifacio, Metro Manila

PA SPECIFICATION


QM SPEC NR OE-23T920


MAY 30 2017  
(Interim)  
Supersede  
SPEC NR MT02-12  
dated 07 September 2012

TIRE, 9.00-20

Application: Intended for use in Truck, Medium Cargo/Troop Carrier, 2 ½ Ton M35 Series and KM250		
Technical Data	Directional Traction Design	Lug Traction Design
<b>Visual</b>		
1. Traction Design	Directional/Rib Type	Lug
2. Type/Construction	Tube type/Bias	Tube type/Bias
3. Brand name or trade name	Identifiable	Identifiable
4. Nominal size including ply rating /load range	Identifiable	Identifiable
Tire size	9.00-20	9.00-20
Ply Rating/Load Range	14PR/G (minimum)	14PR/G (minimum)
5. Maximum air pressure markings	Identifiable	Identifiable
6. The words "Made in the Philippines" or country of origin if imported.	Identifiable	Identifiable
7. Manufacturing date markings	Identifiable	Identifiable
8. Maximum load capacity	Identifiable	Identifiable
	Single(kgs)	At least 2,570 @760 kPa
	Double (kgs)	At least 2,250 @690 kPa
<b>Dimensional</b>		
9. Size Factor (mm)	1,260 (minimum)	1,260 (minimum)
10. Overall Tire Width (mm)	275 (maximum)	275 (maximum)
11. Overall Diameter (mm)	1,069 (maximum)	1,089 (maximum)
<b>Tire Strength</b>	Must pass the plunger rod test	Must pass the plunger rod test

Note: The measuring rim width to be used during testing is 178mm (7").

  
AURELIO T BADAJOS  
Colonel, QMS (GSC) PA  
Chief

NOTED  
  
CO, PA  
MAY 30 2017  
DATE

Army Core Purpose: Serving the people. Securing the land.




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TABLE OF CLASSIFICATION OF DEFECTS

TIRE, 9.00 - 20

DEFECTS	CLASSIFICATION OF DEFECTS	
	Major	Minor
<b>Visual</b>		
1. Without the Tire's required appropriate size Flap and Tube	x	
2. Not the required Traction Design (Directional/Rib or Lug Type as appropriate)	x	
3. With PS or ICC Quality Mark or Certificate of Exemption from DTI in case the product offered are beyond the minimum standard of DTI.	x	
4. Without Brand Name or Trade Name markings	x	
5. Without Manufacturer's Tire Designation Markings for <b>9.00-20, 14PR</b>	x	
6. Not within the Minimum Load Range and/or Ply Rating and Type/Construction requirements	x	
7. Without Maximum Air Pressure Markings	x	
8. Without the words "Made in the Philippines" or country of origin if imported.	x	
9. Without Manufacturing Date Markings/Symbol	x	
10. Not within the Manufacturing Period requirement	x	
11. Without Maximum Load Capacity Markings	x	
12. Not within the Maximum Load Capacity Requirement	x	
13. Evident damage on Tread or Sidewall or Ply or Cord or Inner liner	x	
14. Evident damage on Flap or Tube/Tube valve	x	
15. Bead Separation	x	
16. Chunking, Broken Cords, Cracking or Open Splices on tire surface	x	
<b>Dimensional Test</b>		
17. Dimensions (Diameter or Width or Tread Depth) is not within the standard requirement		x
18. Size Factor is not within the standard requirement	x	
<b>Workmanship</b>		
19. Does not affect appearance		x
20. Affect appearance	x	
<b>Tire Strength</b>		
21. Did not meet the required tire strength	x	
<b>Total test point</b>	<b>19</b>	<b>2</b>

  
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