MOMENTIVE®

RTV SILICONES CATALOG:

ELECTRONICS MATERIALS

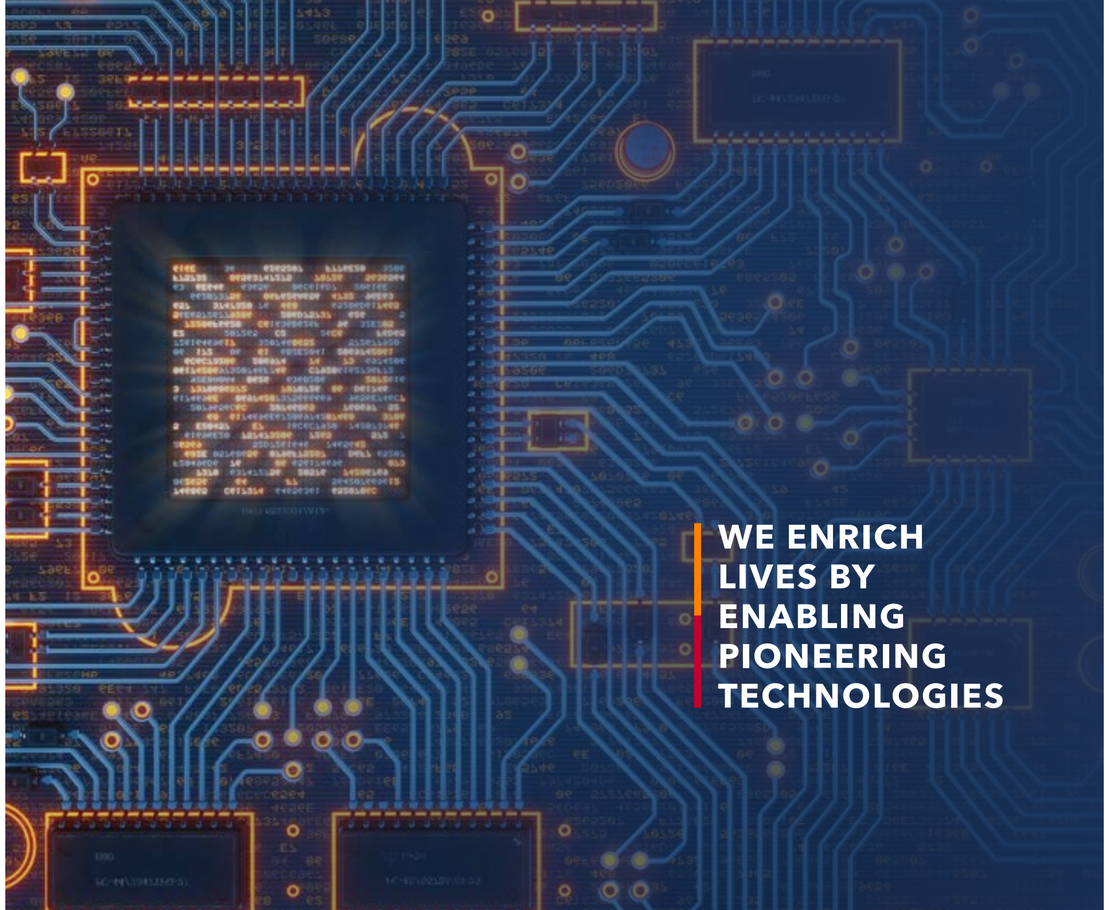
APPLICATION DEVELOPMENT CENTER

WATERFORD, NY, USA

PRELIMINARY V0.2

ABOUT THIS DOCUMENT

Data listed in this document are average data and are not to be used as or to develop specifications. Data has been compiled based on both TDS data and capability data, and in some cases may not strictly match TDS data. Please refer to our most recent batch Certificate of Analysis to assess and develop specifications with your account manager.



CONTENTS

RTV CONSISTENCIES

Industrial Silicones Range from Thixotropic Pastes to Very Thin Viscosity Flowables

(Momentive does not offer solvent type RTVs)

NON-FLOWABLE

HIGH VISCOSITY FLOWABLE

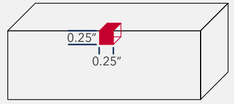
LOW VISCOSITY FLOWABLE

EXTRA-LOW VISCOSITY FLOWABLE

SOLVENT TYPE

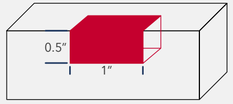
Application Geometry and Cure Chemistry Options

The shape and conditions of the part are important in selecting a suitable RTV silicone grade for each application. While one-part condensation cure grades offer the convenience of a one component material without the need for heating equipment, their cure chemistry is dependent on exposure to atmospheric moisture. The following are some general guidelines:



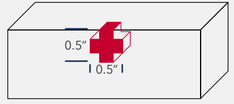
SHALLOW CAVITY / SMALL MASS

Selection Options:
- One-part Condensation Cure
- One-part Addition Cure
- Two-part Condensation Cure
- Two-part Addition Cure



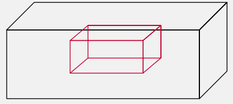
DEEP CAVITY / LARGE MASS

Selection Options:
- One-part Addition Cure
- Two-part Condensation Cure
- Two-part Addition Cure



SHALLOW CAVITY / SMALL MASS

Selection Options:
- One-part Addition Cure
- Two-part Condensation Cure
- Two-part Addition Cure



DEEP CAVITY / LARGE MASS

Selection Options:
- One-part Addition Cure
- Two-part Addition Cure

RTV SILICONE PROFILE

RTV silicones consist of Condensation Cure and Addition (heat) Cure grades.

Selection of the appropriate type of RTV depends upon the required manufacturing process, handling requirements, curing conditions, equipment and desired material properties.

CONDENSATION CURE RTV:

Cure to form an elastic silicone rubber when exposed to moisture in the environment at room temperature. One-part RTVs are categorized into acetoxy, alkoxy, modified alkoxy (methoxy) or oxime based upon the by-products that form during cure.

ADDITION CURE (HEAT) RTV:

Cure to form an elastic silicone rubber when exposed to elevated heat or room temperature.

ADHESIVE SEALANT CURE SYSTEMS

Application Performance Guide

All data suggested @ 77 ° F, 55% RH

While all silcone sealants chemically bond to glass and most metals, specific cure chemistries were developed to optimize adhesion to other key substrates such as plastics and certain metal alloys. For more Information on adhesion, please refer to page 38.

(1) When allowed to cure in enclosed conditions, these sealants may discolor sensitive metals to which they come into direct contact.

(2) Corrosive on copper.

	Cure Types				
	Acetoxy	**Alkoxy**	**Modified Alkoxy**	**Oxime**	**Addition (Heat)**
By-Product	Acetic Acid	Alcohol	Ammonia, Alcohol	Methylethylketoxime	None
Non-Corrosive	No	Yes	Yes(1)	Yes(2)	Yes
Substrates for Good Adhesion	Glass, Metals	Metals, Plastics, Glass	Metals, Plastics, Glass	Metals, Glass, Some Plastics	Metals, Glass, Some Plastics
Odor	Yes	Low	Low	Low	None
Tack Free Time	Fast	Fast/ Moderate	Moderate	Moderate	Very Fast

AVIATION & AEROSPACE

Electronic component and frame assembly needs in the Aerospace Industry are served through RTV adhesives, potting, coating, encapsulation and sealing materials that withstand stress and temperature extremes.

TYPICAL APPLICATIONS

- Cockpit Instruments
- Electronic Power Equipment
- Circuit and Terminal Protection
- Wire Sealants
- Engine Gasketing
- Engine Electronics Potting
- Cargo Door Seals
- Window Assembly Sealants
- Weather Strip Adhesive
- Lighting Sealants
- Ventilation Ducts
- General Maintenance

CONSUMER & COMMUNICATIONS

RTVs are commonly used in a wide variety of consumer electronics and communication products.

In addition to strong adhesion performance to many substrates, silicones can provide heat resistance, flame retardancy, fungus resistance, and moisture/dirt protection, which makes silicones ideal materials for a variety of sealing, bonding and insulation applications.

TYPICAL APPLICATIONS

- Appliances
- Telecommunications (Base Stations, Servers)
- Smartphones and Mobile Devices
- Power Modules
- Lighting
- Wearables

AUTOMOTIVE

The automotive electronics industry is undergoing a paradigm shift.

In order to reduce CO_2 emissions in automobiles, significant new technologies are necessary in the vehicle's powertrain and propulsion systems. The migration from internal combustion engines to full electric vehicles (EVs) will progress in steps: 48V electrical systems will pave the way for hybrid electric vehicles (HEV), and eventually, high voltage, full electric vehicles.

