

FED. SUP CLASS

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THE TIRE SHALL BE IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF MIL-T-5041 EXCEPT AS SPECIFIED HEREIN

SIZE	PLY RATING	STATIC LOAD RATING POUNDS	VERT. LOAD POUNDS MIN.	INFL. PRESS. PSI MIN.	BURST PRESS. PSI MIN.	BEAD WIDTH IN MAX.	WEIGHT POUNDS MAX.	STATIC UNBAL. OZ-IN MAX.	TREAD	MOLD SKID DEPTH MIN.	DEFLEC +3% -4%
24x6.5-14	1/18TL	12,900	54,500	375	2/1500	1.65	35	15	3/RIB	0.30	32

- 1/ TL-TUBELESS. HOWEVER THE TIRE SHALL BE COMPATIBLE FOR USE WITH A TUBE.
- 2/ NEW TIRE
- 3/ AT LEAST THREE BUT NOT MORE THAN SEVEN CONTINUOUS CIRCUMFERENTIAL GROOVES. WIDE GROOVE CONCEPT SHALL BE USED WITH RADIUS AT BOTTOM OF GROOVES TO PRECLUDE STRESS RISERS AND CIRCUMFERENTIAL CRACKING FABRIC REINFORCED TREAD

TIRE + RIM DATA: SEE FIGURE 1

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.

THREE TIRES SHALL BE USED FOR QUALIFICATION TESTING. THE TIRES SHALL BE TESTED AS FOLLOWS:

TIRE 1: SHALL WITHSTAND WITHOUT FAILURE, TEST A, 25 CYCLES OF TEST B, THEN BE SUBJECTED TO TEST E (HYDROSTATIC BURST TEST).

TIRE 2: SHALL WITHSTAND WITHOUT FAILURE, 1 CYCLE OF TEST C, 50 CYCLES TEST D, THEN BE SUBJECTED TO TEST E (HYDROSTATIC BURST TEST).

TIRE 3: SHALL BE SUBJECTED TO TEST E (HYDROSTATIC BURST TEST).

TEST A - BRUISE TEST - A NEW TIRE SHALL BE INFLATED WITH AIR TO 480 PSI AND LOADED AGAINST A ONE AND THREE EIGHTS INCH (1 3/8") DIAMETER LENGTH OF PLAIN ROUND BAR STOCK OR CABLE. A VERTICAL LOAD OF 54,500 POUNDS SHALL BE APPLIED WITH THE VERTICAL CENTER-LINE OF THE MOUNTED TIRE MAKING AN ANGLE OF 87 DEGREES WITH THE PLATEN. IMMEDIATELY FOLLOWING THE RELEASE OF THIS LOAD THE TIRE SHALL BE SUBJECTED TO THE SAME LOADING CONDITION AT A SPOT 180 DEGREES FROM THE INITIAL POINT OF LOADING. TIRE PRESSURE LEAKAGE AFTER THIS TEST SHALL NOT EXCEED 20 PSI.

TEST B - DYNAMIC TEST.

1. TEST TIRE DEFLECTION PROCEDURE. AFTER COMPLETING TEST A, THE TIRE SHALL UNDERGO STATIC DEFLECTION AS SPECIFIED IN MIL-T-5041 EXCEPT THAT THE INFLATION PRESSURE SHALL BE 410 TO 415 PSI. THE DISTANCE FROM THE AXLE CENTER-LINE TO THE LOAD SURFACE SHALL BE DETERMINED AND RECORDED FOR USE IN PARA. 2, BELOW.

