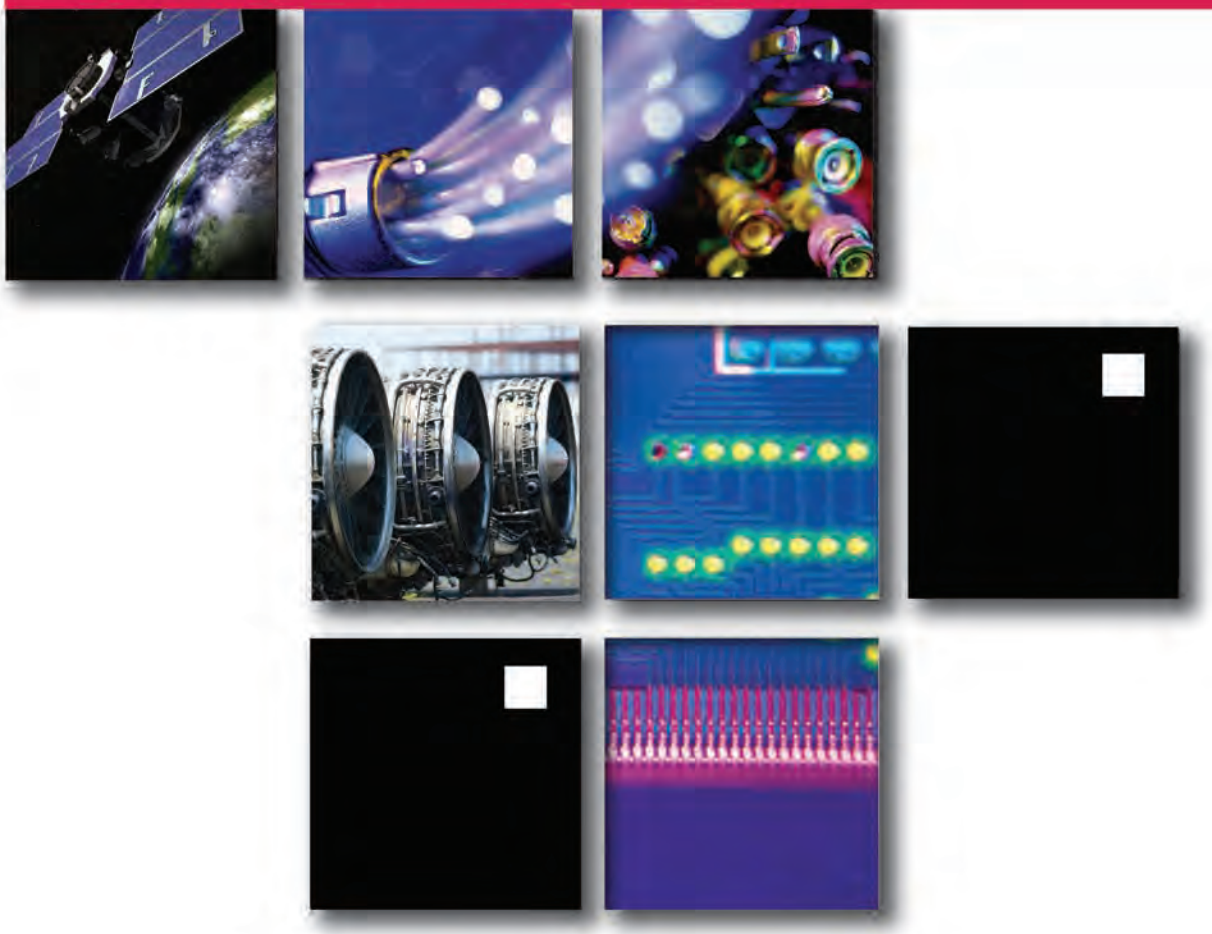
PolymerSystems
Technology Limited

Engineering Materials Selection Guide



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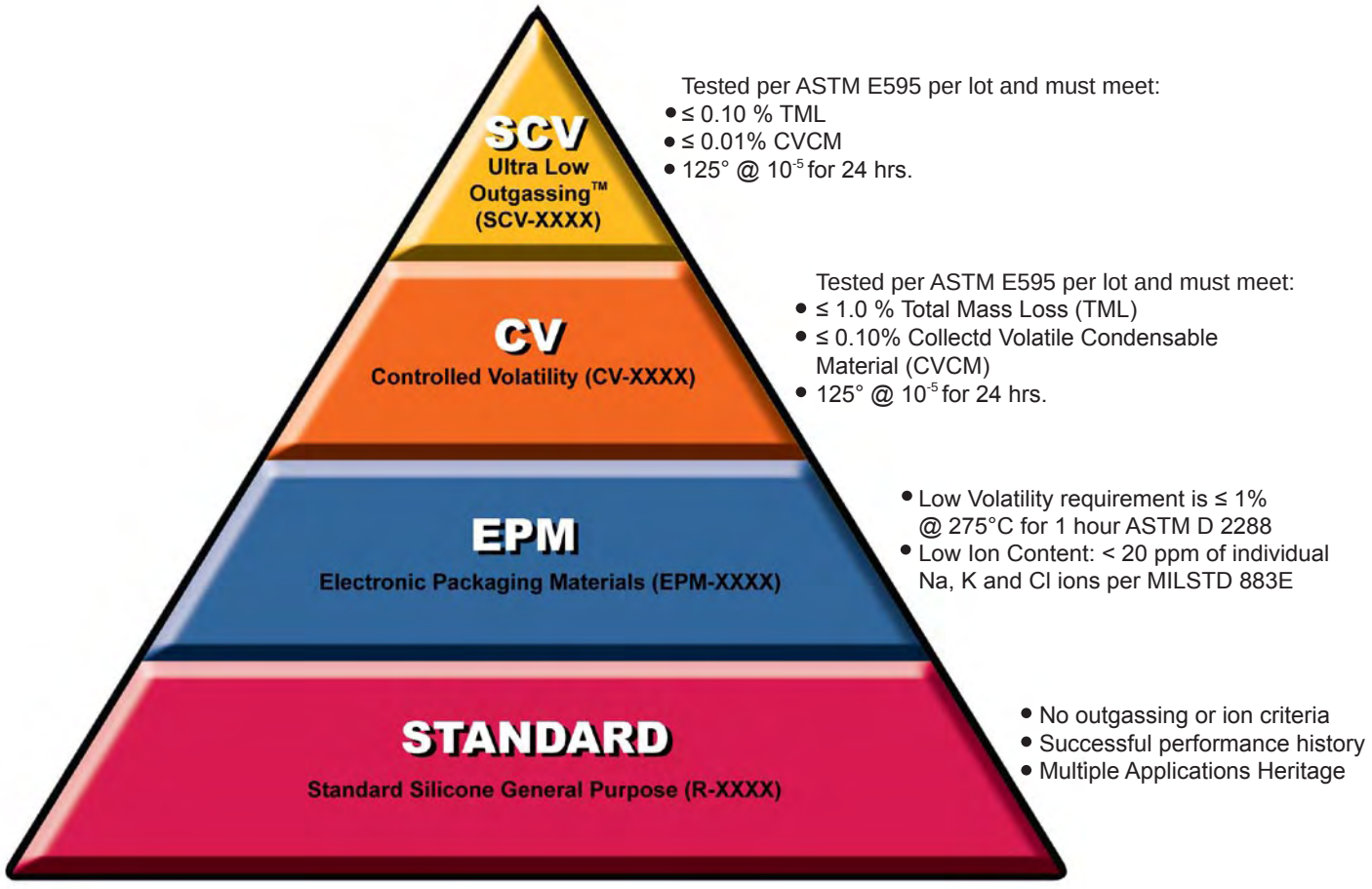
NuSil Technology is a global leader in the formulation and manufacture of silicones for the engineering industry, offering precise and predictable material performance. As an independent, international organization of scientists and professionals, NuSil builds its reputation and customers' success on silicone technology.

ISO 9001-certified since 1994 and AS 9100-certified since 2008, NuSil operates state-of-the-art laboratories and processing facilities in North America, providing on-site, in-person application engineering support worldwide.

What differentiates NuSil Technology from other silicone suppliers is its commitment to provide a full range of silicone materials to meet many diverse requirements. Today, NuSil Technology employs hundreds of research, manufacturing and engineering professionals perfecting silicones as materials of choice based on the vast, unique array of properties they provide.

Low Volatility Silicones

NuSil Technology offers a diverse product line of silicones based on the specification requirements of your application. We can vary the degree of processing needed to meet the desired levels for common contaminants such as ions and low molecular weight species associated with outgassing. The levels of processing are shown in the pyramid below from the bottom, Standard Level, having no outgassing criteria to the top SCV Level being tested per ASTM E595 meeting ≤ 0.10 % TML and ≤ 0.01 % CVCM. All levels in between vary in testing for outgassing requirements.



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Engineering Materials

NuSil Technology's silicones are based on advanced polysiloxane polymers. Our Engineering materials offer a solution to many of the difficulties faced by today's engineering and design professionals. They have found acceptance in myriad applications that span a broad variety of industries.

NuSil's silicone materials include:

- Potting compounds
- Encapsulants
- Gels
- Non-reactive fluids and greases
- High elongation elastomers
- Hard resins
- Adhesives and sealants
- Coatings
- Foams
- Thermally and electrically conductive adhesives and sealants
- Functional and non-functional polymers
- Gap Fillers

Many have come to rely on NuSil for high quality and high performance silicone materials.

Aircraft Materials

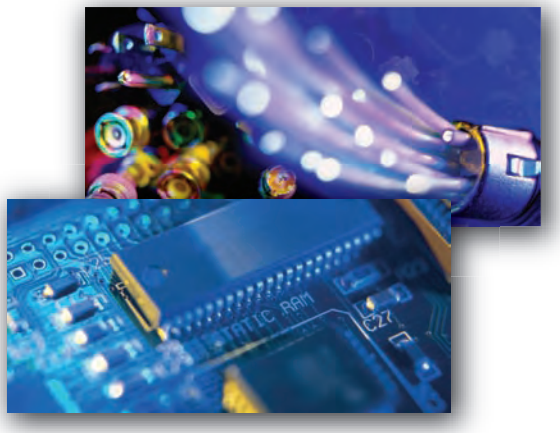
NuSil's ice-phobic silicone coatings can significantly reduce ice adhesion when applied to aerodynamic surfaces. Fluorosilicones can provide protection against fuel and can also incorporate functional fillers for use as gap fillers, coatings, molded parts, repair butters, or for other applications and they can also be calendared into sheets or ribbons. Electrically conductive additives can also be incorporated in NuSil's silicones which can provide protection against static accumulation and discharge that can damage sensitive electronic components.