TYPICAL APPLICATIONS

- On Board Chargers
- DC-DC Converters
- Battery Management Systems
- Battery Modules
- Heater Assemblies
- LIDAR units
- Human Machine Interface (HMI) assemblies

OPTICAL BONDING & DISPLAYS

Momentive is a pioneer in developing solutions for optical bonding.

Our portfolio of InvisiSil™ Optical Bonding Silicones is used in many different types of optical bonding applications around the world. InvisiSil silicones are designed to provide long-term reliability for display components that operate in extreme conditions.

TYPICAL APPLICATIONS

Automotive Displays

- Instrument panel
- Navigation screens & in-dash entertainment systems
- Seat-back & flip-down video screens
- Rear-view mirrors

Electronics Applications

- Navigation & instrumentation displays
  Mobile phones, tablets & eBook readers
- Digital signage & large screen displays

Marine & Defense

- Marine-grade displays & instruments
- Rugged tablet models & wearable displays
- Law enforcement & military grade computers

1-PART ADDITION CURE

Location: Indicates regional 2018/2019 sales, where ■ = AMR, ■ = EUR, and ■ = PAC

Part Number	Loc.	Features	Typical Applications	Final Color	Specific Gravity	Tensile (MPa)	Elongation (%)	Shore A Durometer	Viscosity (Non Paste) Pa.s	Volume Resistivity (ohm.cm)	Shear Adhesion (MPa)	Thermal Conductivity (W/m.K)
ADDISIL 8101	■■	Thixotropic adhesive sealant	Automotive electronics	Gray	1.10	7.9	550	38	180	-	-	-
RTV6424	■■■	Paste-like product with a small amount of vertical flow.	Thermal barrier for automotive parts	White	1.18	5.47	590	36	809	2.33E+15	-	-
RTV6445	■■	Long working time at room temperature but will not cure completely until exposed to elevated temperatures. Can be applied to vertical or overhead surfaces	Thermal barrier for automotive parts. Fabric seam seal.	White	1.2	6.39	630	41	-	3.29E+15	-	-
TSE322	■■■	Semi-flowable or flowable adhesive with low linear shrinkage and excellent dielectric properties. UL94 HB recognition.	Electronics sealing, bonding, and coating; Thermal barrier for automotive parts; Fabric seam seal.	Light Blue, Black (B)	1.27	3.4	230	45	110	2.0E+15	2.5	0.2
TSE322S	■■■	Semi-flowable adhesive with low linear shrinkage and excellent dielectric properties. UL94 HB recognition.	Electronics sealing, bonding, and coating; Thermal barrier for automotive parts; Fabric seam seal.	Light Blue	1.26	3.6	290	37	70	1.0E+15	2.5	0.2
TSE322SK	■■■	Flowable coating / encapsulant, high elongation		White	1.24	3.3	520	23	230	4.2E+13	3.3	-
TSE325	■■■	Flowable potting / coating material	Coating of hybrid ICs, printed circuit boards; potting, encapsulation, adhesive.	White	1.02	0.7	200	12	4	2.0E+15	0.4	0.18
TSE3251	■■■	Flowable, heat curing adhesive.	Coating of hybrid ICs and printed circuit boards; Dip coating and encapsulating; Sealing and bodning.	White	1.02	0.7	200	16	8.5	2.0E+15	0.4	0.18
TSE326	■■■	High temperature, flowable, heat curing adhesive. UL94 HB recognition.	High heat assembly, gasketing and coating applications; Electronic applications; Silk screen printing.	Red	1.45	3.4	170	43	28	2.0E+15	2.0	0.41
TSE3212	■■	Thixotropic adhesive / sealant.	Sealing & adhesive between plastics and metals/ ceramics in electronics	White	1.26	3.7	240	52	280	2.0E+15	2.6	0.2
TSE3221	■■	Flowable adhesive / sealant		Translucent	1.03	2.4	290	28	55	2.0E+15	2.0	-
TSE3280-G	■■■	Semi-flowable, heat curing adhesive. Thermal conductivity of 0.88 W/mk.	Thermal interface adhesive for medium performance CPU's and general heat dissipation in board aseemblies.	Gray	2.10	3.2	110	62	60	2.0E+14	2.0	0.88
TSE3281-G	■■■	Thermally conductive flowable adhesive	Sealing & bonding for thermally conductive applications; Heat generating elements, Regulators, Rectifier, Thyristor, etc.	Gray	2.70	4.5	50	84	60	4.8E+14	2.5	1.68
XE13-C1862PT	■■■	Heat curable adhesive designed for thermally conductive applications	Sealing & bonding for heat generating elements, Regulators, Rectifier, Thyristor, etc.	Gray	2.87	1.5	80	65	55	6.0E+14	1.0	2.5
XE13-B9144	■■	Low viscosity liquid cures to a soft, flexible, rubber-like material with the application of heat.	Suitable for direct chip contact application	Milky white, translucent	1.01	3.0	170	30	3.5	2.0E+15	1.6	0.18
XE13-A8692	■	Heat curable semi-flowable adhesive sealant	Coating & adhesive sealing of hybrid ICs & semiconductors; Adhesive sealing for telecommunications	Black	1.26	3.6	230	36	75	1.0E+15	2.5	0.29
XE13-B3208	■	Paste adhesive / sealant	Electronic parts such as hybrid ICs & semiconductors; home appliances; telecommunication, industrial instrument parts and devices	Translucent	1.08	4.4	430	50		1.0E+15	3.7	0.2

1-PART ADDITION CURE HEAT RESISTANCE

Part Number	Loc*	Features	Typical Applications	Final Color	Adhesion (MPa)	Tensile (MPa)	Specific Gravity	Shore A Durometer	Viscosity (Pa.S)	Vol Res (Ohm-cm)	Cure Time (min)	Dielectric Strength (kV/mm)
TSE3260	■■■	1-part, heat curable adhesive	High temp applications, like Heaters, Steam irons, Microwaves.	Reddish brown	0.5	1.7	1.34	20	23	1.0E+15	60	25
TSE326M-EX	■■■	1-part, heat curable adhesive	High temp applications	Reddish brown	1.5	2.9	1.46	38	16	7.0E+15	30	22
TSE326M	■	High temperature, flowable, heat curing adhesive. UL94 HB recognition.	High heat assembly, gasketing and coating applications; Electronic applications; Silk screen printing.	Red	1.5	1.7	1.46	38	16	2.0E+07	30	22
SDI3578	■	Soft rubber adhesive for thermal management	IC Packaging	Grey	5.1	-	-	-	80	100	-	-

Location: Indicates regional 2020/2021 sales, where ■ = AMR, ■ = EUR, and ■ = PAC

1-PART CONDENSATION CURE ACETOXY

Part Number	Loc*	Features	Typical Applications	Final Color	Viscosity (Pa.s)	Application Rate (g/min)	Tack Free Time (min)	Specific Gravity	Elongation (%)	Tensile (psi)	Shore A Durometer	Adhesion
CRTV5120		One-part, fast cure, acetoxy paste adhesive. Tack free time of 20 minutes. Primerless adhesion to many metals, plastics, and glass. Semi-conductive.	Sealing and bonding.	Black	-	550	-	1.07	420	265	35	-
IS800 series (IS802, IS803, IS808, IS800.09)		Paste adhesive with FDA, USDA, and NSF compliance. UL94 HB recognition.	Sealing and bonding.	White, Black, Translucent, Aluminum (for the series, respectively)	-	423	30	1.03	390	327	28	160 lb/in²
IS5628E		Self-leveling high strength acetoxy adhesive	Bonding silicone	Transluscent	120	-	10	1.10	700	1088	33	
FRV Series (FRV1106, FRV1106FC, FRV1109)		Fluorosilicone, paste adhesive. Excellent resistance to fuel, oil, moisture, UV, ozone and chemicals.	Formed-in-place gasketing; Sealing seams; Fuel handling systems; Sealing and bonding; Valve manufacturers.	Red, Red-fast cure, Gray (respectively)	-	94	24	1.45	230	564	40	23 lb/in (peel)
RTV106		High temperature, paste adhesive compliant with FDA, USDA and NSF. UL listed. MIL-A-46106B.	Sealing heating elements; Gasketing; Electrical insulation; Sealing and bonding.	Red	-	322	19	1.08	450	538	32	198 lb/in² (shear) 40 lb/in (peel)
RTV118/ RTV112		Flowable adhesive compliant with FDA, USDA and NSF. UL listed. MIL-A-46106.B	Electrical insulation; Thin section potting; Self leveling protective coatings; Assembly applications.	Translucent / White	25	-	20	1.05	270	364	31	16.5 lb/in (peel)
RTV157		High strength, paste adhesive.	High voltage wire and cables; Valve sealants; Turbines; Fluid metering devices; Gaskets and sealing devices.	Gray	-	n/a	45	1.09	750	1120	33	50.0 lb/in
RTV159		High temperature, high strength, paste adhesive.	High voltage wire and cables; Valve sealants; Turbines; Fluid metering devices; Gaskets and sealing devices.	Red	-	n/a	45	1.11	760	1210	36	75.0 Lb/in
RTV102/ RTV103/ RTV108/ RTV109		Paste adhesive with FDA, USDA, NSF. UL listed. MIL-A-46106B.	Electrical insulation; Formed-in-place gaskets; Assembly applications; Sealing and bonding.	White, Black, Translucent, Aluminum (respectively)	-	390	27	1.06	540	474	28	211 lb/in² (shear) 40 lb/in (peel)
RTV116		High temperature, paste adhesive compliant with FDA, USDA and NSF. UL listed. MIL-A-46106B.	Thin section potting; Self leveling protective coatings; Electrical insulation.	Red	25	-	29	1.10	330	438	22	19 lb/in (peel)
RTV1473		Oil-resistant, heavy-bodied, paste adhesive.	Formed-in-place gasketing; Sealing and bonding.	Black	-	375	30	1.06	500	450	30	-
TSE370		Fast tack, general purpose paste adhesive	Waterproof sealing/adhesive; communications, auto, marine	Clear, white, black			5	1.4	530	363	22	2.2 (Mpa)

