Ameri-Lon Typical Physical Properties

ASTM TEST	PHYSICAL PROPERTY	*Ameri-Lon 9810*	*Ameri-Lon 9820*	*Ameri-Lon 9840*
F 37	**Sealability**, ml/hr leakage, 30 PSI Nitrogen, 3000 PSI Load	0.001	0.001	0.002
F38	**Creep Relaxation**, %	5.7	2.0	5.6
F36	**Compressibility**, %	25.7	18.8	12.8
F36	**Recovery**, %	64.6	74.1	52.0
D-638	**Tensile Strength**, PSI	2100	2100	2370
D-638	**Elongation**, %	498	343	136
D-1708	**Elongation Modulus** at 100% , PSI	625	300	0
D-792	**Specific Gravity**	2.204	2.206	2.02-2.09
D-149	**Dielectric Strength**, Volts/mil	60.6	1500.0	260.8
F-433	**Thermal Conductivity**, BTU-in/hr.-ft^2 deg F	5.06	3.31	3.42
D-621M	**Deformation under Load** (1000 lb.), %	1.8	0.7	0.2
FALEX STD.	**PV Limit** @ 10 and 100 ft/min	—	—	20,000
D-3702	**Wear Factor**, K $\frac{in^3 - min}{lb\text{-}ft\text{-}hr} \times 10^{-10}$	—	—	0.16

The tabulated physical property and gasket property data show *Ameri-Lon* to be a superior gasket material. The results of sealability tests are better by a factor of 50 than a compressed elastomer / carbon fiber material. Creep relaxation and recovery from compression show superior bolt torque retention. To assist in interpretation, a brief statement about each test follows.

Sealability. Sealability is expressed as milliliters of leakage per hour. These tests are conducted at room temperature under a certain gasket load and contained fluid (internal) pressure. All fibrous gasketing materials permit some leakage. The smaller the amount, the better.
Creep Relaxation. Expressed as a per cent of initial stress loss, this is a measure of a material's ability to maintain an initial stress over a period of time. A greater loss of stress increases the loss of bolting torque and the chance of leaking.
Compressibility and Recovery. This is a useful short-time test done at room temperature. Both are expressed as a per cent of initial thickness. Some compressibility is necessary to fill irregularities, minor flaws or nicks. Good recovery when the load is released shows torque retention in a gasketed material.
Tensile Strength. This is the measure of the force required to pull a material apart, expressed in PSI.
Elongation. A measure of the stretching a material does while being pulled to fracture.
Elongation Modulus. This is the force required to stretch the material to twice its original length. It is noted as PSI.
Specific Gravity. Specific gravity measures a material's density compared to that of water.
Dielectric Strength. Expressed as volts per mil, dielectric strength represents the number of volts required to cause an electrical penetration of a material thickness of one mil (0.001"). The greater a material's dielectric strength, the better it performs as an electrical insulator.
Thermal Conductivity. This shows the thermal insulating ability of a material. The higher the value, the greater the ability to conduct heat. It is expressed as BTU - inches per hour - square foot - degree Fahrenheit.
Deformation Under Load. Deformation under load, expressed in per cent, is a comparative type of property rather than a firm and substantial fact. Usually the longer the time loading, the greater the deformation.
PV Limit. The pressure-velocity limit test is run at different surface speeds under increasing load. A material with good bearing ability has a high value.
Wear Factor. This test measures material loss when an unlubricated sample under load is rotated on a fixed steel washer. The smaller the value, the smaller the wear.

American Seal & Packing 10661 Ellis Ave. Suite E, Fountain Valley, CA. 92708 714-593-9780 Fax: 714-593-9701

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