

NOTICE: When Government drawings, specifications, or other data are used for any purpose other than in connection with a definitely related Government procurement operation, the United States Government thereby incurs no responsibility, nor any obligation whatsoever, and the fact that the Government may have furnished or may be supplying the said drawings, specifications, or other data is not to be regarded by implication or otherwise as in any manner licensing the holder or any other person or corporation in conveying any rights in permission to reproduce, use, or sell any patented invention that may in any way be related thereto.

This document has been approved by the Navy's Systems Command, Department of the Navy, and is mandatory for use by that activity. All other military activities are required to employ this standard where suitable.

The Tire Shall Be In Accordance With The Applicable Requirements of Specification MIL-T-5041 Except As Specified Herein											FFD SUP CLASS 2620	
Size	Ply Rating	Static Load Rating Lbs.	Vert. Load Rating Lbs.	Infl. Press. PSI Rated	Burst Press. PSI Min.	Bead Width Inch Max.	Weight Pounds Max.	Static Unbal OZ-IN Max.	Tread	Mold Skid Depth Min.	Deflection +3% -4%	
22X6.6-10	20TL 1/	12,000	60,000	270	1080 2/	2.0	27.5	15	Rib 3/	0.22	32%	
<p>1/ TL - Tubeless Tire</p> <p>2/ New Tire</p> <p>3/ The tire shall have no fewer than four and not more than seven grooves. The tread grooves shall be shaped, insofar as practicable, such that foreign objects will not become trapped between the ribs.</p>												
TIRE DATA												
Inflated Diameter Min.	Outside Width (Inch) Max.	Inflated Width Min.	Section Width (Inch) Max.	Inflated Shoulder Diameter (Inch) Max.	Inflated Shoulder Width (Inch) Max.							
21.60	22.20	6.40	6.80	20.00	5.00							
RIM DATA												
Width Between Flanges (Inch)	Flange Width (Inch)	Ledge Diameter (Inch)	Ledge Width (Inch)	Flange Height (Inch)	Beel Radius (Inch)	Flange Radius (Inch)	Flange Edge Radius (Inch)					
5.50	.875	10.00	2.05	1.00	.250	.625	.1275					
The tire covered by this drawing shall be suitable for use and provide reasonable service life during all normal operations at takeoff and landing speeds indicated herein on all types of runways and on aircraft carriers.												
TEST INFLATION PRESSURE - The test inflation pressure for dynamic tests "A" through "G" shall be adjusted to ensure tire deflection within design limits.												
Test Tire, Number 1, shall withstand 45 cycles of Test A, 32 cycles of Test B, 2 cycles of Test C, one cycle of Test D, 24 cycles of Test E, 24 cycles of Test F, and 4 cycles of Test G, without failure or visible deterioration other than normal expected tread wear. The tire shall then be used for Test J. The minimum burst pressure shall be 1080 psi.												
Test Tire, Number 2, shall withstand 20 cycles of Test B, withstand Test I, and then 25 cycles of Test A without failure. The tire shall then be used for Test J.												
Test A - <u>Taxi - Takeoff</u> - The tire shall be taxied on the flywheel at 30 mph for 10,000 feet with 5,500 pounds load. Immediately following the taxi roll, the flywheel shall be accelerated at an average rate of 7.87 ft/sec/sec from 0 mph to a speed of 145 mph. The tire shall be unlanded after a takeoff roll distance of 2,920 feet has been covered in approximately 27 to 28 seconds. The initial takeoff load of 4,160 pounds shall be decreased linearly with time to 3,000 lbs. at 26 seconds after the start of the takeoff roll and decreased to zero pounds at the time the tire is unlanded.												
Test B - <u>Landing - Taxi</u> - The tire shall be landed against a flywheel rotating at a peripheral speed of 156 mph. The flywheel speed shall then be decreased until a roll distance of approximately 4030 feet has been covered. The average deceleration rate shall be 3.52 feet/sec/sec between 156 and 132 mph, and 9.68 feet/sec/sec between 132 and 0 mph. The tire load shall be increased linearly with time to 3,000 pounds in 1.5 seconds after landing, increased linearly with time to 3,600 pounds in 8.5 seconds, increased linearly to 5,900 pounds in 3.5 seconds, and maintained at 5,900 pounds until the tire is unlanded after a total time of approximately 30 seconds. Immediately following the landing cycle, taxi the tire on the flywheel for 10,000 feet under 5,500 pounds load at 30 mph.												
Test C - <u>High Speed Landing - Taxi</u> - The tire shall be landed against a flywheel rotating at a peripheral speed of 218 mph. The flywheel speed shall then be decreased until a roll distance of approximately 7,995 feet has been covered. The average deceleration rate shall be 3.26 ft/sec/sec between 218 and 198 mph and 8.0 ft/sec/sec between 198 and 0 mph. The tire load shall be increased linearly with time to 2000 pounds in 1.5 seconds after landing, maintained at 2000 pounds for 7 seconds, increased linearly to 4,200 pounds in 3.5 seconds, then decreased linearly with time to 3400 pounds at 45 seconds after the start of the landing roll. Immediately following the landing cycle, taxi the tire on the flywheel for 10,000 feet under 3,400 pounds load at 30 mph.												
Test D - <u>Rejected Takeoff</u> - The tire shall be taxied on the flywheel at 30 mph for 10,000 with 5,500 pounds load. Immediately following the taxi roll, the flywheel shall be accelerated at an average rate of 10.5 ft/sec/sec from 0 mph to a speed of 150 mph, maintained at 150 mph for 2 seconds, then decelerated at an average rate of 12.2 ft/sec/sec from 150 mph to 0 mph. The tire shall be unlanded after a takeoff roll distance of 4730 ft has been covered in approximately 41 secs. The initial load of 5,600 pounds shall be maintained for 5 secs, decreased linearly with time to 3,600 pounds within 17 seconds (22 seconds from start), increased linearly to 7,000 pounds within 2 seconds (24 seconds from start) and maintained at 7,000 pounds for 17 seconds (41 seconds from start) at which time the tire is unlanded. Immediately after the tire is unlanded, continue taxi rollout an additional 10,000 feet with 5,500 pounds load.												
Test E - <u>Camber</u> - The tire shall be landed against a flywheel rotating at a peripheral speed of 30 mph with 6,850 pounds load for a distance of 2,500 feet with the plane of the tire inclined inboard at an angle of 15 degrees.												
P.A. Navy - NASC Other Cust		TITLE Tire - Aircraft, 22 X 6.6-10 (New Design)					MILITARY STANDARD					
							MS 14168 (AS)					
PROCUREMENT SPECIFICATION MIL-T-5041		SUPERSEDES					SHEET 1 OF 2					