Location: Indicates regional 2020/2021 sales, where ■ = AMR, ■ = EUR, and ■ = PAC

1-PART CONDENSATION CURE ALKOXY (1/2)

Part Number	Loc	Features	Typical Applications	Final Color(s)	Viscosity (Pa-s)	Application Rate (g/min)	Specific Gravity	Hardness Shore A Durometer	Tensile (MPa)	Elongation (%)	Dielectric Strength (kV/mm)	Volume Resistivity (ohm-cm)	Tack Free Time (min)	Adhesion (MPa)
RTV5242/ RTV5243/ RTV5249		Low modulus, paste adhesive. UL94 HB recognition. Each of the three is a color variant.	Assembly applications; Masonry applications; Weatherproofing seals; Applications that require a long tooling time; Sealing and bonding.	White/ Black/Gray, respectively	-	146	1.50	32	1.97	430	-	-	1	-
RTV133		High Temp, paste adhesive, UL94-V0	Firewalls; Flame retardant coating; Switching devices; Motors; High voltage transformers	Black	-	332	1.21	40	2.39	190	-	-	2	-
RTV142		Low volatile, paste adhesive.	Electronic adhesive; Electronic gasketing; Sealing and bonding.	White		534	1.09	36	4.15	423	20	4.5 x 10^15	150	-
RTV160		Flowable adhesive. UL94 HB recognition	Thin-section PCB coating; Insulating, encapsulating, and coating in thin sections; Electronic and integrated circuits; Semiconductors	White	41	-	1.04	30	1.90	236	20	4.5 x 10^14	240	-
RTV162		High Strength, paste adhesive. UL94 HB recognition. MIL-A-46146B.	Bond capacitors, resistors and integrated circuits to PCB's; Seal exposed wires, faying surfaces, and connectors; Electronic parts assemblies	White		420	1.09	35	3.65	376	18	3x10^15	126	-
RTV167		Highest strength, paste adhesive. UL94 HB recognition. MIL-A-46146B	Mechanical/Electrical bonding and insulating applications; Electronic applications	Gray	-	167	1.12	36	5.68	680	19	3x10^15	194	-
SCM3404-NASA		Coating; requires no mixing; can be applied by spray, roller, or brush	Coating for launch pads to provide thermal and corrosion protection.	Medium Gray	22	-	1.27	36	1.41	540	-	-	20 - 30	0.1
TN3005		Fast tack, low volatile paste adhesive.	Insulating adhesive seal and fixing,waterproof sealant for electronics; General adhesive for metal, glass, plastics.	Clear, White, Black	-	-	1.04	22	1.6	330	26	2.0E+15	7	1.2
TN3305		Fast tack, low volatile flowable adhesive / sealant. UL certified	Insulating adhesive seal and fixing,waterproof sealant for electronics; General adhesive for metal, glass, plastics.	Clear, White, Black	47	-	1.04	14	1.5	400	26	7.0E+15	9	1.0
TN3705		Low volatile, low viscosity coating / potting material	Insulating adhesive seal and fixing,waterproof sealant for electronics; General adhesive for metal, glass, plastics.	Clear, White, Black	1.5	-	1.01	13	0.4	130	26	7.0E+15	7	0.2
TN8000		Excellent adhesion after extended aging, with excellent dielectric properties and Flame Retardant	Excellent corrosion-free adhesion to metals, including copper, plastics, glass without the use of primers.	White, Black, Gray	-	-	1.41	33	2.2	620	21	7.0E+14	20	1.8
TSE3854DS		UL certified paste adhesive.	Flame retardant adhesive sealant; Moistureproof, waterproof, electrical insulating, vibration proof adhesive sealant; General adhesion for metal, glass, plastic, etc.	White, Gray	-	-	1.41	45	3.0	300	25	2.0E+14	15	2.2
TSE3925		Airtight, waterproof adhesive sealant	Potting and coating; General adhesion of metals, glass, plastics, etc. Low volatile.	White, Clear	-	-	1.04	39	1.6	350	22	2.0E+15	5	1.3

Location: Indicates regional 2020/2021 sales, where = AMR, = EUR, and = PAC

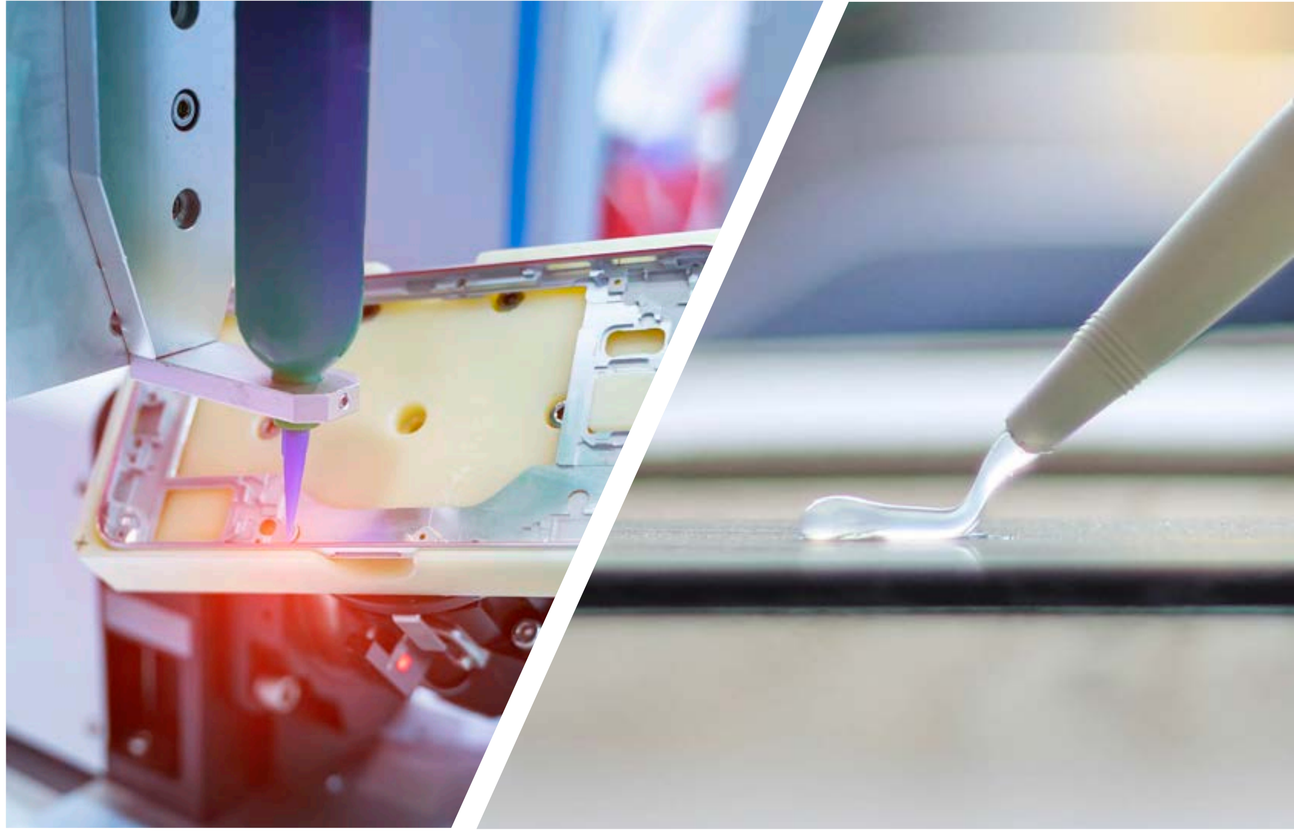
Part Number	Loc	Features	Typical Applications	Final Color(s)	Viscosity (Pa-s)	Application Rate (g/ min)	Specific Gravity	Hardness Shore A Durometer	Tensile (MPa)	Elongation (%)	Dielectric Strength (kV/ mm)	Volume Resistivity (ohm-cm)	Tack Free Time (min)	Adhesion (MPa)
TSE3945		Low volatile, silicone adhesive.	Non-corrosive coatings for integrated circuits and semiconductors; Sealing of electronics applications required flame retardancy.	Gray	-	-	1.45	51	2.9	200	22	1.0E+15	5	1.5
TSE3972		General adhesive	Insulating seal; Coating for hybrid ICs; Waterproof sealant.	Clear	50	-	1.04	15	1.3	350	21	2.0E+15	5	1.0
TSE3975		Airtight, waterproof adhesive sealant	Potting and coating; General adhesion of metals, glass, plastics, etc. Low volatile.	Clear, White, Black	33	-	1.05	25	1.2	220	23	2.0E+15	10	1.2
TSE398		Pourable coating / encapsulant.	Insulating seal for transistor and high-voltage parts; Waterproof sealant; General adhesive.	Clear, White	17	-	1.04	14	1.3	230	23	2.0E+15	10	0.7
TSE3996		Low volatile silicone coating.	Moistureproof coating and potting of LED displays; Thin section potting of electronics.	Clear, White, Black	1.7	-	1.03	23	1.2	150	23	2.0E+15	10	0.3
XE11-B5320		Low volatile paste adhesive. Thermal conductivity of 1.3 W/mK.	Board level assembly and component sealing / repair that requires moderate thermal management performance	White	-	-	2.60	80	3.6	40	17	2.0E+15	5	1.3
TN3405		Lower viscosity variant of TN3305 above.		Clear	30	-	1.02	17	1.3	260	25	7.0E+15	7	0.8
TSE3976		Low volatile, temperature resistant sealant. UL certified	Insulation & waterproof sealant for in/outlet of motors & transformers; Sealing & encapsulating of heating elements in appliances.	Black	100	-	1.08	30	1.7	210	20	1.0+E15	5	1.3
TSE392		Paste adhesive. UL94 HB recognition.	Eletronic sealing and coating	Translucent, White, Gray	-	-	1.04	26	1.6	430	22	2.0E+15	5	1.3
TSE399		Flowable adhesive.	Insulating coating and potting for transistor and high-voltage parts; Waterproof coating for electrical, electronic and communication equipment; Electronic and integrated circuits and semiconductors, copper connections on electric parts assemblies.	Translucent, White, Black	2.5	-	1.04	25	1.3	140	20	2.0E+15	10	0.3

Location: Indicates regional 2020/2021 sales, where = AMR, = EUR, and = PAC

1-PART CONDENSATION CURE ALKOXY (2/2)

Location: Indicates regional 2018/2019 sales, where ■ = AMR, ■ = EUR, and ■ = PAC

Part Number	Loc	Features	Typical Applications	Final Color	Viscosity (Not a Paste Pa.s)	Specific Gravity	Shore A Durometer	Tensile (MPa)	Dielectric Strength (kV/mm)	Volume Resistivity (ohm-cm)	Tack Free Time (min)	Adhesion (MPa)
ECS0601	■	High purity, non-repairable type electrode coating. UL certified.	Electrode coating	White, Black	1.4	1.01	25	0.8	20	7.0E+15	7	0.3
ECS0605	■	High purity, non-repairable type electrode coating.	Electrode coating	White	5	1.01	21	0.8	20	7.0E+15	7	0.3
SP100	■■■	Fast cure, non-corrosive silicone adhesive sealant.	Excellent corrosion-free adhesion to metals, including copper, plastics, glass without the use of primers.	White, Black	-	1.41	33	2.2	21	7.0E+14	20	1.8
TN3085	■■■	Fast tack, low volatile paste adhesive. UL certified	Bonding in power supplies; Thermal adhesive for heat sinks; Securing PCBs to substrates.	Gray, White	-	1.63	46	2.3	23	4.0E+14	7	1.3
TN5015	■■■	Low volatile siloxane, silicone adhesive.	Insulating adhesive seal and fixing,waterproof sealant for electronics; General adhesive for metal, glass, plastics.	Gray	-	1.22	50	4.5	27	8.5E+15	30	3.0
TSE3853-W	■	UL certified, semi-flowable paste.	Flame retardant adhesive sealant; Moistureproof, waterproof, electrical insulating, vibration proof adhesive sealant; General adhesion for metal, glass, plastic, etc.	White	-	1.31	34	2.3	20	2.0E+14	15	1.3
TSE3940	■■	Meets the corrosion resistant requirements of MIL-A-46146A. Resistant to heat, cold, moisture, UV, ozone and chemicals	Flame retardant adhesive/sealant; Connection sealing, Waterproof sealant for electronics.	Gray	-	1.49	40	2.9	21	6.0E+14	5	1.6
TSE3941	■■■	Paste adhesive with UL94 V-1 recognition. Thermal conductivity of 0.83 W/mK	Board level assembly and component sealing /repair that requires moderate thermal management performance	White	-	1.65	65	2.9	22	4.0E+14	5	1.4
TSE3941M	■	Fast tack, thermally conductive flowable sealant.	Sealing, Waterproof sealing, Connection sealing for electronics and communications equipment.	White	50	1.64	63	3.2	21	4.0E+14	5	1.4
TSE3946	■	Low volatile, flame retardant adhesive sealant.	Electronic adhesive and sealing applications required low volatility and flame retardancy; Non-corrosive coatings, Connection sealing.	White	-	1.70	68	3.9	23	4.0E+14	5	1.6
TSE397	■■■	Semi-flowable adhesive. UL94 HB recognition.	Electronic sealing and coating; Waterproof sealant for electrical, electronic and communication equipment	Translucent, White, Black	50	1.04	13	1.2	22	2.0E+15	10	1.0
TSE3971	■	Flowable sealant.	Insulating seal; Coating for hybrid ICs; Waterproof sealant; General adhesive.	White	100	1.04	16	1.5	21	2.0E+15	10	1.1
TSE3991	■	Flowable adhesive.	Moisture proof sealing, potting, and coating of electric and electronic parts and LED displays.	Translucent, White, Black	2.5	1.03	19	0.7	18	2.0E+15	10	0.2
TSE3995	■	Low volatile adhesive	Airtight, waterproof adhesive sealant; Potting and coating; General adhesion of metals, glass, plastics, etc.	Translucent, White, Black	2.5	1.04	25	1.3	23	2.0E+15	10	0.5
XE11-A5133S	■	Low volatile, UL certified, thermally conductive coating & potting.	Sealing for applications requiring flame retardancy; Heat release sealant.	White	60	1.64	63	3.9	20	4.0E+14	10	1.3
XE11-C1331	■	Adhesive sealant; cures to a flexible rubber.	Insulating seal, waterproof sealant for electronics; Sealing & encapsulating of heating elements in applicances.	White	57	1.04	28	-	-	-	5	-



1-PART CONDENSATION CURE BENZAMIDE

Part Number	Loc	Features	Typical Applications	Color	Hardness (shore A)	Tensile Strength (MPa)	Modulus at 100 % (MPa)	Tack free time (min)	Specific Gravity	Elongation (%)
IS BM		One component, ready to use black paste adhesive/sealant.	Industrial plastic sealing and bonding applications, electrical insulation.	Black	30	1	0.5	5	1.25	350
IS BM HT 40		One component, ready to use black flowable adhesive/sealant.	Industrial plastic sealing and bonding applications, electrical insulation, encapsulating, protective or conformal coating and thin section potting of electrical components.	Black	30	1.3	0.7	12	1.10	250

1-PART CONDENSATION CURE METHOXY

Part Number	Loc	Features	Typical Applications	Final Color	App Rate (g/min)	Tack free time (min)	Specific Gravity	Elongation (%)	Tensile (PSI)	Hardness (Shore A)	Adhesion (MPa)
RTV128		Paste adhesivle. UL94 HB recognition.	Sealing vertical joints; Electrical insulation of wires and terminals; Formed-in-place gasketing	Translucent	581	22	1.04	470	333	24	24
RTV5818		Fast curing, paste adhesive designed to provide quick initial adhesion build. UL94 HB recognition.	Assembly applications requiring high productivity; Sealed assemblies; May be suitable for applications in confined spaces.	Translucent	471	22	1.05	410	340	25	27
RTV6708		Paste adhesivle. UL94 HB recognition.	May be suitable for applications in confined spaces; Applications requiring long work life for tooling of finished assemblies.	Translucent	251	27	1.05	480	248	18	TBD

Location: Indicates regional 2020/2021 sales, where = AMR, = EUR, and = PAC

1-PART CONDENSATION CURE OXIME

Part Number	Loc	Features	Typical Applications	Final Color	Tack Free Time (min)	Tensile (MPa)	Hardness (Shore A)	Specific Gravity	Viscosity (Pa-s)	Adhesion (MPa)
TSE382		General purpose, paste adhesive, UL746 TI (Electrical 150°C; Mechanical 140°C). UL94 HB recognition.	Sealing and bonding for electrical and telecommunications equipment, meters, windshields, automotive engine parts.	White / Black / Clear	10	1.9	28	1.04	Paste	1.7
TSE3826		High temperature performing, paste adhesive; UL746 temperature index of 200°C.	Sealing and ecapsulating of heating elements in appliances; Electrical insulation; General sealing and bonding.	Reddish Brown	10	2.0	29	1.04	Paste	1.4
TSE384-B		UL certified general purpose adhesive / sealant		Black	60	2.9	50	1.46	Paste	1.4
TSE3843-W		Flame retardant, semi-flowable paste adhesive. UL94 V-1 recognition.	Sealing of electrical, industrial and high voltage applications where flame retardancy is required.	Whie	60	3.9	60	1.57	500	1.8
TSE387		Flowable adhesive.	Industrial sealing and coating; Electrical insulation; Thin section potting of electrical components; General sealing and bonding.	White / Black / Clear	90	2.3	25	1.03	60	1.3
TSE388		Flowable, general purpose sealant / coating.		White, Gray	60	1.5	16	1.04	10	1.3
TSE3877-B		Flowable sealant for high-temperature applications.		Black	20	2.0	25	1.08	300	2.0
TSE389		Flowable adhesive; UL94 HB recognition.	Industrial sealing and coating; Electrical insulation; Thin section potting of electrical components.	White / Black / Clear	30	2.0	30	1.04	5.6	1.8

1-PART CONDENSATION CURE WITH SOLVENT

Part Number	Loc	Features	Typical Applications	Final Color	Tensile (MPa)	Tack Free Time (min)	Hardness (Shore A)	Viscosity (Pa.s)
YE5505		Low viscosity, oxime cure, solvent type coating	Industrial coating ; Moistureproof coating of electronics	Translucent	2.0	30	24	1.0
YE3085		Low viscosity, acetoxy cure, solvent type coating	Industrial coating	Transparent	2.5	15	30	0.9

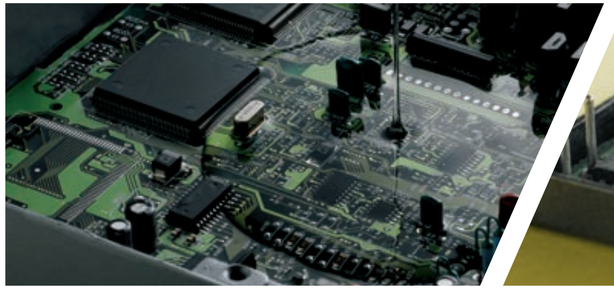
Location: Indicates regional 2020/2021 sales, where = AMR, = EUR, and = PAC

2-PART ADDITION CURE

Part Number	Loc.	Features	Typical Applications	Final Color	Specific Gravity	Hardness Shore A	Tensile (MPa)	Elongation (%)	Dielectric Strength (kV/mm)	Volume Resistivity (ohm.cm)	Dielectric Constant	Viscosity (Pa.s)	Thermal conductivity (W/m.K)
RTV615		Low viscosity, heat curing sealant with the capability to cure at room temperature. Provides virtually unlimited depth of cure, even in completely enclosed assemblies and offers easy repairability. FDA compliance capability.	Optical instruments, Gasketing, Applications that require visual identification of potted assemblies, electrical instalation	Translucent	1.02	49	7.13	160	19.6	2.42E+15	2.7	4.0	
RTV656		Heat curing sealant with the capability to cure at room temperature. Provides virtually unlimited depth of cure, even in completely enclosed assemblies.	Optical instruments, Gasketing, Applications that require visual identification of potted assemblies, electrical instalation	Translucent	1.04	39	5.32	140	19.7	1.2x10^15	-	5.4	
RTV627		Low viscosity sealant which offers deep section cure capabilities. UL94 V-0 recognition; Reversion resistant; Hydrolytically stable.	Production line potting compounds; Encapsulation of high voltage transformers, voltage regulators, power converters; Complete power supplies, Flyback transformers.	Dark Grey	1.38	47	3.27	60	20.1	5.7x10^14	3.14	0.96	0.38
RTV630		High tear resistance, excellent durability	Art reproduction; Prototyping	Blue	-	55	5.78	210	17.7	4.5x10^15	3.2	150	
RTV655		Heat curing sealant with the capability to cure at room temperature. Provides virtually unlimited depth of cure, even in completely enclosed assemblies.	Optical instruments, Gasketing, Applications that require visual identification of potted assemblies, electrical instalation	Translucent	1.04	43	5.41	230	-	-	-	5.0	
RTV830		High modulus, fast cure, high friction	Lace coating, conveyor belt, fabric coating	Translucent	1.08	27	6	530	-	-	-	A: 105 / B: 37	
RTV833		Tacky surface, fast cure at low temperatures	Lace coating, clothes, conveyer belt	Translucent	1.08	33	1.1	440	-	-	-	A: 87 / B: 140	
RTV834		Tacky surface, fast cure at low temperatures	Lace coating, clothes, conveyer belt	Translucent	1.08		1.5	520	-	-	-	A: 120 / B: 65	
RTV835		2-part RTV gel for repositionable adhesion.	Textile coating	Colorless	1.08	-	-	-	-	-	-	A: 10 / B: 8	-
TSE3032		Transparent encapsulant / potting material with good release properties	Electrical and electronic potting	Transparent	1.02	35	4.5	210	21	2.0x10^15	2.8	4.0	0.18
TSE3331		UL certified silicone rubber adhesive with excellent release properties.	Electrical and electronic potting	Dark Grey	1.51	60	2.9	70	26	2.0x10^14	3.4	3.5	0.63
TSE3380		Thermally conductive adhesive	Thermally conductive applications	Grey	2.7	70	2.5	100	15	2.1x10^14	5.7	40	1.68
TIA208R		Primerless adhesion to metals and plastics, good thermal conductivity, Quick Cure and adhesion with heat or room temperature, UL94 V-0 Rating	Thermal Potting for power supplies; Drivers in LED light bulbs, ballasts and electronic devices	Black	1.6	40	1.6	-	25	8.0x10^14	3.3	4.2	0.7
TSE3331K-EX		UL certified, thermally conductive, coating / encapsulant	Potting of electronics, high voltage parts, motor coils	Dark Grey	1.43	50	3.0	100	22	6.0 x 10^14	3.1	3.0	0.53
TSE3033		Low viscosity transparent encapsulant / potting material	Electrical and electronic potting	Transparent	1.01	30	1.0	130	21	2.0x10^15	2.8	0.9	0.18
TSE3320		product adheres well to a variety of substrates, such as metals, plastics, ceramics and glass without the use of a primer.	Adhesive and sealant for lighting components as well as electric and electric parts	White	1.54	70	5.9	100	23	1.0x10^15	3.3	65	0.63
XE14-B7892		UL certified low-viscosity potting material. Low temperture cure. Release capability	Electrical and electronic potting	Black	1.39	60	3.5	100	27	7.0x10^15	3.1	1.3	0.44
TSE3335		Flowable liquid potting material	Electrical and electronic potting	Black	1.51	60	2.9	50	26	2.0x10^14	3.4	3.5	0.63

Location: Indicates regional 2020/2021 sales, where = AMR, = EUR, and = PAC

Part Number	Loc.	Features	Typical Applications	Final Color	Specific Gravity	Hardness Shore A	Tensile (MPa)	Elongation (%)	Dielectric Strength (kV/mm)	Volume Resistivity (ohm.cm)	Dielectric Constant	Viscosity (Pa.s)	Thermal conductivity (W/m.K)
TSE3431-H		Encapsulant / potting material with UL certified, thermal conductivity, and good release properties	Flame retardant applications; potting of high voltage parts	depends on B comp.	1.52	70	4.1	60	27	5.0x10^14	3.5	3.5	0.63
XE14-A0425		High temperature resistant paste adhesive with thermal conductive performance	Adhesive seal for thermal devices; auto, electrical, telecoms.	Reddish Brown	2.1	65	5	120	26	2.0x10^14	3.4	400	0.8
XE14-B2324		Silicone adhesive	Excellent adhesion durability for PBT.	White	1.16	56	5.9	250	25	4.0x10^15	3	A:66, B:31	
XE14-B5517		Silicone adhesive	Electronics, telecoms, appliances	White	1.49	61	51	120	24	2.0x10^14	3.2	A:110, B:120	
XE14-C0447		Low viscosity potting rubber	Electronics potting	Black	0.99	-	-	-	-	-	-	2.0	-
XE14-C2042		Silicone rubber, cures with heat to an elastomer.	Designed for optical release coating	Transparent	1.02	43	6	170	26	5.0x10^15	2.7	A:6.2, B:4.4	
XE5844		Liquid silicone rubber, refractive index of 1.51	Suitable for optical fiber coating.	Transparent	1.07	15	0.2	100	-	-	-	1.4	-
YE5822		Low viscosity potting material. Good release properties	Extreme temp potting, high voltage	Transparent	0.97	27	0.4	130	21	7.0x10^15	2.8	1.0	0.17



2-PART CONDENSATION CURE

Part Number	Loc	Features	Typical Applications	Final Color	Viscosity (Pa.s)	Specific Gravity	Hardness (Shore A)	Tensile (MPa)	Elongation (%)	Pot Life (min)	Cure Time @25C (Hours)
RTV11		Sealant with variable work time and cure time available through catalyst options. Excellent release properties.	Cast-in-place gaskets and molds; Medical molds / instruments; High voltage power supply potting; Electrical potting.	White	11	1.19	39	2.6	150	64	24 Hr
RTV12		Low viscosity adhesive offering deep section cure capability, easy repair capability, can apply heat up to 85°C to attain a faster cure.	Electrical and electronic potting; High and low voltage electrical assemblies.	Clear	1	1	18	-	200	96	24
RTV21		Sealant with variable work time and cure time available through catalyst options. Excellent release properties.	Cast-in-place gaskets and molds; Medical molds / instruments; High voltage power supply potting; Electrical potting.	Pink	26	1.33	45	2.14	210	70	24
RTV31		Flowable sealant with variable work times and cure rates available through catalyst options. Excellent release capabilities.	Fabrication of rubber parts; Potting and encapsulating (electric motors and transformers, surge protectors, industrial filters); Release applications.	Red	25	1.47	55	6.00	170	99	24
RTV41		Sealant with variable work time and cure time available through catalyst options. Excellent release properties.	Cast-in-place gaskets and molds; Medical molds / instruments; High voltage power supply potting; Electrical potting.	White	39.8	1.31	42	-	-	58	24
RTV60		Flowable sealant with variable work times and cure rates available through catalyst options. Excellent release capabilities.	Potting, encapsulating, cushioning and coating.	Red	40.1	1.45	62	-	-	105	24
RTV88		Spreadable paste sealant with variable work times and cure rates available through catalyst options.	High temperature applications.	Red	872	1.47		4.94	110		24
RTV230		Extremely fast room temperature cure; develops green strength in 30 min. May offer high levels of productivity. Extended room temperature storage. UL94 HB recognition.	Applications that require greater productivity; Industrial assembly applications; Appliances; Automotive components.	White	(A) 700 (B) 95	1.38	36	1.37	180	5-10	24
RTV430		High durometer, low viscosity. Can be used/ customized with two different catalysts.	Art Reproduction	Pink / Light Blue	57.4	1.07	31	4.18	300	198	24
RTV511		Flowable sealant with variable work times and cure rates available through catalyst options. Excellent release capabilities.	Cast-in-place heat shielding; Thermal insulation; Potting and encapsulating of electrical assemblies.	White	16.3	1.21	40	1.83	130	67	24
RTV560		Flowable sealant with low and high temperature performance capability. Variable work times and cure times available through catalyst options. Excellent release capabilities.	Cast-in-place heat shielding; Thermal insulation; Potting and encapsulating of electrical assemblies.	Red	35.3	1.42	60	4.98	100	137	24
RTV566		Low volatile, low outgassing sealant with low and high temperature performance capability. Excellent release capabilities.	Low outgassing applications; Cast-in-place heat shielding; Thermal insulation; Potting and encapsulating of electrical assemblies.	Red	53.8	1.49	65	6.17	100	94	24

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Part Number	Loc	Features	Typical Applications	Final Color	Viscosity (Pa.s)	Specific Gravity	Hardness (Shore A)	Tensile (MPa)	Elongation (%)	Pot Life (min)	Cure Time @25C
RTV567		Low volatile, low outgassing sealant. Excellent release properties.	Applications that require a low out gassing product.	Translucent	4.1	1.01	23	0.38	90	480 (i.e. 8 hr)	24 Hr
RTV577		Paste sealant with variable work times and cure times available through catalyst options. Excellent release capabilities.	Cast-in-place heat shielding; Thermal insulation; Potting and encapsulating of electrical assemblies.	White	626	1.29	63	2.37	130	70	24 Hr
RTV577-LV-BLK		Low volatile, low temp, sealant with flexible cure times.	Cast-in-place heat shielding; Thermal insulation; Potting and encapsulating of electrical assemblies.	Black	1,700	1.36	60	4.3	100		24 Hr
RTV577-LV		Low volatile, low temp, sealant with flexible cure times.	Cast-in-place heat shielding; Thermal insulation; Potting and encapsulating of electrical assemblies.	White	1,022	1.36	57	4.6	100	46	24 Hr
RTV583A-583B		Semi conductive, low temp, sealant with flexible cure times	Cast-in-place heat shielding; Thermal insulation; Potting and encapsulating of electrical assemblies. Elecrical shock mitigation	Black	A: appl. rate 325g/min; B(102)	A: 1.35 B: 1.78	43	2.3	147	19	24 Hr
RTV8111		Flowable sealant. MIL-PRF-23586F (non-corrosive to copper).	Potting of electronic circuit modules, electrical connectors and coils.	White	9.9	1.19	41	2.69	150	32	24 Hr
RTV8112		Flowable sealant. MIL-PRF-23586F (non-corrosive to copper).	Potting of electronic circuit modules, electrical connectors and coils.	White	11.7	1.19	41	2.67	170	120	24 Hr
RTV8262		High temperature, flowable sealant. MIL-PRF-23586F (non-corrosive to copper).	Potting of electronic circuit modules, electrical connectors and coils.	Red	47	1.45	64	5.43	100	150	24 Hr
TSE3660		Flowable encapsulant / adhesive with fast tack free times. UL recognition	Potting material; solar junction boxes, microinverters, photovoltaic encapsulants, automotive electronics.	Blue-green	3.5	1.27	30	1.0	100	6	72 Hr
TSE3661		Flowable encapsulant / potting material.	Potting of electric and communications parts; moisture proof sealing/coating	Blue-green	A: 4.0, C: 0.01	1.2	34	TBD	TBD	TBD	TBD
TSE3663		Flowable encapsulant / potting material.	Waterproof sealing. Bonding and potting for electrical parts and electronics devices.	White/pale yellow	4.0	1.19	42	1.4	110	30	72 Hr

CATALYSTS FOR 2-PART CONDENSATION CURE MATERIALS

Part Number	Loc	Features	Typical Applications	Final Color	Work Life	Tack Free Time (min)	Specific Gravity
BETA11		This catalyst is not resistant to sulfur-based clays.		Blue	1.5	3.3	0.96
CE621		Curing agent for condensation cure type RTV silicone.	Suitable for moldmaking grades (TSE350, TSE3502, TSE3504) & high durometer condensation RTV such as TSE3508, etc.)	Colorless	-	-	-
CE62		Curing agent for condensation cure type RTV silicone.	Suitable for moldmaking grades (TSE350, TSE3502, TSE3504) & high durometer condensation RTV such as TSE3508, etc.)	Red	-	-	-
CE60		Curing agent for condensation cure type RTV silicone rubber.	Especially suitable as fast curing agent (mold making RTVs such as TSE350, TSE3502, TSE3504)	Red	-	-	-
CE601		Curing agent for condensation cure type RTV silicone rubber.	Especially suitable as fast curing agent (mold making RTVs such as TSE350, TSE3502, TSE3504)	Colorless	-	-	-
CE61		Curing agent for condensation cure type RTV silicone rubber.	Especially suitable as fast curing agent (mold making RTVs such as TSE350, TSE3502, TSE3504)	Brown	-	-	-
CE611		Curing agent for condensation cure type RTV silicone rubber.	Especially suitable as fast curing agent (mold making RTVs such as TSE350, TSE3502, TSE3504)	Colorless	-	-	-
DBT Dilaurate		Standard curing agent; add small volume of curing agent.	Hand mix for small kits; Best for small volume applications.	Clear to amber	1 to 5 hrs	Cure time 24-48 hrs	-
RTV9811		Moderate cure time.	Automatic mixing in high volume applications	Light beige	0.5 to 1.5 hrs	Cure time 12-24 hrs	1.5
RTV9891		Fast, paste version of STO.		Blue	8	20	1.76
RTV9910		Paste version of 0.1% DB.	Suitable for automatic mixing equipment, large volume applications.	Tan	3 - 6 hrs	Cure time 24-48 hrs	1.81
RTV9950		Moderate cure time; Paste version of 0.5% DB		White	101	137	1.69
STO		Fast cure	Fast hand mix for small kits.	Clear to amber	4	-	-

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CONFORMAL COATINGS

WATCH THE VIDEO
Silicone Conformal Coating for Corrosion Prevention

Part Number	Loc	Features	Typical Applications	Tack free time (min)	Volume Resistivity (ohm.cm)	Specific Gravity	Hardness (Shore A)	Viscosity (Pa.S)	Dielectric Strength	Dielectric Constant
ECC3010		One-component, fast cure conformal coating material. Solvent free	Conformal coating of electrical and electronic parts; moisture proofing; thin section potting	3	1E+15	0.99	35	0.1	20	2.8
ECC3011		One-component, low viscosity silicone conformal coating material. Solvent free.	Conformal coating of electrical and electronic parts; moisture proofing; thin section potting	3	1E+15	0.99	35	0.1	20	2.8
ECC3050S		One-component, fast cure, low viscosity conformal coating with a UV tracer, low VOC, excellent adhesion and room/low temperature cure capability. UL recognized under File QMJU2-E135148. Solvent free.	Printed circuit board assemblies with temperature limited components; Electronic assemblies; High volume production conformal coating applications.	5	1E+15	0.98	22	0.55	20	2.6
ECC3051S		One-component, low viscosity silicone conformal coating material. Solvent free.	Conformal coating of electrical and electronic parts; moisture proofing; thin section potting	5	1E+15	0.98	22	0.55	20	2.6
ECC4865		One-component, low viscosity, conformal coating with a UV tracer, fast thermal cure and outstanding long-term viscosity stability. UL recognized under File QMJU2-E135148. Solvent free.	Printed circuit boards and other electronic assemblies; APplications requiring moisture and environmental protection.	-	5E+14	0.98	35	0.21	20	2.4

FOAM

Part Number	Loc	Features	Typical Applications	Final Color	Application Rate (g/min)	Viscosity (Pa.S)	Specific Gravity	Hardness (Shore A)	Tensile (MPa)	Elongation (%)	Foam Density (g/cm^3)	Work Life (min)
RTF5308		Fast curing, paste adhesive. Capable of being mechanically foamed.	Formed-in-place gaskets; Vertical and Horizontal applications; Hot/Cold thermal cycles.	Translucent	337	-	1.04	22	305	490	-	10
RTF8510		Cures at RT to a medium density foam with the addition of a curing agent.	Thermal insulation, cushioning, firestop systems, sprayed insulation, sound dampening.	Black	-	7.5	1.2	-	-	-	0.26	3
RTF7000		Multi component foam for the design of finished foam products with a wide range of density cell structure physical properties. Catalyst sold separately as SS4300C.	Thermal insulation and cast in place thermal insulation; Applications requiring flame retardancy and/or low density.	White	-	55.67	1.23	-	-	-	0.08 - 0.26	3.5
TOSFOAM5220		Heat cure foam material	Sound dampening.		-	17	-	-	-	-	0.37	68
TOSFOAM5700		Two component silicone foam.	Suitable for foam sheet fabrication.	White	-	68(1.6)	1.19 (1.00)	8	0.21	70	0.17	4
TSE5000		Two-component silicone rubber.		Black	-	10	1.1	13	0.15	90	0.34	3.9
XE18-404		Two-component silicone foam.	Thermal insulation, weight saving.		-	25,000 (15)	1.12 (1.01)	10	0.2	80	0.28	5
XE18-A9923		Two component liquid silicone foam, highly flexible.			-	0.36	-	30	0.02	40	0.07	1

GREASE

Part Number	Loc	Features	Density/specific gravity	vol. resistivity (ohm.cm)	Thermal cond. (W/m.K)	Dielectric Strength	Viscosity (Pa.s)	Penetration
TIG2000		Good thermal conductivity grease	2.8	1.0x10^14	2	20	130	400
TIG210BX		Good thermal conductivity, low thermal resistance. Low bleed grease	2.9	1.0E+14	2.1	12	250	345
TSK551		Insulator protection from salt, dust.	1.03	1.0E+15	-	-	-	220
TSK550		General electrical insulation, arc resistance.	1.03	2.0+E15	-	11	-	220
TIG1000		Good therma l conductivity grease	2.5	3.6E+14	1	-	-	340
TIG1500		Good thermal conductivity grease	2.6	7.7E+14	1.6	11	100	275
TIG300BX		High thermal conductivity, low thermal resistance. Low bleed grease	3.0	5.0E+11	3	5	250	350
TIG210BXS		Good thermal conductivity, low thermal resistance. Low bleed grease	2.9	1.0E+14	2.1	12	400	-
TIG4600		High thermal conductivity, low thermal resistance grease	3.0	1.0E+10	5.2	18	280	370
TSK5200		Vacuum sealing grease	-	1.0E+15	-	10	-	230
TSK5303		Moderate thermal conductivity with heat resistance	2.34	1.5E+14	0.84	-	-	330
TSK5401		Lubricating grease	0.9	-	-	-	-	305
TSK5403		Lubricating grease	0.9	-	-	-	-	302
TSK5411		Lubricating grease with temperature resistance	-	-	-	-	-	280
TSK552		Dielectric insulation grease	1.03	2.12E+15	-	8	-	210
TSK5421L		Lubricating grease, low temperature resistance	-	-	-	-	-	290
TSK5422L		Lubricating grease	-	-	-	-	-	305
TIG830SP		High thermal conductivity, low thermal resistance grease	2.88	-	4.1	-	300	360
YG3058		Dielectric insulation grease	1.03	2.0E+15	-	26	-	260
YG6080		Lubricating grease	1.2	-	-	-	-	320
YG6111		Moderate thermal conductivity	2.45	2.0E+14	0.84	-	-	310
YG6260		Moderate thermal conductivity	2.3	2.0E+15	0.84	-	-	300
YG6240		Moderate thermal conductivity, low-bleed performance.	2.45	2.0E+14	0.84	-	-	290

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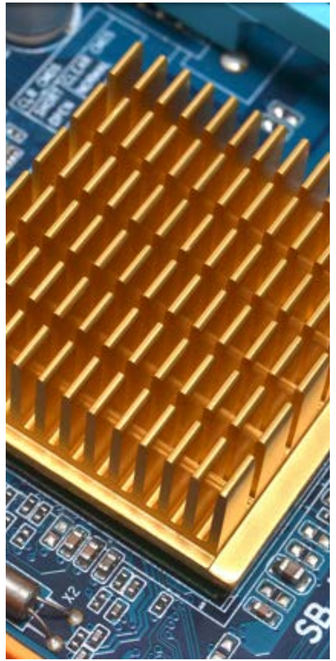


