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F-3 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	16R3
SAE Number	F-3
NTA Number	34R3
GENERAL PROPERTIES	
Wool Content (fiber basis)	min. 85%
Density (1")	15.60 lbs/sq yd
Standard Thickness Range	1/8" to 1"
Standard Width	60"
Color	Gray
PHYSICAL PROPERTIES	
Specific Gravity	34%
Therm. Cond. (70F)	0.35 btu / hr / sq ft / °F / in.
Thermal Expansion	0
Air Perm (1/16")	15-35 cfm/sq ft/0.5" H2O
Liquid Absorption by volume	>190% by weight (1.0 sp gr) 76
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	High High
Noise Reduction Coef (1")	0.52
MECHANICAL PROPERTIES	
Tensile Strength (min)	400 psi
Elongation (100 psi)	16 %
Mullen Bursting Strength (1/8")	200 psi
Split Resistance (min)	22 lb/2" width
Hardness Range	30-40 Shore A
Compressibility (10% defl)	13 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 Good-fair
Alkali Resistance, dilute Concentrated	Fair Low
Temperature Range	-80 to +200°F
TYPICAL USES	
Automotive, aircraft, machine components: Similar to 16R1 and 16R2, where lower quality is acceptable.	

F-3 Density and Thickness



S.A.E. Specification Number	F-3
A.S.T.M. Federal and Felt Association Type and Grade Number	16R3
Density Percent Specific Gravity	33.3
Actual (1) Wool Content (Min.) Percent	85
Carbon Tetrachloride Soluble (Max.) Percent	2.5
Water Soluble (Max.) Percent	3.0
Carbon Tetrachloride & Water Soluble (Max.) Percent	4.5
Ash (Max.) Percent	2.5
Tensile Strength (Min.) PSI	400
Splitting Resistance (Min.) Lbs. Per 2" Width	22
Trade Designation	Back Check
Color	Gray
Standard Width Inches	60



THICKNESS		WEIGHT	
Nominal (inch)	Limits (inch)	Nominal (lbs/sq. yd.)	Limits (lbs/sq. yd.)
1/8	0.113 - 0.137	1.95	1.80 - 2.10
3/16	0.175 - 0.201	2.93	2.71 - 3.15
1/4	0.236 - 0.264	3.90	3.61 - 4.19
5/16	0.298 - 0.328	4.87	4.50 - 5.24
3/8	0.359 - 0.391	5.85	5.41 - 6.29
1/2	0.481 - 0.519	7.80	7.21 - 8.39
5/8	0.603 - 0.647	9.75	9.01 - 10.49
3/4	0.725 - 0.775	11.70	10.81 - 12.59
7/8	0.847 - 0.903	13.65	12.61 - 14.69
1	0.969 - 1.031	15.60	14.41 - 16.79