Controlled Volatility Materials

Silicones have the ability to maintain elasticity and low modulus over a broad temperature range, providing excellent utility in space. The National Aeronautics and Space Agency (NASA) and the European Space Agency (ESA) require material to be tested per ASTM E 595 prior to use in space. NuSil Technology's Controlled Volatility (CV) Materials meet these requirements and its Ultra Low Outgassing™ Materials (SCV) exceed them by one order of magnitude.

Lightspan Materials

From LEDs to fiber optics, NuSil Technology's Lightspan™ brand product line delivers custom silicone formulations and the most comprehensive line of high-refractive index matching adhesives, encapsulants and thermosets available. NuSil also offers testing services for optical materials characterization, including UV-Vis-NIR spectrophotometric transmission and refractive index vs. wavelength and temperature.



Low Contamination Materials for Electronics

As a low stress alternative for electronic packaging, NuSil Technology's silicones allow the designer to choose from a unique line of silicones for various levels of packaging. We have an extensive line of encapsulants, adhesives and greases. These include thermally and electrically conductive silicones for Thermal Interface Materials (TIM) or for EMI and RFI shielding applications respectively. The degree of processing of the silicones are specified to meet the desired levels of common contaminants such as ions and low molecular weight species associated with outgassing.

ENGINEERING MATERIALS

General Purpose		NuSil Product Number	Comments	Cure System	Work Time	Tack Free Time	Cure Time / Temp °C	Specific Gravity	Durometer Type A	Tensile psi (MPa)	Elongation %	Tear ppi (kN/m)	Lap Shear psi (MPa)	Dielectric Strength V/mil	Flow (Inches) Viscosity (cP/mPa·sec) Extrusion (g/min)	Mix Ratio	Color
Properties listed are typical - Do not use as a basis for preparing specifications. Please contact NuSil Technology for assistance and recommendations.																	
COATINGS		R-1009	Dispersion Coating / Conformal, 32% Solids	Oxime	-	90 m	7 d / R.T., H	1.10	45	1,150 (7.9)	650	95 (16.8)	-	-	6,150	-	Trans
		R-1082	Dispersion Coating / Conformal, 20% Solids	Acetoxy	-	-	5 d / R.T., H	1.09	25	1,425 (9.8)	950	125 (22.0)	-	-	700	-	Trans
		R3-1075	Dispersion Coating / Conformal, 60% Solids	Oxime	-	80 m	7 d / R.T., H	1.06	40	700 (4.8)	350	40 (7.1)	-	1,250	3,300	-	Trans
		R-1182	Low CoF, Non-blocking	Platinum	-	-	-	-	-	-	-	-	-	-	-	-	Trans
		R-2180	Cure: 30 M / 25 °C : 45 M / 75 °C : 135 M / 150 °C, Ice Phobic, 20% Solids	Platinum	>72 h	-	See Comments	-	40	1,700 (11.7)	1,050	300 (52.9)	-	-	3,075	1:1	Trans
		R-2180-2	Cure: 30 M / 25 °C : 45 M / 75 °C : 135 M / 150 °C, Ice Phobic, 20% Solids	Platinum	-	-	See Comments	-	45	1,650 (11.4)	1,000	300 (52.9)	-	-	3,275	1:1	Black
		R-2182	Cure: 5 m / R.T., H : 5 m / 150	Platinum	>24 h	-	See Comments	0.96	-	-	-	-	-	-	Zahn Cup, Cup #2, 15 sec	1:1	Trans
		R-2183	Cure: 30 M / R.T., H : 45 M / 75 °C : 135 M / 150 °C	Platinum	-	-	See Comments	-	35	1,550 (10.7)	800	175 (30.9)	-	-	850	1:1	Trans
		CF19-2615	Solventless	Platinum	4 h	-	30 m / 150	-	30	120 (0.9)	100	-	-	500	A:1,300 / B:800	1:1	Clear
ADHESIVES & SEALANTS	ONE PART	R-1130	Adhesive, Non-slump	Oxime	-	25 m	7 d / R.T., H	1.10	35	850 (5.9)	325	40 (7.1)	*1)485 (3.6)	-	0.5 Inches	-	Trans
		R-1140	Adhesive, Non-slump	Acetoxy	-	7 m	72 h / R.T., H	1.08	30	700 (4.8)	350	40 (7.0)	*1)625 (4.3)	-	1.5 Inches	-	Trans
		R2-1140	Adhesive, Self-leveling	Acetoxy	-	9 m	7 d / R.T., H	1.03	23	250 (1.7)	350	20 (3.5)	*1)235 (1.6)	-	3 Inches	-	Trans
		R4-1140	Adhesive	Acetoxy	-	10 m	72 h / R.T., H	1.12	25	1,400 (9.7)	750	100 (17.6)	-	-	2 inches	-	Trans
		R-1400	Low Durometer, Non Flowable, Glob Top	Platinum	-	-	15 m / 200	1.18	19	825 (5.7)	750	110 (19.4)	-	400	400,000	-	Black
		R-1600	Low / High Temperature, Encapsulant‡	Oxime	-	30 m	7 d / R.T., H	1.10	45	650 (4.5)	300	60 (11.4)	*1)205 (1.4)	-	Non-slump	-	Clear
	TWO PART	R-2140	High Tear	Platinum	4 h	-	5 m / 177	1.09	40	850 (5.9)	320	150 (25.5)	-	-	A:120,000 / B:270	10:1	Gray
		R-2145	Extremely Tough , Fast Cure Elastomer	Platinum	15 m	-	2 h / 65	1.17	45	1,050 (7.2)	400	150 (26.5)	*2)600 (4.1)	825	A:310 g/min / B:280 g/min	1:1	Gray
		R1-2145	Longer Work Time, Young's Modulus 300 psi (2.1 MPa)	Platinum	60 m	-	2 h / 65	1.16	45	1,000 (6.9)	400	190 (33.5)	*2)625 (4.3)	825	A:280 g/min / B:290 g/min	1:1	Gray
		R-2160	High Temperature Elastomer‡	Platinum	50 m	-	30 m / 150	1.20	20	750 (5.2)	625	150 (25.5)	-	500	A:250,000 / B:650	10:1	Red
		R3-2160	Longer Work Time, High Temp Elastomer	Platinum	72 h	-	15 m / 150	1.17	35	475 (3.3)	475	125 (22.0)	*3)200 (1.4)	-	12 g/min	1:1	Red
		CF15-2186	Short Work Time, Quick Cure Elastomer	Platinum	1 m	-	24 h / R.T., H	-	25	1,200 (8.3)	625	100 (17.6)	-	500	A: 80,000 / B: 50,000	1:1	Trans
		CF19-2186	Longer Work Time, Low Durometer	Platinum	15 m	-	30 m / 150	1.11	25	1,100 (7.6)	600	80 (14.1)	*2)330 (2.3)	730	A:80,000 / B:65,000	1:1	Trans