2. LANDING. THE TIRE SHALL BE LOADED TO RATED LOAD AGAINST THE DYNAMOMETER FLYWHEEL. THE INFLATION PRESSURE SHALL BE VARIED TO PRODUCE THE SAME DISTANCE DETERMINED IN PARA. 1, ABOVE. THE LOAD SHALL BE RELEASED. THE TIRE SHALL THEN BE LANDED AGAINST THE FLYWHEEL ROTATING AT A PERIPHERAL SPEED OF 195 MPH. THE FLYWHEEL SPEED SHALL BE DECREASED UNTIL A ROLL DISTANCE OF 6,120 FEET HAS BEEN COVERED, AT WHICH TIME THE TIRE SHALL BE UNLANDED. THE AVERAGE DECELERATION RATE SHALL BE 6.6 FT/SEC/SEC THROUGHOUT THE RUN. THE TIRE LOAD SHALL BE INCREASED TO 5,600 POUNDS WITHIN ONE SECOND OF LANDING AND FURTHER INCREASED LINEARLY WITH TIME TO A MAXIMUM OF 12,900 POUNDS WITHIN 14 TO 16 SECONDS AFTER LANDING. THE LOAD SHALL THEN BE MAINTAINED AT 12,900 POUNDS UNTIL THE TIRE IS UNLANDED AT APPROXIMATELY 41 SECONDS FROM TIME OF LANDING.

TEST C - YAW TEST. THE TIRE SHALL BE SUBJECTED TO 25 CYCLES OF TEST C₁ AND 25 CYCLES OF TEST C₂.

C₁ - THE TIRE INFLATED TO 375 PSI (CORRECTED FOR FLYWHEEL CURVATURE) SHALL BE LANDED ON A FLYWHEEL ROTATING AT A PERIPHERAL SPEED OF 30 MPH SET AT A PRESELECTED 3 DEGREE YAW ANGLE RELATIVE TO THE DYNAMOMETER. INCREASE LOADING UNTIL THE TIRE IS LOADED WITH A RADIAL LOAD (IN THE WHEEL PLANE PERPENDICULAR TO FLYWHEEL) OF 12,900 POUNDS. THE TIRE SHALL BE UNLANDED AFTER TRAVELING A DISTANCE OF 300 FEET AT FULL LOAD.

C₂ - SAME AS C₁ EXCEPT THE 3 DEGREE YAW ANGLE SHALL BE APPLIED IN THE OPPOSITE DIRECTION.

TEST D - TAXI/TAKEOFF. THE VERTICAL CENTERLINE OF THE MOUNTED TIRE SHALL MAKE AN ANGLE OF 87 DEGREES WITH THE DYNAMOMETER FLYWHEEL AND THE LOAD APPLIED ON THE TIRE INBOARD SIDE. THE TIRE SHALL BE TAXIED ON THE FLYWHEEL AT 30 MPH FOR 10,000 FEET WITH 12,900 POUNDS LOAD. UPON COMPLETION OF THE TAXI ROLL THE FLYWHEEL SHALL BE ACCELERATED AT AN AVERAGE RATE OF 6.2 FT/SEC/SEC FROM 30 MPH TO 230 MPH. THE TIRE SHALL BE UNLANDED AFTER A TAKEOFF ROLL DISTANCE OF 9,000 FEET HAS BEEN COVERED IN APPROXIMATELY 53 TO 55 SECONDS. THE LOAD SHALL BE MAINTAINED AT 12,900 POUNDS FOR THE FIRST 6 SECONDS AFTER THE START OF THE TAKE-OFF ROLL, DECREASED LINEARLY WITH TIME TO 1,500 POUNDS AT 51 SECONDS AFTER THE START OF THE TAKE-OFF ROLL AND DECREASED TO ZERO POUNDS AT THE TIME THE TIRE IS UNLANDED. THE TIRE DEFLECTION AT RATED LOAD ON THE FLYWHEEL SHALL BE THE SAME AS THAT OBTAINED WITH THE RATED LOAD AND INFLATION PRESSURE ON A FLAT PLATE.

(A) DENOTES CHANGES

P.A. NAVY - AS	TITLE	MILITARY STANDARD
Other Cust	TIRE, PNEUMATIC, AIRCRAFT, 24x6.5-14, FABRIC REINFORCED TREAD (200 KNOTS)	MS14178(AS)
PROCUREMENT SPECIFICATION MIL-T-5041	SUPERSEDES:	SHEET 1 OF 3

This military standard is approved by NAVAL AIR SYSTEMS COMMAND, Department of the Navy and shall be used by that activity. All other military activities are required to employ this standard where suitable.

