CONATHANE
POLYURETHANE FILLED SYSTEMS
PROPERTY COMPARISON CHART

	CONATHANE® EN-2521	CONATHANE EN-2523	CONATHANE EN-2534	CONATHANE EN-2550	CONATHANE EN-2551	CONATHANE EN-2552	CONATHANE EN-2553
UL Recognition	UL 94 HB, RTI 120°C	UL 94 HB, RTI 120°C	UL 94 HB, RTI 120°C	UL 94 V-0, RTI 120°C	UL 94 V-0, RTI 120°C	UL 94 V-0, RTI 120°C	UL 94 V-0, RTI 120°C
Typical Handling Properties							
Mix Ratio by Weight, Part A/Part B	20 / 100	20 / 100	20 / 100	17 / 100	17 / 100	17 / 100	17 / 100
Mix Ratio by Volume, Part A/Part B	26 / 100	23 / 100	23 / 100	21 / 100	20 / 100	20 / 100	20 / 100
Mixed Viscosity @ 25°C, cps	4,000	2,800	2,200	3,000	4,500	4,500	4,500
Work life @ 25°C, (1 lb. Mass)	60-80 min.	45-50 min.	15-20 min.	35-40 min.	4-7 min.	12-15 min.	50-55 min.
Cure Schedule: @ 25°C/@ 60°C/@ 100°C	7D/6H/4H	7D/6H/4H	7D/16H @ 80°C/2H	7-10D/12-16H/4-6H	7D/16H @ 80°C/4H	7D/16H @ 80°C/4H	7D/16H @ 80°C/NA
Typical Physical Properties - Cured System							
Color	Tan or Black	Tan or Black	Black	Black	Blue	Blue	Blue
Hardness, Shore D	72/65	55/50	55/50	65	55/60	55/60	95 Shore A
Specific Gravity (Cured)	1.53	1.44	1.45	1.48	1.47	1.47	1.47
Tensile Strength, psi	1,600	1,600	1,970	3,800	1,025	1,025	1,050
Elongation, %	40	50	60	32	39	39	60
Linear Shrinkage, %	0.71	0.59	0.65	0.58	0.75	0.75	0.75
Thermal Shock, 10 cycles -65°C to +130°C	Passes	Passes	Passes	Passes	Passes	Passes	Passes
Linear Thermal Expansion, in./in./°C	16.0×10^{-5}	15.0×10^{-5}	15.0×10^{-5}	16.5×10^{-5}	11.8×10^{-5}	11.8×10^{-5}	11.8×10^{-5}
Thermal Conductivity cal/sec/cm²/°C/cm	6.5×10^{-4}	4.5×10^{-4}	4.5×10^{-4}	8.0×10^{-4}	1.55×10^{-3}	1.55×10^{-3}	1.55×10^{-3}
% Water Absorption - 24 hours 7 days	0.19 / 0.55	0.14 / 0.45	0.15 / 0.45	0.075 / 0.187	0.06 / 0.15	0.06 / 0.15	0.06 / 0.15
Fungus Resistance MIL-STD-810B	Non-Nutrient	Non-Nutrient	Non-Nutrient	Non-Nutrient	Non-Nutrient	Non-Nutrient	Non-Nutrient
Operating Temperature Range	-55° to +130°C	-55°C to +130°C	-55°C to +130°C	-65°C to +130°C	-55°C to +130°C	-55°C to +130°C	-55°C to +130°C
Typical Electrical Properties - Cured System							
Dielectric Strength, vpm (1/16" Sample)	650	630	584	530	585	585	563
Arc Resistance - Seconds	>120	>120	>120	>120	>120	>120	>120
Dielectric Constant @ 1kHz - @ 25°C/@ 130°C	4.3 / 8.5	4.1 / 8.4	4.1 / 8.4	4.13 / 5.73	3.99 / 4.88	3.99 / 4.88	4.2 / 4.88
Dissipation Factor @ 1kHz - @25°C/@130°C	0.045 / 0.280	0.049 / 0.100	0.049 / 0.110	0.034 / 0.035	0.053 / 0.060	0.053 / 0.060	0.069 / 0.060
Volume Resistivity, ohm-cm - @ 25°C/@ 130°C	1.2×10^{14} / 1.0×10^{9}	3.4×10^{13} / 1.5×10^{11}	3.4×10^{13} / 1.5×10^{11}	2.1×10^{11} / 1.4×10^{11}	6.8×10^{13} / 1.1×10^{12}	6.8×10^{13} / 1.1×10^{12}	3.1×10^{14} / 1.1×10^{12}
Surface Resistivity, ohms - @ 25°C/@130°C	4.6×10^{13} / 3.0×10^{8}	1.5×10^{13} / 8.0×10^{10}	1.5×10^{13} / 8.5×10^{10}	6.1×10^{11} / 7.8×10^{11}	2.8×10^{17} / 4×10^{11}	3.5×10^{15} / 4×10^{11}	3.5×10^{15} / 4×10^{11}

	CONATHANE EN-3010	CONATHANE EN-4020
UL Recognition	UL 94 V-0	UL 94 V-0
Typical Handling Properties		
Mix Ratio by Weight, Part A/Part B	39.4 / 100	15.5 / 100
Mix Ratio by Volume, Part A/Part B	50 / 100	21 / 100
Mixed Viscosity @ 25°C, cps	2,400	2,200 (Part B at 40°C)
Work life @ 25°C, (1 lb. Mass)	15-20 min.	35-45 min. at 40°C
Cure Schedule: @ 25°C / @ 80°C	7 days / 16 hrs.	7-10 days / 16 hrs.
Typical Physical Properties - Cured System		
Color	Tan or Black	Black
Hardness	70 Shore A	65/70 Shore D
Specific Gravity (Cured)	1.5	1.47
Tensile Strength, psi	733	2,850
Elongation, %	139	50
Linear Shrinkage, %		0.72
Thermal Shock		Passes 6 cycles, 50°C to 120°C
Linear Thermal Expansion, in./in./°C		
Thermal Conductivity cal/sec/cm²/°C/cm		4.2×10^{-4}
% Water Absorption - 24 hrs / 7 days	0.74 / 1.37	0.28 / 0.66
Fungus Resistance MIL-STD-810B		Non-Nutrient
Operating Temperature Range	-55°C to +130°C	-55°C to +130°C
Typical Electrical Properties - Cured System		
Dielectric Strength, VPM (1/16" Sample)	504	510
Arc Resistance - Seconds		>182
Dielectric Constant @ 1kHz - @ 25°C	4.1	4.2
Dissipation Factor @ 1kHz - @ 25°C	0.033	0.057
Volume Resistivity, ohm-cm - @ 25°C	3.8×10^{11}	7.4×10^{4}
Surface Resistivity, ohms - @ 25°C	9.0×10^{12}	4.3×10^{15} at 130°C

OUTSTANDING FEATURES

- Low Cost
- Easy to Handle (process)
- Low Processing Hazards
- Non-MBOCA/Non-TDI
- Fungus Resistance
- Low Exotherm
- Low Shrinkage
- Improved Thermal Shock
- Low Stress on Embedded Components
- Excellent Dielectric Properties
- Room and/or Elevated Temperature Curing
- UL Recognized Systems, Systems to Meet UL 94 V-0 Flame Resistance Rating