		R-2186	All Purpose, High Tear Elastomer	Platinum	2.5 h	-	15 m / 150	1.12	30	1,050 (7.2)	450	100 (17.6)	*2)475 (3.3)	640	A:83,000	10:1	Trans
		R-2186-2	All Purpose, High Tear Elastomer	Platinum	3 h	-	15 m / 150	1.15	35	1,050 (7.2)	450	100 (17.6)	-	500	A:85,000	10:1	Black
		R28-2186	Non-slump	Platinum	6 m	3.5 h	30 m / 150	1.12	25	1,150 (7.9)	650	75 (13.2)	-	730	A:0.02 Inches	1:1	Trans
		R31-2186	Flowable, Fast Cure Adhesive	Platinum	15 m	-	24 h / R.T., H	1.12	20	1,000 (6.9)	775	125 (21.2)	110 (0.76)	905	A:82,000 / B:Thixotropic	1:1	Trans
		R32-2186	Flowable, Fast Cure Adhesive, Longer Work Time	Platinum	15 h	-	15 m / 150	1.12	15	975 (6.7)	850	125 (21.2)	150 (1.0)	905	A:80,000 / B:Thixotropic	1:1	Trans
		R33-2186	Flowable, Longer Work Time, Adhesive	Platinum	2 h	-	24 h / R.T., H	1.12	20	1,000 (6.9)	725	150 (26.5)	-	-	A:83,500	1:1	Trans
		R34-2186	Fast Cure Adhesive	Platinum	18 h	-	15 m / 120	1.09	48	830 (5.7)	340	70 (12.3)	-	-	9.0 g/min	1:1	Trans
		CF1-6755	Tough Elastomer‡	Platinum	2 h	-	30 m / 150	1.14	30	675 (4.7)	275	40 (7.1)	-	-	A:40,000 / B:35,000	1:1	Clear
		R-2185	Flowable, Light-weight Elastomer	Platinum	1 h	-	30m/150	0.96	40	500 (3.4)	280	65 (11.5)	-	-	A:96,000	10:1	White
		CF2-2186	Medium Viscosity, All Purpose Potting & Encapsulant	Platinum	2 h	-	10 m / 150	1.10	20	900 (6.2)	600	70 (12.3)	-	500	A: 38,000 / B: 18,000	10:1	Trans
		CF16-2186	Medium work time, Quick Cure Elastomer	Platinum	15 m	-	60 m / 100	1.12	30	1,175 (8.1)	550	80 (14.1)	-	900	A:70,000	10:1	Trans
		CF20-2186	Longer Work Time	Platinum	3 h	-	60 m / 100	1.10	30	1,100 (7.6)	600	80 (14.1)	-	900	A:80,000 / B: 50,000	1:1	Trans
		R-2188	High Power Electronics	Platinum	14 h	-	30 m / 150	1.05	20	475 (3.3)	350	-	-	450	A: 13,500 / B: 9,000	1:1	Trans
		R-2550	Low Viscosity, All-purpose, Tough Elastomer‡	Alkoxy	6 h	24 h	7 d / R.T., H	1.08	35	500 (3.5)	175	20 (3.5)	-	-	9,000	100:0.5	Trans
		R-2560	Low/High Temperature, Flowable	Alkoxy	1 h	-	7 d / R.T., H	1.41	55	700 (4.8)	125	-	385 (2.7)	-	31,000	100:0.5	Red
		R-2588	Low/High Temperature, Good Adhesion	Alkoxy	-	12 h	7 d/ R.T., H	1.44	65	750 (5.2)	95	-	675 (4.7)	-	825,000	100:3.8	Red
		R-2615	High Durometer	Platinum	4 h	-	15 m / 150	1.03	50	1,300 (9.0)	100	20 (3.5)	-	500	A:6,000 / B:90	10:1	Clear
		R-2615-3	Low Viscosity	Platinum	2 h	-	30 m / 150	1.06	50	1,000 (6.9)	100	-	-	830	A:6000 B:2500	1:1	Red
		R21-2615	Post Cure Durometer Type A 80	Platinum	24 h	-	30 m / 150	-	80	950 (6.6)	55	50 (8.8)	-	-	A:27,500 / B:25,000	1:1	Clear
		R-2620	Low viscosity, High Durometer, Quartz Filled‡	Platinum	6 m	-	10 m / 150	1.22	55	1,200 (8.3)	95	-	-	500	9,000	10:1	Tan
		R-2652	Low Durometer - Type '00' 65	Platinum	10 m	-	60 m / 100	1.01	See Comments	50 (0.34)	130	-	-	500	4,500	10:1	Clear
		R-2655	Low / High Temperature Elastomer‡	Platinum	5 h	-	60 m / 100	1.03	40	900 (6.2)	120	-	-	-	5,400	10:1	Clear
	THREE PART	R2-6755	Better Adhesion to Polycarbonate‡	Platinum	-	-	30 m / 150	1.14	20	550 (3.79)	325	25 (4.4)	-	-	A:48,500 / B:40,000 / C:1,350	1:1:0.1	Trans
LIQUID SILICONE RUBBERS (LSR)		LSR-5805	Liquid Injection Molding, Low Durometer	Platinum	>72 h	-	5 m / 150	1.08	11	450 (3.1)	1,050	60 (10.6)	-	-	50 g/min	1:1	Trans
		LSR-5810	Liquid Injection Molding	Platinum	>72 h	-	5 m / 150	1.07	15	750 (5.2)	1,075	70 (12.3)	-	-	A:80 g/min / B: 110 g/min	1:1	Trans
		LSR-5815	Liquid Injection Molding	Platinum	>72 h	-	5 m / 150	1.10	20	1,000 (6.9)	1,000	125 (22.0)	-	-	A:45 g/min / B:65 g/min	1:1	Trans
		LSR-5820	Liquid Injection Molding	Platinum	>72 h	-	5 m / 150	1.14	30	900 (6.2)	850	125 (22.0)	-	-	A:40g/min / B:50 g/min	1:1	Trans
		LSR-5830	Liquid Injection Molding	Platinum	>72 h	-	5 m / 150	1.13	40	1,250 (8.6)	750	140 (24.7)	-	-	A:100 g/min / B:120 g/min	1:1	Trans
		LSR-5840	Liquid Injection Molding	Platinum	>72 h	-	5 m / 150	1.12	50	1,100 (7.6)	550	250 (44.1)	-	-	A:160 g/min / B:300 g/min	1:1	Trans
		LSR-5850	Liquid Injection Molding	Platinum	>72 h	-	5 m / 150	1.15	60	1,400 (9.7)	660	235 (40.6)	-	-	A:45 g/min / B: 75 g/min	1:1	Trans
		LSR-5860	Liquid Injection Molding	Platinum	>72 h	-	5 m / 165	1.16	70	1,300 (9.0)	525	260 (45.9)	-	-	A:45 g/min / B:110 g/min	1:1	Trans
		LSR-5870	Liquid Injection Molding	Platinum	>72 h	-	5 m / 165	1.16	80	1,350 (9.3)	400	225 (35.2)	-	-	A:25 g/min / B:70 g/min	1:1	Trans
		LSR-5880	Liquid Injection Molding, High Durometer	Platinum	>72 h	-	5 m / 165	1.20	65	950 (6.6)	250	85 (15.0)	-	-	A:25 g/min / B:110 g/min	1:1	Trans
MOLD MAKING		R-2200-11	Casting, Creating Molds	Platinum	>2.5 h	-	30 / 150	1.24	-	800 (5.5)	135	100 (17.6)	-	-	A:140,000 / B:3,000	10:1	Gray
GELS		GEL-8100	Medium GEL, Penetration 10 mm	Platinum	> 24 h	-	60 m / 100	0.97	-	-	-	-	-	500	525	1:1	Clear
		GEL-8150	Firm GEL, Penetration 0.4 mm, Longer Work Time	Platinum	4 h	-	30 m / 100	0.97	-	-	-	-	-	500	500	1:1	Trans
		GEL1-8155	Firm GEL, Penetration 5 mm	Platinum	-	-	30 m / 150	-	-	-	-	-	-	-	14,500	1:1	Clear
		GEL-8170	High Purity, Volume Resistivity 1x10^{15} ohm·cm	Platinum	-	-	90 m / 80	0.97	-	-	-	-	-	500	600	1:1	Trans
		GEL-8250	Low / High Temperature, Penetration 0.5 mm‡	Platinum	2 h	-	30 m / 100	-	-	-	-	-	-	500	650	1:1	Clear

‡=Designed for Broad Operating Temperatures

d = day
h = hour
m = minutes

R.T. = Room Temperature
H = Humidity

*1) Primed with SP-120
*2) Primed with CF1-135
*3) Primed with SP-270

g/min = Grams Per Minute Trans = Translucent

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ENGINEERING MATERIALS

General Purpose	NuSil Product Number	Comments	Cure System	Work Time	Tack Free Time	Cure Time / Temp °C	Specific Gravity	Durometer Type A	Tensile psi (MPa)	Elongation %	Tear ppi (kN/m)	Lap Shear psi (MPa)	Dielectric Strength V/mil	Flow (Inches) Viscosity (cP/mPa·sec) Extrusion (g/min)	Mix Ratio	Color
Properties listed are typical - Do not use as a basis for preparing specifications. Please contact NuSil Technology for assistance and recommendations.																
SILICONE FOAMS	SFM5-2350	Flame Resistant, 25 lb/ft³ (0.400 g/cm³)	Platinum	23 m	-	45 m / 100	0.35	-	-	-	-	-	190	A:55,000 / B:50,000	1:1	Gray
	R1-2354	High Strength, Soft, 40 lb/ft³ (0.640 g/cm³)	Platinum	-	-	10 m / R.T.	0.45	-	100 (.069)	-	-	-	-	-	1:1	Trans
	R-2356	Flame Resistant, 28 lb/ft³ (0.450 g/cm³)	Platinum	-	-	15 m / R.T.	0.35	-	-	-	-	-	190	A:4,100 / B:5,300	1:1	Gray
	R-2370	Low Density, Soft, 10 lb/ft³ (0.16 g/cm³)	Alkoxy	-	-	10 m / R.T., H	-	-	-	-	-	-	-	4,700	100:6	Tan
	~~R-2380~~	~~Medium Density, Soft, 19 lb/ft³ (0.31 g/cm³)~~	~~Alkoxy~~	-	-	~~10 m / R.T., H~~	~~0.34~~	-	-	-	-	-	-	~~3,600~~	~~100:6~~	~~Tan~~
ELECTRICALLY CONDUCTIVE	R-1505	8 ohm·cm. Static Dissipation ‡	Oxime	-	10 m	7 d / R.T., H	1.23	75	525 (3.6)	25	-	-	10	Non-slump	1 Part	Black
	R-2630	7 ohm·cm, Low viscosity	Platinum	11 h	-	30 m / 150	1.10	60	700 (4.8)	90	35 (6.2)	-	10	20,000	10:1	Black
	R-2631	50 ohm·cm, Low Duromter, Tough	Platinum	8 h	-	60 m / 65	1.07	40	600 (4.5)	275	50 (8.8)	-	-	100 g/min	1:1	Black
	R-2634	0.001 ohm·cm, Low / High Temperature ‡	Alkoxy	3 h	-	7 d / R.T., H	3.36	80	250 (1.7)	90	50 (8.8)	195 (1.3)	-	90 g/min	100:0.5	Tan
	R-2637	0.006 ohm·cm	Platinum	4 h	-	30 m / 150	3.60	60	210 (2.1)	275	-	-	5	Paste	20:1	Tan
THERMALLY CONDUCTIVE	R-2930	*22) 1.46 W/m·K	Platinum	3 h	-	30 m / 150	1.55	80	260 (1.72)	20	-	-	880	Paste	15:1	White
	R-2939	*22) 0.75 W/m·K	Platinum	4 h	-	30 m / 150	1.34	70	300 (2.1)	70	45 (7.9)	-	810	A:70,000	15:1	White
	R-2940	*22) 0.84 W/m·K, High Durometer	Platinum	5 h	24 h	30 m / 150	2.41	90	700 (4.8)	35	65 (11.5)	-	450	Paste	20:1	Gray
	R-2949	*22) 0.75 W/m·K, Low / High Temperature ‡	Platinum	3.5 h	-	30 m / 150	-	75	275 (1.9)	50	45 (7.9)	-	920	A:75,000	15:1	White
FLUOROSILICONES	GEL-3500	Fuel Resistant Gel, Durometer -Type '00' 50	Platinum	12 h	-	45 m / 150	-	See comments	-	-	-	-	-	A:12,000 / B:10,500	1:1	Trans
	CF1-3510	Fuel / Solvent Resistant	Platinum	7 h	-	30 m / 150	1.44	20	185 (1.2)	135	-	-	-	A:70,000 / B:10	10:1	Red
	CF2-3521	Fast Cure	Platinum	-	-	30 m / 150	1.30	35	750 (5.2)	325	-	-	-	-	1:1	Trans
	CF2-3521-2	Fuel Resistant	Platinum	60 m	-	48 h / R.T.	1.28	35	600 (4.1)	265	-	*2) 350 (2.4)	-	Paste	1:1	Black
	~~CF3-3521~~	~~Liquid Injection Molding, Fuel Resistant~~	~~Platinum~~	~~12 h~~	-	~~30 m / 150~~	~~1.26~~	~~30~~	~~700 (4.8)~~	~~360~~	-	-	-	~~A:90 g/min / B:150 g/min~~	~~1:1~~	~~Trans~~
	CF5-3521-2	Liquid Injection Molding, Fuel Resistant	Platinum	3.5 h	-	48 h / R.T.	1.30	30	550 (3.8)	275	35 (6.2)	-	-	240,000	1:1	Black
	~~R7-3521-11~~	~~Solvent Resistant~~	~~Platinum~~	~~60 m~~	-	~~48 h / R.T.~~	~~1.27~~	~~30~~	~~500 (3.4)~~	~~260~~	~~35 (6.2)~~	-	-	-	~~1:1~~	~~Gray~~
	~~FS-3502-1~~	~~Fuel Resistant white gel~~	~~Platinum~~	-	-	~~4 h / 50~~	-	~~10~~	-	-	-	-	-	~~1,200~~	~~1:1~~	~~White~~
	FS-3511	Liquid Injection Molding Fluorosilicone	Platinum	24 h	-	30 m / 150	1.39	40	1,150 (7.9)	335	60 (10.6)	-	-	A:40 g/min / B:35 g/min	1:1	Trans
	~~FS-3606~~	~~Fluid, Volume Resistivity 1x10¹⁵ ohms·cm~~	-	-	-	-	-	-	-	-	-	-	~~400~~	~~350, 1,000 and 12,500~~	-	Trans
	CF1-3710-2	Fuel / Solvent Resistant Foam, 50 lb/ft³ (800 Kg/m³)	Platinum	-	10 m	1 to 4 h / R.T.	-	-	-	-	-	-	-	-	1:1	Gray
	FS-3730	Available in Gray / Black / Translucent	Acetoxy	-	30 m	72 h / R.T., H	1.40	35	850 (5.9)	425	60 (10.6)	*2) 380 (2.6)	-	Thixotropic	-	White
	FS-3730-11	Lap Shear after 7 days, *1) 275 psi (1.9 MPa)	Acetoxy	1.48	15 m	72 h / R.T., H	1.48	40	700 (4.8)	275	50 (8.1)	-	-	Thixotropic	-	Gray
	FS3-3730	Fuel Resistant, 100 m%	Acetoxy	-	15 m	72 h / R.T., H	1.35	35	850 (5.9)	400	55 (9.7)	-	-	240 g/min	-	Trans
	FS-3775	High Temperature, Fuel Resistant	Acetoxy	-	8 m	72 h / R.T., H	1.29	30	450 (3.1)	400	40 (7.1)	-	-	250 g/min	-	Trans
	~~FS-3781~~	~~Extrusion or Compression Molding, Pre-catalyzing~~	~~Peroxide~~	-	-	~~30 m / 120~~	~~1.33~~	~~30~~	~~850 (5.9)~~	~~300~~	~~40 (7.1)~~	-	-	-	-	~~Trans~~
	CF1-3800	*22) Thermally Conductive 1.25 W/m·K, Fuel Resistant	Platinum	2 h	-	30 m / 150	1.52	50	125 (0.86)	50	-	-	-	Paste	15:1	White
	R-3930	Dispersion Coating, Sprayable	Acetoxy	-	-	72 h / R.T., H	1.36	35	850 (5.9)	400	50 (8.8)	-	-	-	-	Trans
	R-3975	High Temperature, Dispersion Coating Sprayable	Acetoxy	-	-	72 h / R.T., H	1.29	25	425 (2.9)	400	35 (6.2)	-	-	1,625	-	Trans
INKS	R-1008	Available in: Translucent, White, Black, Red, Orange, Yellow, Green, Blue, Violet	Oxime	-	40 m	7 d / R.T., H	-	30	300 (2.06)	200	-	-	-	1,150	-	Various
	R-2100-2	Fast Cure	Platinum	-	-	5 m / 150	-	-	-	-	-	-	-	A:800 / B:2,850	1:1	Black
	R-2100-7	Fast Cure	Platinum	-	-	5 m / 150	-	-	-	-	-	-	-	A:2,100 / B:850	1:1	Blue
FLUIDS	S-7200	Viscosity up to 7 Million cps, Volatility 2% max.	-	-	-	-	1.00	-	-	-	-	-	400	Up to 7 Million cP	-	Clear
	S-7201	Certified to FED Spec. VV-D-1078	-	-	-	-	0.98	-	-	-	-	-	400	2 Million and 2.5 Million cP	-	Clear
	S-7205	Kinematic Viscosity 0.62 cSt	-	-	-	-	-	-	-	-	-	-	-	-	-	Trans
	S-7400	Low / High Temperature, Volatile Content 4% max.	-	-	-	-	1.01	-	-	-	-	-	400	40,000 to 2.5 Million cP	-	Trans
	S-7402	Low/High Temp, Volatile Content 3% Max	-	-	-	-	1.01	-	-	-	-	-	-	-	-	Trans
GREASES								-								
	G-9010	Stiff Consistency Grease, Volatile Content 0.2% max.	-	-	-	-	1.14	-	-	-	-	-	-	1,100,000	-	Trans
	G-9020	Volatility 0.3% max.	-	-	-	-	1.08	-	-	-	-	-	-	Medium Grease	-	Trans
	G-9030	Stiff Consistency,Volatile Content 0.3% max.	-	-	-	-	1.11	-	-	-	-	-	-	980,000	-	Gray
	G-9040	Low Viscosity, Volatile Content 0.5%	-	-	-	-	0.97	-	-	-	-	-	-	Liquid	-	Clear
	G-9200	Stiff Consistency Grease	-	-	-	-	1.12	-	-	-	-	-	-	Heavy Grease	-	Clear
	G-9340	Thermally Conductive	-	-	-	-	2.26	-	-	-	-	-	500	Medium Grease	-	White
PRIMERS	SP-120	General Purpose, 4.1% Solids	Hydrolysis	-	-	1 h / R.T., H	0.77	-	-	-	-	-	-	1	-	Clear
	SP-121	General Purpose, 3.5% Solids	Hydrolysis	-	-	1 h / R.T., H	0.77	-	-	-	-	-	-	1	-	Red
	SP-124	Condensation Cure Systems, 9.6% Solids	Hydrolysis	-	-	1 h / R.T., H	0.78	-	-	-	-	-	-	1	-	Trans
	CF1-135	Addition Cure Systems,4.5% Solids	Hydrolysis	-	-	1 h / R.T., H	0.77	-	-	-	-	-	-	1	-	Clear
	CF2-135	Addition Cure Systems, 4.5% Solids	Hydrolysis	-	-	1 h / R.T., H	0.77	-	-	-	-	-	-	1	-	Clear
	CF6-135	Addition Cure Systems, Inhibiting Environments, 8.5% Solids	Hydrolysis	-	-	1 h / R.T., H	0.78	-	-	-	-	-	-	1	-	Trans
	CF1-141	Addition Cure Systems, Dispersed in IPA, 6% Solids	Hydrolysis	-	-	1 h / R.T., H	0.80	-	-	-	-	-	-	1	-	Red
	SP-142	Addition Cure Systems, 20% Solids	Hydrolysis	-	-	1 h / R.T., H	0.80	-	-	-	-	-	-	1	-	Trans
	SP-270	Addition Cure Systems, Difficult Substrates, 15% Solids	Hydrolysis	-	-	1 h / R.T., H	0.77	-	-	-	-	-	-	1	-	Trans
	SP-271	Addition Cure Systems, Difficult Substrates, 20% Solids	Hydrolysis	-	-	-	0.80	-	-	-	-	-	-	1	-	Trans
SILICONE RESINS	CF-4721	75 Type D with Dicumyl Peroxide Catalyst (Catalyst Not Included)	-	-	-	-	1.10	See Comments	-	-	-	-	-	125	-	Lt. Amber
	CF2-4721	75 Type D, Precatalyzed	Peroxide	30 d	-	15 m / 150	1.09	7	-	-	-	-	-	130	-	Lt. Amber

*22) Tested per ASTM E1530 ‡=Designed for Broad Operating Temperatures

d = day
h = hour
m = minutes

R.T. = Room Temperature
H = Humidity

*1) Primed with SP-120
*2) Primed with CF1-135

g/min = Grams Per Minute

Trans = Translucent

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CONTROLLED VOLATILITY MATERIALS

General Purpose	NuSil Product Number	Comments	Cure System	Work Time	Tack Free Time	Cure Time / Temp °C	Specific Gravity	Durometer Type A	Tensile psi (MPa)	Elongation %	Tear ppi (kN/m)	CTE ppm/°C	Dielectric Strength V/mil	Flow (Inches) Viscosity (cP/mPa·sec) Extrusion (g/min)	Mix Ratio	Color
Materials are tested in accordance with ASTM E 595 Total Mass Loss (TML) of≤ 0.10% and Collected Volatile Condensable Materials (CVCM) of ≤ 0.01%								Properties listed are typical - Do not use as a basis for preparing specifications. Please contact NuSil Technology for assistance and recommendations.								
ULTRA LOW OUTGASSING™	SCV-2585	Pourable Elastomer,[*4)] Primed Lap Shear 475 psi (3.3 MPa) ‡	Platinum	1 h	-	15 m / 150	-	35	700 (4.8)	300	40 (7.1)	-	-	A: 56,000 / B: 43,000	1:1	Trans
	SCV-2586	Fast Cure, Low Density, Primed Lap Shear 175psi	Platinum	4 h	-	30 m / 150	0.74	45	225 (1.6)	150	-	-	-	A: 375,000 / B: 275,000	1:1	Red
	SCV-2590	Pourable ‡	Platinum	-	-	15 m / 150	1.02	45	950 (6.6)	125	-	-	-	A:8,000	10:1	Clear
	SCV-2590-2	Low Viscosity, Fast Cure	Platinum	4.5 h	-	30 m / 150	1.06	50	950 (6.6)	150	-	370	850	A:9,500	10:1	Black
	SCV1-2590	[*4)] Primed Lap Shear 175 psi (1.2 MPa)	Platinum	4 h	-	15 m / 150	1.02	50	925 (6.4)	90	-	400	-	A:3,800 / B:2,800	1:1	Clear
	SCV2-2590	Low / High Temperature, [*4)] Primed Lap Shear 250 psi (1.7 MPa) ‡	Platinum	-	-	4 h / 65	1.04	45	475 (3.3)	85	-	490	-	A:3,500	10:1	Clear
	SCV-2596	Electrically Conductive, 2.5 ohm·cm, Carbon Fiber Filled ‡	Platinum	2 h	-	30 m / 150	1.19	75	475 (3.3)	90	-	580	-	-	10:1	Black
	SCV1-2596	Electricaly Conductive, 0.005 ohm·cm,[*21, 22)] 1.2 W/m·K	Platinum	2.5 h	-	30 m / 150	3.42	85	450 (3.1)	-	-	215	-	Paste	20:1	Tan
	SCV1-2599	Thermally Conductive,[*22)] 1.60 W/m·K	Platinum	2 h	-	7 d / R.T.	1.53	75	200 (1.4)	30	-	225	540	Paste	15:1	White
	SCV2-2599	[*22)] 0.64 W/m·K	Platinum	3 h	-	30 m / 150	-	55	400 (2.75)	225	55 (9.7)	-	-	140 g/min	20:1	White
Controlled volatility or low out-gassing materials are tested in accordance with ASTM E 595 Total Mass Loss (TML) of ≤1.0% and Collected Volatile Condensable Materials (CVCM) of ≤0.10%																
COATINGS	CV-1144-0	60% Solids, Atomic Oxygen Protective Overcoat ‡	Oxime	-	50 m	7 d / R.T., H	1.00	-	-	-	-	-	-	240	-	Clear
	CV1-1144-0	50% Solids ‡	Oxime	-	10 m	7 d / R.T., H	1.11	-	-	-	-	-	-	850	-	Clear
	CV3-1144-1	60% Solids ‡	Oxime	-	-	7 d / R.T., H	-	-	-	-	-	-	-	900	-	White
	CV-1146-2	72% Solids ‡	Oxime	-	1 h	7 d / R.T., H	1.26	-	-	-	-	-	845	2,400	-	Black
	CV2-1147	60% Solids, Non-blocking Overcoat ‡	Oxime	-	2 h	7 d / R.T., H	1.12	-	-	-	-	-	-	2,000	-	Trans
	CV-1148	70% Solids ‡	Oxime	-	1 h	7 d / R.T., H	1.34	-	-	-	-	-	-	7,500	-	Black
	CV1-1148	40% Solids ‡	Oxime	-	40 m	7 d / R.T., H	1.07	-	-	-	-	-	-	5,000	-	Black
	CV2-1148	100% Solids ‡	Oxime	-	-	7 d / R.T., H	1.07	-	-	-	-	-	-	Non-slump	-	Black
	CV-1152	Protective Overcoat, 100% Solids ‡	Oxime	-	50 m	7 d / R.T., H	1.01	-	-	-	-	-	-	7,300	-	Clear
ADHESIVES & SEALANTS — ONE PART	CV-1142	Spot Bonding, Available in Black & White ‡	Oxime	-	20 m	7 d / R.T., H	1.11	45	700 (4.85)	300	-	320	1,100	35 g/min	-	Trans
	CV1-1142	Self-leveling, Available in Black & White ‡	Oxime	-	-	7 d / R.T., H	1.06	30	400 (2.75)	200	-	-	-	13,000	-	Trans
	CV1-1142-4	Self-leveling, Built-in UV Tracer ‡	Oxime	-	-	7 d / R.T., H	1.05	35	350 (2.4)	200	-	-	500	60 g/min	-	Trans
	CV2-1142	Available in Black & White ‡	Oxime	-	15 m	7 d / R.T., H	-	50	-	-	-	-	-	Non-slump	-	Trans
	CV3-1142	Spot Bonding, Available in Black & White ‡	Oxime	-	-	7 d / R.T., H	1.11	45	675 (4.7)	300	-	-	-	Non-slump	-	Trans
	CV7-1142-1	Flow Rate 0.7" with 0.375" Plunge ‡	Oxime	-	20 m	7 d / R.T., H	1.13	40	700 (4.85)	300	60 (10.6)	320	1,180	20 g/min	-	White
	CV9-1142	High Durometer, Low Density ‡	Oxime	-	25 m	7 d / R.T., H	0.82	55	400 (2.8)	85	-	-	-	35 g/min	-	White
	CV-1143	Non-Slump ‡	Oxime	-	15 m	7 d / R.T., H	1.10	45	800 (5.5)	400	-	-	-	Non-slump	-	Trans
	~~CV-2189-2~~	~~Thixotropic~~	~~Platinum~~	-	-	~~15 m / 200~~	~~1.15~~	~~17~~	~~750 (5.17)~~	~~700~~	~~55 (9.7)~~	-	-	~~225,000~~	-	~~Black~~
ADHESIVES & SEALANTS — TWO PART	CV-2187	Tough, Flowable, Fast Cure	Platinum	3 h	15 h	15 m / 150	1.10	35	925 (6.4)	400	75 (13.2)	-	-	90,000	10:1	Trans
	CV-2287	Low / High Temperature, Flowable, Fast Cure ‡	Platinum	3.5 h	-	30 m / 150	1.11	30	725 (5.0)	400	55 (9.7)	535	900	85,000	10:1	Trans
	CV-2289	Lap Shear 400 psi ‡	Platinum	-	4 h	15 m / 150	-	30	750 (5.2)	350	-	-	-	-	1:1	Trans
	CV-2289-1	Pourable Elastomer ‡	Platinum	30 m	4 h	15 m / 150	-	30	700 (4.80)	350	-	445	955	A:60,000 / B:40,000	1:1	White
	CV-2289-2	Pourable Elastomer ‡	Platinum	30 m	5 h	15 m / 150	-	30	750 (5.2)	400	50 (8.8)	-	-	A:65,000 / B:40,000	1:1	Black
	CV1-2289-1	[*4)] Primed Lap Shear 450 psi (3.1 MPa) ‡	Platinum	-	-	15 m / 150	1.10	30	750 (5.2)	350	-	-	-	A:65,000 / B:40,000	1:1	White
	CV2-2289-1	Low Viscosity,[*4)] Primed Lap Shear 300 psi (2.1 MPa) ‡	Platinum	-	20 h	4 h / 65	-	30	450 (3.10)	250	-	-	-	A:14,000 / B:10,500	1:1	White
	CV3-2289-1	Low Viscosity, Added Micro-baloons for Bond Line Control ‡	Platinum	-	12 h	7 d / R.T.	-	35	175 (1.20)	125	-	-	-	A:15,000 / B:14,000	1:1	White
	CV4-2289-1	Non-flowable ‡	Platinum	30 m	10 h	30 m / 150	-	30	650 (4.5)	400	-	-	-	A: 1,300,000 / B: 1,000,000	1:1	White
	CV7-2289-1	Primerless Adhesion ‡	Platinum	-	-	15 m / 150	-	30	700 (4.8)	375	-	-	-	A: 57,500 / B:400,000	1:1	White
	CV-2500	Pourable, Optically Clear	Platinum	2 h	10 h	15 m / 150	1.02	50	1,000 (6.90)	125	-	-	-	A:8,000	10:1	Clear
	CV-2500-2	Low Viscosity, Fast Cure	Platinum	3 h	6 h	30 m / 150	1.05	50	950 (6.6)	150	-	370	850	8,500	10:1	Black
	CV3-2500	Low Viscosity, Potting & Encapsulant, Optically Clear	Platinum	3 h	6 h	30 m / 150	1.02	40	950 (6.6)	100	-	-	-	3,000	10:1	Clear
	CV4-2500	Low Durometer, Low Viscosity, Optically Clear	Platinum	2 h	15 h	60 m / 65	-	25	-	-	-	-	-	1,500	1:1	Clear
	CV10-2500	High Durometer, Optically Clear	Platinum	3 h	5 h	15 m / 150	1.02	50	1,000 (6.90)	130	-	-	-	7,500	1:1	Clear
	CV14-2500	Primerless Adhesion	Platinum	-	-	60 m / 65	1.01	30	425 (2.9)	150	-	-	-	2,600	1:1	Trans
	CV15-2500	[*4)] Primed Lap Shear 225 psi (1.6 MPa), Optically Clear	Platinum	3 h	6 h	15 m / 150	1.02	50	850 (5.9)	90	-	400	-	A:3,750 / B:2,700	1:1	Clear
	CV16-2500	Low / High Temperature,[*4)] Primed Lap Shear 200 psi (4.1 MPa), Optically Clear	Platinum	2 h	-	4 h / 65	1.04	40	650 (4.5)	100	-	490	-	A:3,600	10:1	Clear
	CV-2501	Longer Work Time, Optically Clear	Platinum	10 h	-	15 m / 150	1.02	50	900 (6.2)	150	-	-	-	7,500	10:1	Clear
	~~CV-2502~~	~~Low Flow~~	~~Platinum~~	-	-	~~7 d / R.T.~~	~~1.06~~	~~40~~	~~800 (5.5)~~	~~200~~	-	-	-	~~0.3 Inches~~	~~10:1~~	~~Trans~~
	CV-2510	Low / High Temperature, Flowable ‡	Alkoxy	4 h	-	7 d / R.T., H	1.19	45	600 (4.1)	200	-	-	-	45,000	100:0.5	White
	CV-2566	Pourable RTV Cure,[*1)] Primed Lap Shear 575 psi (4.0 MPa) ‡	Alkoxy	4 h	-	7 d / R.T., H	1.49	55	925 (6.4)	150	40 (7.1)	330	825	55,000	100:0.5	Rust
	CV1-2566	[*1)] Primed Lap Shear 650 psi (4.5 MPa) ‡	Alkoxy	3 h	-	7 d / R.T., H	1.45	50	900 (6.2)	160	-	-	-	45,000	100:0.5	Red
	CV2-2566	[*2)] Primed Lap Shear 625 psi (4.3 MPa) ‡	Alkoxy	2 h	-	7 d / R.T., H	1.50	55	900 (6.2)	140	40 (7.1)	-	-	Thixotropic	100:0.5	Red
	CV-2567	Diluent for Tin Condensation CV Silicones ‡	Alkoxy	6.5 h	-	7 d / R.T., H	1.01	21	80 (0.6)	150	-	-	-	5,000	100:0.5	Clear
	CV-2568	Long Worktime, Low Density,[*1)] Primed Lap Shear 100 psi (0.69 MPa) ‡	Alkoxy	-	-	7 d / R.T., H	0.64	50	175 (1.20)	60	-	180	645	125,000	100:0.5	Red
	CV10-2568	Fast Cure, Low Density,[*4)] Primed Lap Shear 175 psi (1.2 MPa) ‡	Platinum	3 h	-	30 m / 150	0.76	40	235 (1.62)	170	-	245	860	A:125,000 / B:80,000	1:1	Red

‡=Designed for Broad Operating Temperatures

[*1)] Primed with SP-120
[*2)] Primed with SP-121
[*4)] Primed with CF1-135
[*21)] Tested per ASTM C1045
[*22)] Tested per ASTM E 1530

d = days
h = hours
m = minutes

R.T. = Room Temperature
H = Humidity

g/min = Grams Per Minute

Trans = Translucent
Clear = Clear to Transparent

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CONTROLLED VOLATILITY MATERIALS

