Feature	ASTM Test Std	Description
Hardness	D2240	Resistance to compression or indentation measured according to the Shore A Durometer scale; a.k.a. "durometer".
Tensile Strength	D412	Pull-force per cross-section area (measured in PSI or MPa) required to rupture the material.
Modulus	D412	Pull-force per cross-section area (measured in PSI or MPa) required to elongate material to a defined percentage of original length.
Elongation	D412	Ultimate elongation, stated as a percentage of original length, required to rupture material; a.k.a. "ultimate elongation"
Compression Set	D395	Resistance to conformance to compression or deformation caused by compression. Measured as a percent material fails to return to original thickness after subjected to compression for a period of time.
Abrasion Resistance		Resistance to surface wear and tear resulting from friction and dynamic contact with other surfaces; an important feature in many products like tires, belts, and o-rings.
Tear Resistance		Pull-force required to tear a defined section of rubber a certain distance from a slightly knicked edge; sometimes measured both with and against the "grain" or "machine direction" of calendered or extruded materials.
Flame Resistance		Pass or fail test of material subjected to proscribed contact with flame. Pass indicates the material did not ignite or carry a flame itself, once removed from external source.
Heat Resistance	D573	Measures degree of loss in mechanical properties after subjection to defined time and temperature conditions.
Low Temperature Resistance	D2173	Tests for brittleness or crystallization of material after subjection to defined time and temperature conditions; usually stated as 'pass' or 'fail', indicating whether or not the material remained flexible at the stated temperature.
Temperature Retraction TR-10	D1239	The temperature retraction method is currently the most reliable test for low-temperature sealing performance. A rubber seal is stretched 50%, clamped in position, and frozen. The clamps are then released and temperature slowly increased. The temperature at which the material regains enough resilience to recover 10% of the original stretch is the TR-10 (temperature retraction, 10%) point. This test directly evaluates when a material stops being rubbery and starts behaving more like a soft plastic. As a result, it accurately predicts low-temperature behavior. In general, rubber seal materials function reliably down to their TR-10 point in dynamic applications. In static applications, rubber materials typically maintain a seal 15°F below their TR-10 temperature.
Ozone Resistance	D1171	Tests for appearance of surface cracks, crazing, or checks after subjection to proscribed levels of ozone (using a laboratory chamber) and other conditions (time, temperature, relaxed or elongated state).
Fluid Resistance	D471	Measures volume change due to swelling or shrinking caused by subjection to specified fluids, times, and temperatures. Commonly, ASTM #1, 2, and 3 Oils plus ASTM Fuels A, B, and C are used in these tests, covering a wide range of aniline points (oils) and aromatic content (fuels), which are good broad indicators of an elastomer's resistance to other oils and fuels.
Specific Gravity	N/A	Measures density as ratio of mass (weight) to an equal volume of water (at 4°C / 34°F). Since one cubic foot of distilled water weighs 64.2 pounds, then the weight of any volume of material can be calculated as ð [Cubic Feet x 64.2 x Specific Gravity], [Cubic Inches x 0.03715 x Specific Gravity], or [Liters x Specific Gravity] for total weight in Kilograms (Kg), since water weighs 1 kg per liter. Example: 20 lineal feet x 36 inch wide x 1/4 inch thick material, with a specific gravity = 1.15 ð 0.25" x 36" x 240" (20 LF) x .03715 LB/Cu In. (water) x 1.15 specific gravity = 92 lbs.