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TEST E - HYDROSTATIC BURST TEST. THE TIRE SHALL BE SUBJECTED TO A HYDROSTATIC BURST TEST. THE PRESSURE SHALL BE INCREASED UNTIL THE TIRE FAILS. THE FAILURE PRESSURE, DESCRIPTION OF FAILURE AND LOCATION SHALL BE REPORTED IN THE QUALIFICATION TEST REPORT.

AIR RETENTION - THE TIRE SHALL BE INFLATED TO A PRESSURE OF 480 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 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. THERE SHALL BE NO SIDEWALL BLISTERS, TREAD SEPARATION OR OTHER APPEARANCE OR PERFORMANCE DEFECTS.

LOAD DEFLECTION - LOAD DEFLECTION CURVES FOR INFLATION PRESSURES OF 205, 275, 315, 375, 435, 485, 535, AND 600 PSI SHALL BE PREPARED FOR THE FOLLOWING CONDITIONS:

- A. STATIC LOAD VS DEFLECTION
- B. IMPACT LOAD VS DEFLECTION
- C. IMPACT ENERGY VS DEFLECTION

FOOTPRINTS - FOOTPRINT AREAS SHALL BE PREPARED AS FOLLOWS:

- A. FOOTPRINT AREA VS PERCENT DEFLECTION CURVE
- B. LOAD REQUIRED TO BOTTOM THE TIRE INFLATED TO 480 PSI
- C. FOOTPRINT AREAS AT RATED INFLATION PRESSURE AND STATIC AND BOTTOM LOAD CONDITIONS. INCLUDE FLAT TIRE AND NORMAL ROLLING RADIUS.
- D. FULL SCALE PRINT OF ACTUAL FOOTPRINT AT RATED LOAD AND PRESSURE

MARKING - IN ADDITION TO THE MARKING REQUIRED BY SPECIFICATION MIL-T-5041, THE DRAWING NUMBER "MS 14178" AND "FABRIC TREAD" SHALL BE ENGRAVED OR EMBOSSED ON ONE SIDE WALL IN THE VICINITY OF THE SIZE AND PLY RATING MARKINGS.

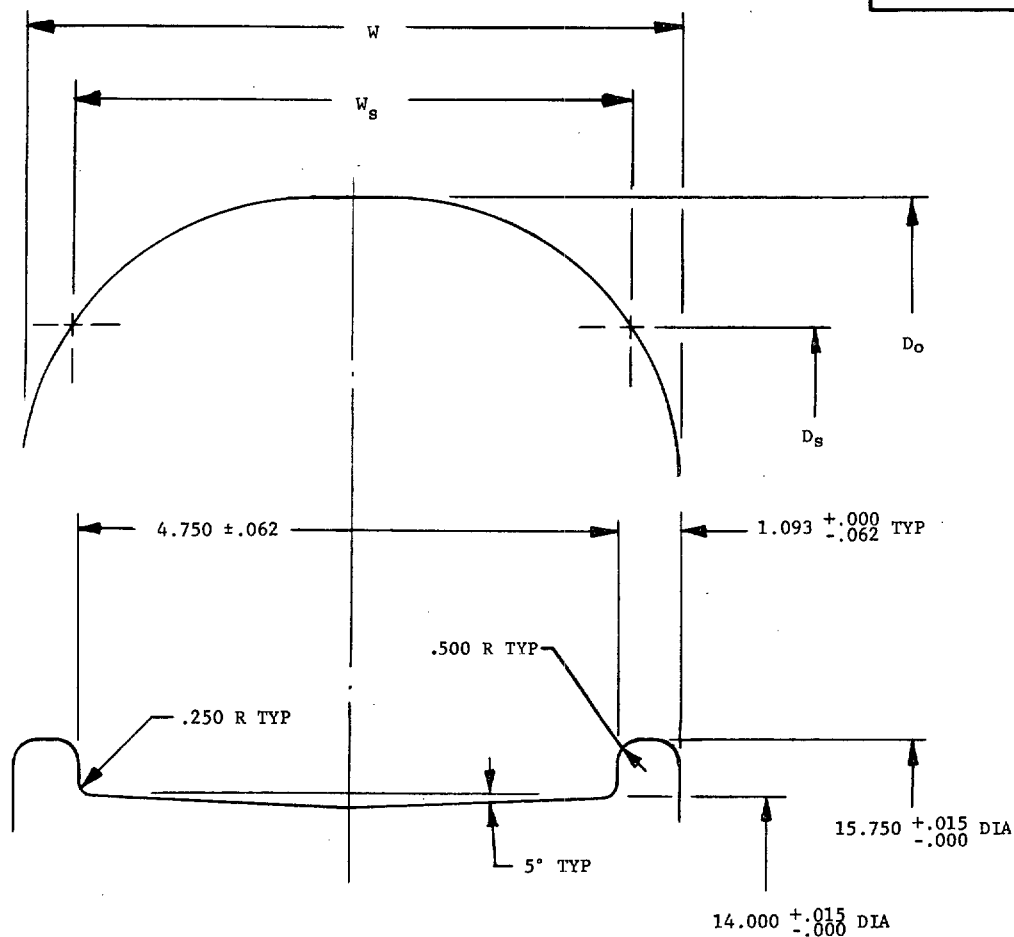
SECTION - REPRESENTATIVE SECTIONS OF THE QUALIFIED TIRE DESIGN SHALL BE SUBMITTED, ONE SECTION EACH OF TEST TIRES NUMBER 1 AND 2 THAT HAVE BEEN SUBJECTED TO REQUIRED TESTING.