General Purpose		NuSil Product Number	Comments	Cure System	Work Time	Tack Free Time	Cure Time / Temp °C	Specific Gravity	Durometer Type A	Tensile psi (mPa)	Elongation %	Tear ppi (kN/m)	CTE ppm/°C	Dielectric Strength V/mil	Flow (Inches) Viscosity (cP/mPa·sec) Extrusion (g/min)	Mix Ratio	Color
Materials are tested in accordance with ASTM E 595 Total Mass Loss (TML) of ≤ 1.0% and Collected Volatile Condensable Materials (CVCM) of ≤ 0.10%																	
															Properties listed are typical - Do not use as a basis for preparing specifications. Please contact NuSil Technology for assistance and recommendations.		
ELECTRICALLY CONDUCTIVE / STATIC DISSAPATIVE		CV-1500	3.0 ohm·cm,[*1)] Primed Lap Shear 325 psi (2.2 MPa),[*22)] 0.32 W/m•K ‡	Oxime	-	10 m	7 d / R.T., H	1.25	80	650 (4.5)	20	-	435	-	Thixotropic	-	Black
		CV-2640	2.5 ohm·cm,[*4)] Primed Lap Shear 250 psi (1.7 MPa), Carbon Fiber Filled ‡	Platinum	2 h	-	30 m / 150	1.19	75	475 (3.3)	90	-	580	-	-	10:1	Black
		CV1-2640	25 ohm·cm , Pumpable	Platinum	-	-	2 h / 65	1.07	40	525 (3.62)	225	-	-	-	A:300 g/min / B:150 g/min	10:1	Black
		CV2-2640	Carbon Black Filled ‡	Platinum	60 m	-	24 h / R.T.	1.06	30	515 (3.6)	365	30 (0.05)	-	-	A:1,250,000 / B:100,000	1:1	Black
		CV3-2640	2.2 x 10^6 ohm·cm	Platinum	-	10 h	7 d / R.T.	1.01	25	70 (0.48)	120	-	-	-	A:10,000 / B:10,000	1:1	Black
		CV-2644	0.005 ohm·cm,[*22)] 1.2 W/m•K	Platinum	3 h	-	30 m / 150	3.39	85	525 (3.6)	-	-	215	-	Paste	20:1	Tan
		CV2-2644	0.004 ohm·cm	Platinum	2.5 h	-	30 m / 150	3.04	85	500 (3.4)	100	-	-	-	Paste	20:1	Tan
		CV1-2646	0.005 ohm·cm ‡	Alkoxy	2.5 h	-	7 d / R.T., H	2.20	90	-	-	-	-	-	0 inches	100:0.5	Tan
		CV2-2646	0.003 ohm·cm,[*21, 22)] 1.5 W/m•K , Remains Conductive at High Temperature ‡	Alkoxy	2 h	-	7 d / R.T., H	3.23	75	300 (2.06)	70	55 (9.7)	-	-	4 inches	100:0.5	Gray/Green
THERMALLY CONDUCTIVE		CV-2900	[*22)] 0.609 W/m•K, Low Temperature ‡	Oxime	-	40 m	72 h / R.T. , H	2.33	65	400 (2.8)	150	-	-	-	40 g/min	-	White
		CV-2942	[*22)] .999 W/m•K,[*4)] Primed Lap Shear 375 psi (2.6 MPa)	Platinum	2.5 h	4 h	24 h / R.T.**	2.40	85	650 (4.5)	15	55 (9.7)	185	430	Paste	20:1	Gray
		CV-2943	[*22)] 1.22 W/m•K,[*3)] Primed Lap Shear 475 psi (3.3 MPa)	Alkoxy	2 h	-	7 d / R.T., H	2.55	90	750 (5.17)	35	90 (15.9)	130	-	Paste	100:0.2	Gray
		CV-2946	[*22)] 1.49 W/m•K,[*4)] Primed Lap Shear 165 psi (1.0 MPa)	Platinum	2 h	4.5 h	7 d / R.T.	1.53	75	200 (1.38)	30	50 (8.8)	-	540	Paste	15:1	White
		CV2-2946	[*22)] 0.644 W/m•K, Thin Bond Line	Platinum	3 h	-	30 m / 150	-	55	400 (2.75)	225	55 (9.7)	-	-	140 g/min	20:1	White
		CV-2948	[*22)] 1.95 W/m•K, [*3)] Primed Lap Shear 150 psi (1.0 MPa) ‡	Alkoxy	2.5 h	-	7 d / R.T., H	1.57	80	250 (1.20)	30	45 (7.9)	-	-	Paste	100:0.2	White
		CV-2960	[*22)] 0.828 W/m•K, [*4)] Primed Lap Shear 205 psi (1.4 MPa), Low Viscosity	Platinum	1.5 h	3 h	7 d / R.T.	1.34	60	205 (1.4)	110	45 (7.1)	275	-	A:130,000	10:1	White
		CV1-2960	[*22)] 1.11 W/m•K	Platinum	2 h	4 h	4 h / 65	1.45	75	250 (1.38)	60	55 (9.7)	-	-	A:900,000	10:1	White
		CV1-2964	[*22)] 0.95 W /m•K, [*5)] Primed Lap Shear 120 psi (0.8 Mpa)	Platinum	-	13 h	15 m / 150	2.34	65	180 (1.2)	50	-	-	-	52,000	1:1	White
		CV-2961	[*22)] 0.791 W/m•K Low Viscosity,[*3)] Primed Lap Shear 205 psi (1.4 MPa), Low Temp ‡	Platinum	2 h	-	30 m / 150	1.38	75	275 (1.9)	40	45 (7.9)	275	-	A:300,000	10:1	White
		CV-2963	[*22)] 0.64 W/m•K,[*4)] Primed Lap Shear 275 psi (1.9 MPa)	Platinum	2 h	-	4 h / 65	1.27	60	425 (2.9)	250	50 (8.8)	-	-	Paste	20:1	White
DAMPENING FLUIDS, LUBRICANTS & GREASES		CV-7300	Refractive Index 1.40	-	-	-	-	0.97	-	-	-	-	-	-	1,000 to 100,000	-	Clear
		CV-9042	Thermally Conductive	-	-	-	-	1.61	-	-	-	-	-	-	Medium Grease	-	White
		CV-9052	Volume Resistivity 1x10^{15} ohm•cm	-	-	-	-	1.10	-	-	-	-	-	-	Medium Grease	-	Grey
		CV-9341	Thermally Conductive	-	-	-	-	2.30	-	-	-	-	-	-	Medium Grease	-	White
FILM ADHESIVES	FILMS	CV-2680-12	0.012 inches (12 microns) Thick, 2-Part Film, Lap Shear 250 psi (1.7 MPa)	Platinum	4 h	-	4 h / 65	-	-	-	-	-	465	-	-	2-Part	Trans
		CV-2681-12	Volume Resistivity, 125 ohm·cm, Lap Shear 70 psi (0.48 MPa)	Platinum	4 h	-	4 h / 65	-	-	-	-	-	-	-	-	2-Part	Black
	PRESSURE SENSITIVE	CV-1161	50% Solids, 7.5 ppi Release Force	-	-	-	-	-	-	-	-	-	-	-	3,000	-	Clear
		CV2-1161	High Temp, 35% Solids, 2.5ppi Release Force	Peroxide	-	-	1 h / 60 + 1 h / 175	-	-	-	-	-	-	-	770	100:1	White
		CV3-1161	Non-Voc Solvent, Tert Butyl Acetate	Peroxide	-	-	-	-	-	-	-	-	-	-	1,200	100:1	Trans
	TAPES	CV4-1161-5	0.005 inches (5 microns) Double Side Tape, Kapton® Center, 2.0 ppi	-	-	-	-	-	-	-	-	-	-	-	-	-	Trans
GELS		CV-8151	Low Viscosity, Penetration 4.0 mm	Platinum	>30 h	-	30 m / 150	-	-	-	-	-	-	-	2,500	1:1	Clear
		CV1-8151	Penetration 0.4 mm	Platinum	> 30 h	-	30 m / 150	-	-	-	-	-	-	-	2,500	1:1	Clear
		CV-8251	Low/High Temperature, Penetration 3 mm ‡	Platinum	24 h	-	40 m / 150	-	-	-	-	-	-	-	1,800	1:1	Clear
FOAMS		CV-2391	Low density, Soft, 14lb/ft^3 (0.224g/mL)	Platinum	-	-	1 h / R.T.	-	-	-	-	-	-	-	3,000	1:10	White
PRIMERS		SP1-204	1 and 2 Part RTV System , 3.3% Solids	Hydrolysis	-	-	1 h / R.T., H	0.79	-	-	-	-	-	-	-	-	Clear
		SP-120	General Purpose, 4.1% Solids	Hydrolysis	-	-	1 h / R.T., H	0.77	-	-	-	-	-	-	1.0	-	Clear
		SP-121	General Purpose, 3.5% Solids	Hydrolysis	-	-	1 h / R.T., H	0.77	-	-	-	-	-	-	1.0	-	Red
		CF2-135	Addition Cure Systems, 4.7% Solids	Hydrolysis	-	-	1 h / R.T., H	0.77	-	-	-	-	-	-	1.0	-	Clear
		CF1-141	Addition Cure Systems, IPA Based, 6% Solids	Hydrolysis	-	-	1 h / R.T., H	0.80	-	-	-	-	-	-	1.0	-	Red
		SP-270	Addition Cure Systems, Difficult Substrates, 15% Solids	Hydrolysis	-	-	1 h / R.T., H	0.77	-	-	-	-	-	-	1.0	-	Trans
		SP-271	Addition Cure Systems, Difficult Substrates, 20% Solids	Hydrolysis	-	-	-	0.80	-	-	-	-	-	-	1.0	-	Trans

‡=Designed for Broad Operating Temperatures

[*1)] Primed with SP-120
[*3)] Primed with SP-130
[*4)] Primed with CF1-135
[*5)] Primed with SP-270
[*21)] Tested per ASTM C1045
[*22)] Tested per ASTM E1530

d = days
h = hours
m = minutes

R.T. = Room Temperature
H = Humidity
** Post-cure 15 m / 150

g/min = Grams Per Minute

Trans = Translucent
Clear = Clear to Transparent

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Product Name Legend

The key properties of NuSil Technology's LightSpan™ Materials can easily be distinguished by the product name.

The first digit of the product name represents the hardness of the optical silicone.

Optical Gels (Soft to 00 Durometer): LS-3XXX
Optical Thermosets (Type A and D durometer): LS-6XXX
Optical Fluids (do not cure): LS-5XXX

For all materials, excluding primers, the last 2 digits of the product name are the last 2 digits of the refractive index measured at 589 nm.

For example: LS-3351 is an optical gel when cured and the refractive index is 1.51.

Index Matching

LightSpan™ materials are very effective for index matching of common materials used in Optical Applications. Some common materials, shown in the table below, use the following LS products for index matching.

Material Type	Acronym	Refractive Index	LS Products
Magnesium Fluoride	MgF_2	1.38	LS-3238
Fused Silica	SiO_2	1.46	LS-3246
Acrylate	PMMA	1.49	LS-3249
Borosilicate	BK	1.52	LS1-3252
Cyclic Olefin	COC, COP	1.52	LS1-3252
~~Polycarbonate~~	~~PC~~	~~1.59~~	~~LS-3357, LS-6257~~

General Purpose	NuSil Product Number	Comments	Refractive Index 589 nm	Work Time	Durometer	Viscosity cP/mPa-sec	Cure Time/ Temp °C	Tensile psi (MPa)	Elongation %	CTE ppm/ °C	Mix Ratio	Application
					'00' / '000							
OPTICAL GELS	LS-3238	Resistant to Hydrocarbon Solvents ‡	1.38	11 h	15 / NA	1,500	30 m / 150	-	-	-	1:1	Index Matches MgF2, AR Coating
	LS-3140	Low Volatility, Penetration 0.4 mm, non-phenyl containing	1.40	> 24 h	*31) MBP	A:16,000/B:8,50	30 m / 150	-	-	411	1:1	Encapsulant, Potting
	LS-3440	Very Soft, Penetration 9.0 mm, non-phenyl containing	1.40	>24 h	*32) MBP	535	60 m / 100	-	-	300	1:1	Encapsulant, Potting
	LS-3441	Firm and Tacky Gel, Penetration 0.4 mm, non phenyl containing	1.41	-	*31) MBP	14,500	30 m / 150	-	-	-	1:1	Encapsulant, Potting
	LS-3443	Soft and Tacky Gel, Penetration 5 mm ‡	1.43	-	*31) MBP	A:500/B:650	30 m / 100	-	-	300	1:1	Encapsulant, Potting
	LS-3246	Index matches to glass such as fused silicates (Glass, Quartz) ‡	1.46	8 h	10 / NA	1,000	60 m / 65	-	-	-	1:1	Index Matches Silica, Optical Fiber, Glass. LCD Bonding
	LS-3249	Index matches to acrylates such as PMMA	1.49	48 H	60	-	60 m / 75	-	-	-	1:1	Bonding, Encapsulant
	LS-3351	Use with Phosphor,Index matches to Crown Glass such as BK7 Index matches to plastics such as COC ‡	1.51	160 m (1.2xVi)	NA / 55	6,000	60 m / 100	-	-	-	1:1	Excellent for Dispersing Phosphor
	LS1-3252	Low Viscosity and 1.52 RI, Index Matches BK7, GlassUse with Phosphor, Index matches to plastic such as COC ‡	1.52	-	25 / NA	360	30 m / 150	-	-	-	1:1	Excellent for LCD Display and LED Encapsulation
	LS-3354	Use with Phosphor ‡	1.54	90 m (2xVi)	NA / 64	5,400	60 m / 70	-	-	-	1:1	Excellent for Dispersing Phosphor
	LS2-3354	Contains adhesion promoter, use with Phosphor ‡	1.54	2 h min (2xVi)	15 / 53	6,000	60 m / 70	-	-	-	1.1	Excellent for Dispersing Phosphor
	LS3-3354	Contains adhesion promoter, use with Phosphor ‡	1.54	80 m (2xVi)	NA / 60	5,200	60 m / 70	-	-	-	1:1	Excellent for Dispersing Phosphor
	LS4-3354	Longer work time for dispensing applications, 80 °C minimum cure	1.54	-	60	4,200	60 m / 70	-	-	-	1:1	Excellent for Dispersing Phosphor
	~~LS-3357~~	~~100 °C minimum cure ‡~~	~~1.57~~	~~> 10 d~~	~~10 / NA~~	~~200~~	~~60 m / 150~~	-	-	-	~~1:1~~	~~Very high RI Encapsulant, LED Encapsulation~~
					Type 'A'							
OPTICAL ADHESIVES AND ELASTOMERS	LS-6140	Low Volitility, non-phenyl containing	1.40	3 h	50	A:3,700/B:2,550	15 m / 150	850 (5.9)	90	400	1:1	Bonding, Encapsulant, Dispersing Phosphor
	LS1-6140	LS-6140 with longer work time for dispensing, 80 C minimum cure	1.40	-	50	A:3,450/B:2,500	60 m / 150	900 (6.2)	90	-	1:1	Bonding, casting or injection molding
	LS-6941	Non-phenyl containing	1.41	4 h	50	5,300	15 m / 150	1300 (9.0)	95	500	10 :1	Bonding, Encapsulant
	LS1-6941	Tough, Tensile 750 psi, Tear 80 ppi	1.41	>24 h	50	A:75,000/B:50,000	30 m / 150	750 (5.2)	305	-	1:1	Lenses made by Injecting or Compression Molding
	LS2-6941	Low viscosity, non-phenyl containing	1.41	5.5 h	30	A:1,200/B:800	15 m / 150	120 (0.83)	100	337	1:1	Lower durometer where stress is concerned
	LS-8941	High Durometer to reduce tackiness, non-phenyl containing	1.41	>24 h	80	A:27,500/B:25,000	30 m / 150	1,250 (8.6)	65	-	1:1	Lenses made by Injecting or Compression Molding
	LS-6143	Broad opearting temperature range ‡	1.43	2 h	40	A:3,600	4 h / 65	600 (4.1)	125	490	10:1	Bonding, Encapsulant
	LS-6943	Broad opearting temperature range ‡	1.43	-	40	5,400	60 m / 100	900 (6.2)	120	-	10:1	Bonding, Encapsulant
	LS-6946	Primed Lap Shear 510 psi, Youngs Modulus 425 psi	1.46	2 h	30	A:40,000/B:35,000	30 m / 150	675 (4.7)	275	360	1:1	Bonding, Molding
	~~LS-6257~~	~~100 °C minimum cure, Low Viscosity ‡~~	~~1.57~~	~~3 d~~	~~39~~	~~150 cSt~~	~~1 h / 150~~	~~122~~	~~49~~	-	~~1:1~~	~~Bonding, Coating~~
OPTICAL FLUIDS	LS-5238	Resistant to Hydrocarbon Solvents, available in 350 cPs & 1000 cPs	1.38	-	-	350 or 1,000	-	-	-	-		Index Matches MgF2, AR Coating
	LS-5246	-	1.46	-	-	1,550	-	-	-	-	-	Index Matches Silica, Optical Fiber, Glass
	LS-5252	-	1.52	-	-	575	-	-	-	-	-	Index Matches BK7, Glass
	~~LS-5257~~	-	~~1.57~~	-	-	~~1,400~~	-	-	-	-	-	~~Assemblies, Ionizing Radiation, Infrared Illumination~~
OPTICAL GREASES	LS-1246	Flows Under Pressure, Non-Slumping, Non-Curing	1.46	-	-	-	-	-	-	-	-	Index Matches Silica, Optical Fiber, Glass
	LS-1249	Flows Under Pressure, Non-Slumping, Non-Curing	1.49	-	-	-	-				-	Index Matches POF, PMMA
OPTICAL PRIMERS	LS1-3200	All Purpose Primer for Optical Applications	1.4 to 1.425	-	-	1.0	-	-	-	-	-	Adheres to various substrates
	LS2-3200	Improves Adhesion to Difficult Substrates	1.4 to 1.425	-	-	1.0	-	-	-	-	-	Adheres to difficult substrates
	LS3-3200	Maintains Transparency at 400nm	1.4 to 1.425	-	-	1.0	-	-	-	-	-	Improves Adhesion to Difficult Substrates

‡=Designed for Broad Operating Temperatures

MBP = Measured by Penetration
*31) Tested per NuSil TM017
*32) Tested per NuSil TM036

h = Hours
m = Minutes
d = Days

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ELECTRONIC PACKAGING MATERIALS

General Purpose		NuSil Product Number	Comments	Cure System	Work Time @ 25°C	Cure Time / Temp °C	Durometer Type A	Tensile psi (MPa)	Elongation %	Tear ppi (kN/m)	[*27] Ionic Content Cl / K / Na ppm	Viscosity cP / mPa·sec	Specific Gravity	[*28] Volume Resistivity ohm·cm	Dielectric Strength V/mil	Mix Ratio	Color
EPM 's meet a low volatility specification of <1% weight loss when exposed to a minimun of 275°C for 1 hour, reference ASTM D2288																	
POTTING & ENCAPSULATING MATERIALS		EPM-2410	Ideal for Static Mix and Dispense Applications. Also available in Black and White ‡	Platinum	30 m	15 m / 150	30	675 (4.7)	350	-	<5 / <2 / <4	A:62,000 / B:40,000	-	1×10^{15}	-	1:1	Trans
		EPM-2420	Low Viscosity, Self-leveling Adhesive to Polyester and Polyether	Platinum	5,000 cPs max after 2 h	60 m / 65	30	400 (2.8)	150	-	<2 / <1 / <8	A:2,450 / B:1,200	1.01	-	-	1:1	Clear
		EPM-2421	Low Viscosity, Self-leveling, General Adhesive and Encapsulant	Platinum	3 h	15 m / 150	50	800 (5.5)	90	-	<5 / <2 / <4	A:3,750 / B:2,700	1.02	1×10^{15}	[*23] 550	1:1	Clear
		EPM-2422	1.43 Refractive Index ‡	Platinum	7,000 cPs max after 2 h	4 h / 65	40	600 (4.1)	100	-	<5 / <1 / <1	A:3,600	1.04	1×10^{15}	[*23] 550	10:1	Clear
STATIC DISSA-PATIVE		EPM-2461	Carbon black filled for EMI shielding applications ‡	Platinum	60 m	24 h / R.T., H	30	550 (3.8)	400	30 (5.3)	<5 / <1 / <6	A:1,250,000 / B:100,000	-	900	-	1:1	Black
POTTING & ENCAPSULATING GELS		EPM-2480	Useful for Potting Intricate Assemblies Due to Low Viscosity	Platinum	24 h	30 m / 150	Firm Gel	-	-	-	<5 / <1 / <2	3,000 (mixed)	-	1×10^{14}	-	1:1	Trans
		EPM-2481	Tough Firm Gel	Platinum	24 h	30 m / 150	Very Firm Gel	-	-	-	<5 / <1 / <2	A:15,000 / B:9,000	-	1×10^{14}	-	1:1	Clear
		EPM-2482	Extreme Temperatures ‡	Platinum	24 h	40 m / 150	Firm Gel	-	-	-	<5 / <1 / <4	1,800 (mixed)	-	1×10^{14}	-	1:1	Trans
GLOB TOP		EPM-2411-2	Glob Top encapsulant. Shear Thinning Index 2.5	Platinum	>8 h	15 m / 200	17	750 (5.2)	700	55 (9.7)	-	300,000	1.16	-	[*23] 400	-	Black
THERMAL INTERFACE MATERIAL (TIM)	GREASE	EPM-2401	[*22] 0.70 W/m·K , BLT <1 µn, Zinc filled	-	-	-	-	-	-	-	<5 / <2 / <4	Medium Grease	2.30	1×10^{15}	[*24] 13 kV @ 0.10 inch spacing	-	White
	ELECTRICALLY CONDUCTIVE	EPM-2462	[*22] 1.20 W/m·K, good adhesion to Aluminum	Platinum	3 h	30 m / 150	85	550 (3.4)	-	-	<5 / <7 / <5	Paste	3.39	0.006	-	20:1	Tan
		EPM-2463	[*21, 22] 1.5W/m·K, remains conductive over broad operating temperature range ‡	Tin/Oxime	2 h	7 d / R.T., H	80	300 (2.1)	75	55 (9.7)	< 5 / <10 / < 5	8 Inches per min.	3.30	0.002	-	100:0.5	Green-Gray
	ADHESIVES	EPM1-2493	Low viscosity for complex geometries 1 W/m·K	Platinum	13 h	15 m / 150	65	180 (1.2)	50	-	-	36,000 cP,-15 m	2.34	-	-	1:1	White
		EPM-2490	[*22] Bulk Thermal Conductivity 1.46 W/m·K	Platinum	2 h	7 d / R.T.	75	200(1.4)	30	50 (8.8)	<5 / <3 / <10	Paste	1.53	5.3×10^{14}	[*23] 540	15:1	White
		~~EPM-2492~~	~~[*22] 0.62 W/m·K, BLT 200 µn, BN filled ‡~~	~~Platinum~~	~~2 h~~	~~30 m / 150~~	~~75~~	~~250 (1.72)~~	~~40~~	-	~~<5 / <1 / <1~~	~~A:470,000~~	-	-	-	~~10:1~~	~~White~~
		EPM-2890	[*22] 0.6 W/m·K, Low Temperature	Tin/Oxime	-	72 h / R.T.,H.	65	400 (2.8)	150	-	<5/ <5/ <5	-	2.33	-	-	1-Part	White

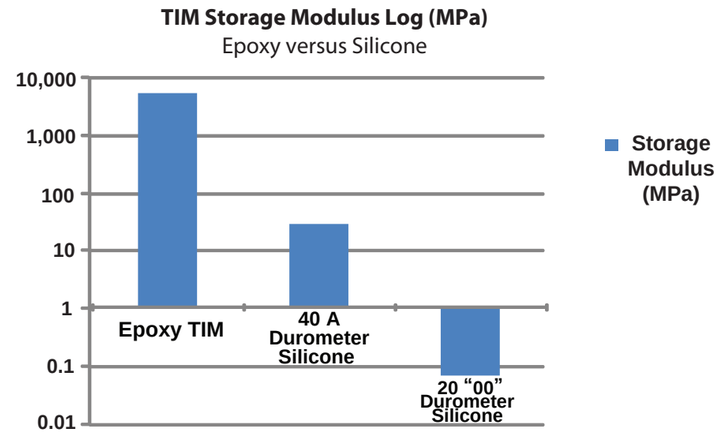
[*21] Tested per ASTM C1045
[*22] Tested per ASTM E1530
‡=Designed for broad operating temperatures

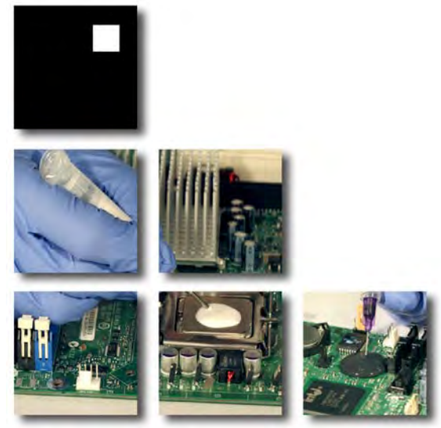
d = day R.T. = Room Temperature
h = hour H = Humidity
m = minutes

[*27] Tested per MIL STD 883E

[*28] Tested per D257

[*23] Tested per ASTM D149
[*24] Tested per ASTM D877





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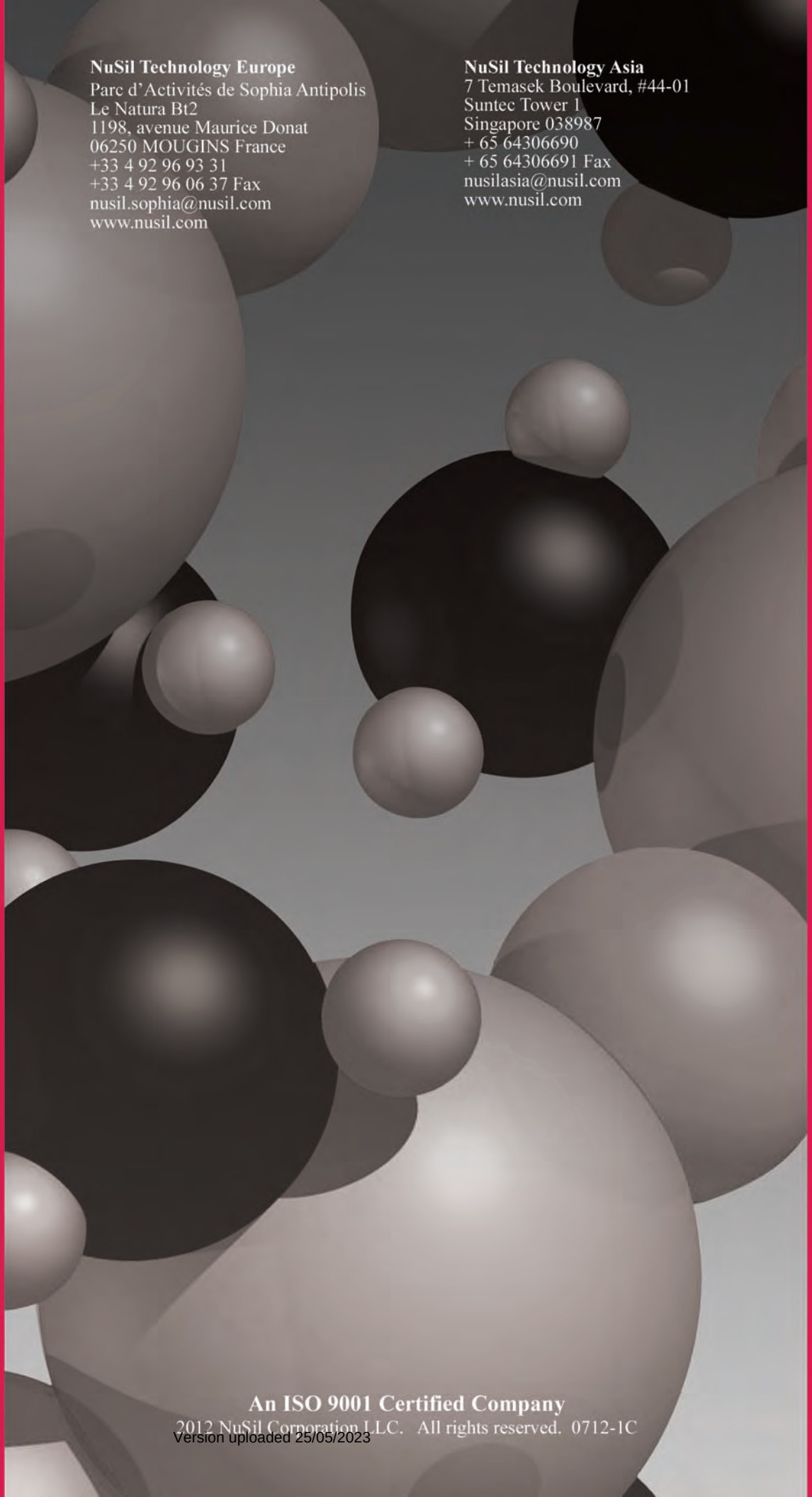

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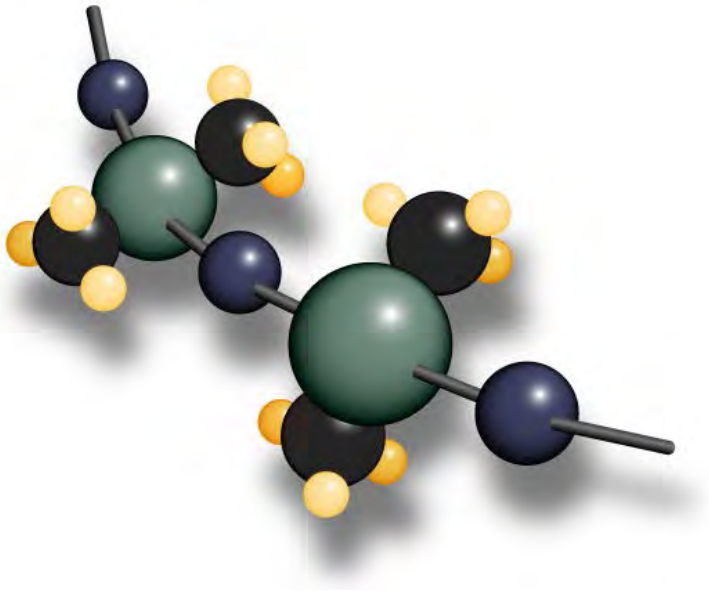

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