

F-51 Specification and Uses

These data were obtained by ASTM D-461 Test Methods, ASTM D-2475 Standards, and NTA Wool Felt Specifications.



Commercial Standard Grade	16R3X
SAE Number	F-51
NTA Number	34R3
GENERAL PROPERTIES	
Wool Content (fiber basis)	min. 92%
Density (1")	15.60 lbs/sq yd
Standard Thickness Range	3/64" to 3/32"
Standard Width	60" to 72"
Color	Gray
PHYSICAL PROPERTIES	
Specific Gravity	34%
Therm. Cond. (70F)	0.32 btu / hr / sq ft / °F / in.
Thermal Expansion	0
Air Perm (1/16")	15-40 cfm/sq ft/0.5" H2O
Liquid Absorption by volume	>170% by weight (1.0 sp gr) 75
Capillarity (wicking height, 575 SSU, 70F)	4.00
Coefficient of Friction (1)	0.37
** Vibration Absorption (2) static load bearing cap/unit area Dynamic stress endurance	-- --
Noise Reduction Coef (1")	0.55
MECHANICAL PROPERTIES	
Tensile Strength (min)	300 psi
Elongation (100 psi)	9 %
Mullen Bursting Strength (1/8")	225 psi
Split Resistance (min)	-- lb/2" width
Hardness Range	-- Shore A
Compressibility (10% defl)	-- psi
Recovery (within 1 min after 10% defl)	99%
Abrasion Resistance (3)	Excellent
CHEMICAL AND ENVIRONMENTAL PROPERTIES	
Effect of Sunlight and Oxidation	None
Solvent Resistance and Stability in Oil	Excellent
Acid Resistance, dilute Concentrated	Excellent Fair - Good
Alkali Resistance, dilute Concentrated	Fair Low
Temperature Range	-80 to +200°F
TYPICAL USES	
Gaskets, liners, bearing seals, where precision tolerances, life and quality are not as exacting.	

F-51 Density and Thickness



S.A.E. Specification Number	F-51
A.S.T.M. Federal and Felt Association Type and Grade Number	16R3X
Density Percent Specific Gravity	33.3
Actual (1) Wool Content (Min.) Percent	92
Carbon Tetrachloride Soluble (Max.) Percent	2.5
Water Soluble (Max.) Percent	2.5
Carbon Tetrachloride & Water Soluble (Max.) Percent	4.5
Ash (Max.) Percent	2.5
Tensile Strength (Min.) PSI	300
Splitting Resistance (Min.) Lbs. Per 2" Width	--
Trade Designation	Ball Bearing Felt
Color	Gray
Standard Width Inches	60



THICKNESS		WEIGHT	
Nominal (inch)	Limits (inch)	Nominal (lbs/sq. yd.)	Limits (lbs/sq. yd.)
3/64	0.040 - 0.054	0.750	0.712 - 0.778
1/16	0.056 - 0.070	0.975	0.937 - 1.013
5/64	0.071 - 0.085	1.200	1.162 - 1.238
3/32	0.087 - 0.101	1.425	1.387 - 1.463