DD FORM 1 SEP 57 672-1 N

LIMITED COORDINATION

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

REVISED 21 May 1974
APPROVED

NOTICE—When Government drawings, specifications, or other data are used for any purpose other than in connection with a definitely related Government procurement operation, the United States Government hereby incurs no responsibility, nor any obligation whatsoever; and the fact that the Government may have furnished, furnished, or in any way supplied the said drawings, specifications or other data is not to be regarded by application or otherwise as in any manner licensing the holder or any other person or corporation or conveying any rights or permission to manufacture, use, or sell any patented invention that may in any way be related thereto.

This standard has been approved by the Naval Air Systems Command Department of the Navy and is mandatory for use by their activity. All other activities are required to comply with this standard where suitable.

The Tire Shall Be In Accordance With The Applicable Requirements of Specification MIL-T-5041 Except As Specified Herein

FFD SUP CLASS
2620

Test F - Camber - Perform the Test E spectrum with the plane of the tire inclined 15 degrees outboard.

Test G - Long Taxi - The tire shall be landed on the flywheel rotating at a peripheral speed of 30 mph for 30,000 feet with 5,500 pounds load.

Test H - Catapult Condition - The tire shall be accelerated at an average rate of 24 ft/sec/sec from 0 mph to 82 mph. The tire shall be unlanded after a roll distance of 300 feet has been covered in 5 seconds. The initial load of 35,000 pounds shall be maintained for 1 second, decreased linearly with time to 17,500 pounds in 3.5 seconds, then decreased linearly to zero pounds at the time the tire is unlanded. The tire inflation pressure shall be 350 psi, corrected for the flywheel diameter. The tire shall be run for 20 cycles.

Flywheel Diameter

Tire Inflation Pressure

84 inch	422 ± 10 psi
96 inch	410 ± 10 psi
120 inch	396 ± 10 psi

Test I - Bruise Test - A tire inflated to 350 psi shall be loaded against a 1 3/8 inch diameter length of plain round bar stock or arresting gear cable with a vertical load of 60,000 pounds. After release of this load, the tire shall be subjected to the same loading condition at a location 180 degrees from the initial point of loading.

Test J - Burst Test - The tire which has been previously subjected to Tests I and H shall be subjected to a hydrostatic burst test. The pressure shall be increased until the tire fails and the failing pressure, description of failure, and location shall be reported in the Qualification Test Report.

Wear Depth Indicators - Tread wear indicators shall be provided to establish allowable wear of tread down to 1/32 inch from the bottom of the tread grooves. Oblong holes (3/4 X 3/16 inch) or round holes (7/16 inch diameter) located in the tread ribs. Indicators shall be located not more than 45 degrees apart.

Air Retention - The tire shall be inflated to a pressure of 400 psi and allowed to stand for a period of 24 hours at which time the pressure drop due to growth shall be replaced. The tire shall then stand for an additional 24 hours at which time the pressure shall be measured and the tire inspected. The air pressure loss shall not exceed 5 percent and the tire shall not reveal any appearance and performance defects such as sidewall blisters, tread separation, etc.

Qualification Test Report - The Qualification Test Report shall list the results of all qualification tests and construction details of the qualification test sample in the general form shown in Figure 6 of Specification MIL-T-5041 with dimensions listed at rated inflation and 400 psi. A sketch of the tire profile at rated inflation and 400 psi shall be included in the report. The report shall list the manufacturer's test number. Submit two copies of the Qualification Test Report, together with the data and material specified above and in MIL-T-5041 to the Naval Air Systems Command, Washington, D.C. 20361, Attention: AIR-530321.

NOTES: This document has been promulgated by the Department of Defense as the military standard to limit the selection of the item, product, or design covered herein in engineering, design, and procurement. This document shall become effective not later than 90 days after the latest date of approval shown.

Referenced documents shall be of the issue in effect on date of invitation for bid.

Project No. 2620-N103

P.A. Navy - NASC
Other Cust

TITLE

Tire - Aircraft, 22 X 6.6-10 (New Design)

MILITARY STANDARD

MS 14168 (AS)

PROCUREMENT SPECIFICATION
MIL-T-5041

SUPERSEDES

SHEET 2 OF 2

APPROVED 21 May 1970
REVISED

DD FORM 672-1 N

LIMITED COORDINATION

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE.