Saint-Gobain Performance Plastics
Gasket Materials

Physical Properties

SANI-TECH SILICONE

PHYSICAL PROPERTIES	SANI-TECH
Specific Gravity	1.12
Water Absorption (in 24 hrs, %)	0.01
Autoclavable (Yes,No)	Yes
Approvals:	FDA 21 CFR 177. USP Class VI 3A, USDA, NF
Radiation Tolerance, Mrad	2.5
MECHANICAL PROPERTIES	
Tensile Strength, kpsi (MPa)	1.25 (8.8)
Tensile Modulus 100%, kpsi (MPa)	0.255 (1.79)
Hardness: Shore A	50
Elongation, % Yield (Ultimate)	(560)
Tear Strength, Die B, lbs/in (Kg/cm)	245 (43.8)
THERMAL PROPERTIES	
Melting Temperature, °F (°C)	650 (343)
Thermal Conductivity:	
BTU*in/hr/ft2/°F (W/m/°C)	0.18 (0.026)
Coefficient of Thermal Expansion:	
in/in/°F x 10-6	100 to 188
mm/mm/°C x 10-6	180 to 338
Brittle Temperature, °F (°C)	-90 (-68)
UL-94 Flammability Class	V-O
Oxygen Index (%)	20 to 30
ELECTRICAL PROPERTIES	
Dielectric Strength:	
V/mil (kV/mm)	488 (19.5)
Electric Resistivity:	
Ohm/in (Ohm/cm) x 10^{14}	4.47 (1.76)
Dielectric Constant:	
kHz	3.00
MHz	3.00
Dissipation Factor:	
kHz	0.0001
MHz	0.0001

VITION

PHYSICAL PROPERTIES	DUPONT DOW ELASTOMERS
Specific Gravity	1.77 to 1.91
Water Absorption (in 24 hrs, %)	0.01 to 1.6
Autoclavable (Yes,No)	Yes
Approvals:	FDA 21 CFR 177.2600 3A, USDA, USP Class VI
Radiation Tolerance, Mrad	2.5
MECHANICAL PROPERTIES	
Tensile Strength, kpsi (MPa)	1.6 to 2.2 (11 to 15)
Tensile Modulus 100%, kpsi (MPa)	0.33 to 0.53 (2.3 to 3.7)
Hardness: Shore A	68 to 72
Elongation, % Yield (Ultimate)	210 to 450
Tear Strength, Die B, lbs/in (Kg/cm)	110 (19.7)
THERMAL PROPERTIES	
Melting Temperature, °F (°C)	600 (315)
Thermal Conductivity:	
BTU*in/hr/ft2/°F (W/m/°C)	0.06 to 0.13 (0.008 to 0.019)
Coefficient of Thermal Expansion:	
in/in/°F x 10-6	83 to 110
mm/mm/°C x 10-6	150 to 200
Brittle Temperature, °F (°C)	-35 (-37)
UL-94 Flammability Class	V-O to V-I
Oxygen Index (%)	50 to 100
ELECTRICAL PROPERTIES	
Dielectric Strength:	
V/mil (kV/mm)	309 to 908 (12.2 to 35.7)
Electric Resistivity:	
Ohm/in (Ohm/cm) x 1014	0.0015 to 0.048 (0.00058 to 0.019)
Dielectric Constant:	
kHz	4.2 to 9.1
MHz	4.2 to 9.1
Dissipation Factor:	
kHz	3.0 to 26.4
MHz	3.0 to 26.4

EPDM

PHYSICAL PROPERTIES	
Specific Gravity	0.86
Water Absorption (in 24 hrs, %)	0.01 to 1.6
Autoclavable (Yes,No)	Yes
Approvals:	FDA 21 CFR 177.2600 3A, USDA, USP Class VI
Radiation Tolerance, Mrad	2
MECHANICAL PROPERTIES	
Tensile Strength, kpsi (MPa)	0.3 TO 3.5 (2.1 to 24.1)
Tensile Modulus 100%, kpsi (MPa)	0.1 TO 3.0 (0.69 to 21)
Hardness: Shore A	30 to 90
Elongation, % Yield (Ultimate)	100 to 700
Tear Strength, Die B, lbs/in (Kg/cm)	90 (16.1)
THERMAL PROPERTIES	
Melting Temperature, °F (°C)	500 (260)
Thermal Conductivity:	
BTU*in/hr/ft2/°F (W/m/°C)	0.15
Coefficient of Thermal Expansion:	
in/in/°F x 10-6	8.8 to 10.7
mm/mm/°C x 10-6	15.8 to 19.3
Brittle Temperature, °F (°C)	-90 (-67)
UL-94 Flammability Class	HB
Oxygen Index (%)	10 to 20
ELECTRICAL PROPERTIES	
Dielectric Strength:	
V/mil (kV/mm)	500 to 1000 (20 to 40)
Electric Resistivity:	
Ohm/in (Ohm/cm) x 1014	200 to 1000 (79 to 394)
Dielectric Constant:	
kHz	2.25 to 3.00
MHz	2.20 to 2.85
Dissipation Factor:	
kHz	0.25
MHz	0.25

AFLAS

PHYSICAL PROPERTIES	FA-150P 3M SPECIALTY FLUOROPOLYMERS
Specific Gravity	1.55
Water Absorption (in 24 hrs, %)	0.01 to.6
Autoclavable (Yes,No)	Yes
Approvals:	21 CFR 177.2600 3A, USDA
Radiation Tolerance, Mrad	50
MECHANICAL PROPERTIES	
Tensile Strength, kpsi (MPa)	1.5 to 3.2 (10.3 to 22.0)
Tensile Modulus 100%, kpsi (MPa)	0.20 to 3.1 (1.38 to 21.3)
Hardness: Shore A	60 to 100
Elongation, % Yield (Ultimate)	50 to 400
Tear Strength, Die B, lbs/in (Kg/cm)	120 to 300 (21.5 to 53.7)
THERMAL PROPERTIES	
Melting Temperature, °F (°C)	550 (288)
Thermal Conductivity:	
BTU*in/hr/ft2/°F (W/m/°C)	
Coefficient of Thermal Expansion:	
in/in/°F x 10-6	
mm/mm/°C x 10-6	
Brittle Temperature, °F (°C)	-45 to –55 (-42.7 to 48.3)
UL-94 Flammability Class	HB
Oxygen Index (%)	50 to 100
ELECTRICAL PROPERTIES	
Dielectric Strength:	
V/mil (kV/mm)	580 (22.8)
Electric Resistivity:	
Ohm/in (Ohm/cm) x 1014	300 (116)
Dielectric Constant:	
kHz	2.25 to 3.0
MHz	2.20 to 2.8
Dissipation Factor:	
kHz	
MHz	

BUNA-N

PHYSICAL PROPERTIES	BUNA-N
Specific Gravity	1.38
Water Absorption (in 24 hrs, %)	0.001 TO 0.01
Autoclavable (Yes,No)	Yes
Approvals:	FDA 21 CFR 177.2600 3A, USDA
Radiation Tolerance, Mrad	1

MECHANICAL PROPERTIES	
Tensile Strength, kpsi (MPa)	1 to 4 (6.9 to 28)
Tensile Modulus 100%, kpsi (MPa)	0.49 to 0.55 (3.4 to 3.8)
Hardness: Shore A	20 to 100
Elongation, % Yield (Ultimate)	400 to 650
Tear Strength, Die B, lbs/in (Kg/cm)	100 to 200 (18 to 36)

THERMAL PROPERTIES	
Melting Temperature, °F (°C)	400 (204)
Thermal Conductivity:	
BTU*in/hr/ft2/°F (W/m/°C)	0.143 (0.019)
Coefficient of Thermal Expansion:	
in/in/°F x 10-6	76- to 130
mm/mm/°C x 10-6	137 to 234
Brittle Temperature, °F (°C)	-0 (-40)
UL-94 Flammability Class	HB
Oxygen Index (%)	50 to 100

ELECTRICAL PROPERTIES	
Dielectric Strength:	
V/mil (kV/mm)	250 (10)
Electric Resistivity:	
Ohm/in (Ohm/cm) x 1014	0.001 (0.0004)
Dielectric Constant:	
kHz	2 to 8
MHz	2 to 8
Dissipation Factor:	
kHz	1 to 15
MHz	1 to 15