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 FIGURES 2&3 OF MIL-T-5041 WITH DIMENSIONS LISTED AT RATED INFLATION AND 480 PSI. THE REPORT SHALL LIST THE MANUFACTURER'S TEST NUMBER. TWO COPIES OF THE QUALIFICATION TEST REPORT, TOGETHER WITH THE DATA AND MATERIAL SPECIFIED ABOVE AND IN MIL-T-5041 SHALL BE FORWARDED TO THE NAVAL AIR SYSTEMS COMMAND, WASHINGTON, DC 20361 ATTENTION: AIR-53032.

NOTES:

1. REFERENCED DOCUMENTS SHALL BE OF THE ISSUE IN EFFECT ON DATE OF INVITATIONS FOR BIDS OR REQUEST FOR PROPOSAL EXCEPT THAT REFERENCE ADOPTED INDUSTRY STANDARDS SHALL GIVE THE DATE OF THE ISSUE ADOPTED.
2. FOR DESIGN FEATURE PURPOSES, THIS STANDARD TAKES PRECEDENCE OVER PROCUREMENT DOCUMENTS REFERENCED HEREIN.

P.A. NAVY - AS Other Cust	TITLE TIRE, PNEUMATIC, AIRCRAFT, 24x6.5-14, FABRIC REINFORCED TREAD (200 KNOTS)	MILITARY STANDARD MS14178(AS)
PROCUREMENT SPECIFICATION MIL-T-5041	SUPERSEDES:	SHEET 2 OF 3

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TIRE DIMENSIONS (INCH)	RATED INFLATION PRESSURE		GROWN AT 480 PSI (MAX.)	GROWN AND THROWN MAX.
	MIN.	MAX.		
OUTSIDE DIA. (D _o)	23.60	24.20	24.80	24.80
SECTION WIDTH (W)	(A) 6.25	6.65	6.95	
SHOULDER DIA. (D _g)		22.40		
SHOULDER WIDTH (W _g)		5.90		

FIGURE 1

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PROCUREMENT SPECIFICATION MIL-T-5041	SUPERSEDES:	SHEET 3 OF 3

DD FORM 672-1 (Limited coordination)
1 MAR 72

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE.

PLATE NO. 23071

APPROVED 11 APRIL 1978 REVISED A FOR CHANGES SEE SHEETS 1 & 3