



Total Solution Coating Applicator

Mechanical Properties of Teflon® Coatings

The values shown in this table represent average experiences from numerous testing sources and are not intended to be specifications. These values will vary depending upon the individual compositions of the primers and topcoats and the systems used. For further information on the properties of these coating systems, and examples of how they have led to the development of new products, increased production rates and resultant cost savings, please [contact us](#).

Property	ASTM Standard	Unit	Teflon® PTFE	Teflon® FEP	Teflon® PFA	Teflon® ETFE
Specific Gravity	D792	---	2.15	2.15	2.15	1.76
Tensile Strength	D1457 D1708 D638	MPa (psi)	21-34 (3,000- 5,000)	23 (3,400)	25 (3,600)	40-46 (5,800-6,700)
Elongation	D1457 D1708 D638	%	300-500	325	300	150-300
Flexural Modulus	D790	MPa (psi)	496 (72,000)	586 (85,000)	586 (85,000)	1,172 (170,000)
Folding Endurance	D2176	(MIT) cycles	>10 ⁶	5-80 x 10 ³	10-500 x 10 ³	10-27 x 10 ³
Impact Strength	D256	J/m (ft-lb/in)	189 (3.5)	No break	No break	No break
Hardness	D2240	Shore D pencil	50-65 HB	56 HB	60	72
Abrasion Resistance -Bell Abrasion (1) -Sliding Arm (2) -Tabor Abrasion (3)	---	g/μm mg mg	85 7.9-9.7 12	---	---	---
Scratch Resistance scratch master -initial (4) -complete (5)	---	kg kg	5.7-7.0 7.3-10.7	5.1-11.4 8.5-13.2	---	---
Coefficient of Friction -static -dynamic	D1894	---	0.12-0.15 0.05-0.10	0.12-0.20 0.08-0.3	0.2 ---	0.24-0.50 0.3-0.4
Contact Angle (water)	---	degree	104-111	95-105	104-111	90-100

Notes:

1. Bell Abrasion Tester: grams abrasive/micrometers
2. Sliding Arm Test: 1,000 cycles, 500 gr load, 400 Emery paper, 35.5 sq. cm surface
3. Tabor Abrasion: Cs 17 wheel, 1kg load, 1,000 cycles, weight loss in mg
4. Scratch Master: initial = first sign of substrate
5. Scratch Master: complete = total removal of film

Source: DuPont