GELS

Part Number	Loc	Features	Final Color	Viscosity (Pa.s)	Specific gravity	Thermal conductivity (W/m-K)	Dielectric strength (kV/mm)	Dielectric constant	Penetration (1/10mm)	Volume resistivity (ohm.cm)
BG100		Low viscosity binder	Transparent	0.1	0.97	0.17	18	2.8	95	2.0x10^15
BG700		Two-component, low viscosity silicone binder gel.	Transparent	0.34	0.97	0.17	18	2.8	100	1.0x10^15
Gel 6209		Kit matched easily pourable, two-component gel.	Clear/colorless	0.90	0.98	0.17	20	2.8	90	1.0x10^15
RTV6136		Low viscosity potting gel with fast cure at low temperatures.		0.75	0.98	0.19	21	2.8	60	1.0x10^7
RTV6139		Low viscosity, two component, liquid silicone gel		0.75	0.98	0.19	21	2.8	60	1.0x10^7
TSE3051		Fast heat curing, low viscosity potting gel.	Transparent	0.7	0.97	0.17	18	2.8	85	1.0x10^15
TSE3062		Fast cure at low temperatures	Transparent	1	0.97	0.17	18	2.7	55	1.0x10^15
TSE3070		High-elongation gel with low temperature cure.	Transparent	0.8	0.97	0.17	18	2.7	65	1.0x10^15
TSE3053		Low viscosity, high penetration gel	Transparent	0.7	0.97	0.17	18	2.8	105	1.0x10^15
UV Gel-100		Two-part low viscosity liquid silicone.	Clear	-	-	-	-	-	-	-

SILICONE THERMAL COMPOUNDS FOR SERVER & PCs

For enterprise server and PC thermal applications with tightly controlled part tolerances and ability to achieve thin BLTs, Momentive's SilCool TIG4070 and TIG4090 thermal grease compounds, through a remarkable combination of very thin BLTs (7~10µm) and high thermal conductivity (3.3 ~ 4.2 W/m.K), can help reduce average operating temperatures of processors.

Part Number	Loc	Thermal conductivity (W/m-K)	Minimum BLT (µm)	Thermal Resistance (cm^2•K/W)	Volume Resistivity (Ω.cm)
SilCool TIG4070		4.2	10	0.040	1.0×10^{12}
SilCool TIG4090		3.3	7	0.025	2.6×10^{12}

LED AND JCR (JUNCTION COATING RESIN) GRADES

Part Number	Loc	Features	Typical Applications	Final Color	Adhesion (MPa)	Vol Res (ohm.cm)	Tensile (MPa)	Specific Gravity	Hardness (Shore A)	Viscosity (Pa.s)	Dielectric Strength (kV/mm)	Dielectric Constant
IVS4312		Low viscosity optical clear rubber	LED encapsulant	Clear	3.2	5.E+15	7.2		55	2.4	30	2.75
IVS4542		High Thixotropic transparent lens	LED Lens	Clear	2.58	2.E+15	5.71	A- 1.08	49	8.14	30.45	2.8
IVS4546		Standard optical clear silicone encapsulant	LED encapsulant	Clear	3.46	5.E+15	6.58	A-1.03	47	6.15	30.1	2.75
IVS4622		Good flowable optical clear rubber	LED encapsulant	Clear	0.22	5.E+15	0.74	A-1.00	28	1.06	27.15	2.71
IVS4732		High Viscosity white dam material	Dam for LED chip packaging	White	-	-	-	1.1	49	735	-	-
IVS7620		High Adhesion	LED encapsulant	Clear	2.12	2.E+16	7.04	A-1.03	50	5.08	29	2.75
IVS9520		High thermal resistance silicone rubber	LED encapsulant	Clear	3.5	3.E+16	8.77	A-1.05	63	6.87	32	2.77
IVSD3208		High Die shear strength white rubber		White	3.61	-	-	A-2.44	92	23.4	-	-
IVSM4500		High toughness lens fabrication	LED Lens	Clear	-	-	4.7	-	97	30	-	2.75
TSJ3150		High purity JCR-grade low viscosity rubber	IC Packaging	Clear	0.2	1.0x10^15	-	0.97	12	1.2	21	2.7
TSJ3155		High purity JCR-grade white rubber	IC Packaging	White/Black	0.2	1.0x10^15	-	1.02	10	6	20	2.8
TSJ3156		High purity JCR-grade white rubber	IC Packaging	White	0.4	1.0x10^15	-	1.01	20	6	20	2.7
TSJ3157		High purity JCR-grade white rubber	IC Packaging	Black	-	-	-	1.06	63	6	-	-
TSJ3175		High purity JCR-grade thixotropic gel	IC Packaging	Black	-	1.0x10^15	-	1.01	-	12	15	2.7
TSJ3186		High purity JCR-grade thixotropic gel	IC Packaging	White	-	-	-	1.02	20	-	-	-
TSJ3187		High purity JCR-grade translucent gel.	IC Packaging	White/Black	-	5.0x10^15	-	1	-	12	25	2.7

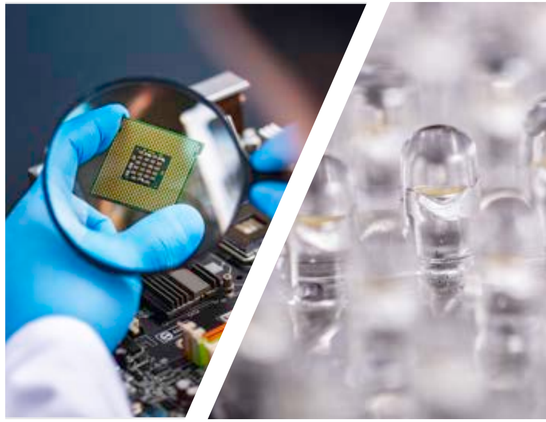
Location: Indicates regional 2020/2021 sales, where = AMR, = EUR, and = PAC

MICRO E GRADES

Part Number	Loc	Features	Typical Applications	Final Color	Adhesion (MPa)	Tensile (MPa)	Volume Resistivity (ohm.cm)	Specific Gravity	Hardness (Shore A)	Viscosity (Pa.S)	Dielectric Strength (kV/mm)
LA650		Adhesive that cures to a tough silicone rubber	IC Packaging	Black	5.4	6.4	2.E+06	1.1	63	92	-
LA322S		Adhesive that cures to a silicone rubber	IC Packaging	Light blue	2.52	3	1.E+15	1.27	36	-	27
SDI3578		Soft rubber adhesive for thermal management	IC Packaging	Grey	5.1	-	-	-	80	100	-

MOLDMAKING - ADDITIVE

Part Number	Loc	Features	Typical Applications	Final Color	Tack free time (min)	Specific Gravity
ME60		One-component, heat-cure, silicone marking color ink; can be used for printing on the silicone rubber parts, such as keyboard, keypad, electric wire, etc.	Mold making	5 colors: white (W), black (B), blue (M1), light yellow (Y), and red (R1)	-	1.01
ME11		Primer to adhere two-component condensation cure liquid silicone rubber onto metals and plastics.	Mold making	Light yellow, transparent, liquid	30	0.82
ME121		Primer designed to adhere condensation cure silicone adhesive sealants to metals, glass and some plastics.	Mold making	Pale yellow transparent	30	0.86
ME151		One-component primer to adhere addition cure silicone rubbers onto substrates such as, metals, plastics, glass and ceramics.	Mold making	Pale yellow liquid	30	0.87
ME35		Two-component, condensation type top coating material for silicone cloth coating.	Mold making	Light white (A), Light yellow (B)	-	-
ME75		Addition cure, inhibitor	Mold making	Colorless	-	1.72
ME90		Condensation cure thinner	Mold making	Transparent	-	-
ME91		Addition cure, thinner	Mold making	Transparent	-	-



Location: Indicates regional 2020/2021 sales, where = AMR, = EUR, and = PAC

MOLDMAKING

Part Number	Loc	Features	Typical Applications	Final Color	Viscosity	Specific Gravity	Work Life (Hours)	Pot Life (Hours)	Hardness (Shore A)	Tensile (MPa)	Elongation (%)	Tear (N/mm)
RTV662		Highest durometer and long work life. Ideal for embossing, release rolls and large molds	Architectural and funiture molding	Blue	150.500 (Base) 5(Catalyst), 120 (mixed)	1.28 (Base), 1.05 (Catalyst)	4	5	68	1015	240	23.8
RTV664		High durometer and good dimensional stability. Excellent chemical and abrasion resistance. May be best suited for high production on manufacturing lines.	Architectural and funiture molding; Prototyping	Blue	160 (Base) 6(Catalyst), 110 (mixed)	1.28 (Base), 1.05 (Catalyst)	2	3	62	933	250	21.4
RTV668		High durometer and good dimensional stability. May be best suited for sulfur resistance. May be best suited for casting with masters made of pine, oak and elm.	Architectural and furniture molding	Green	151 (Base) 3.8 (Catalyst), 120 (mixed)	1.28 (Base), 1.05 (Catalyst)	2	2.5	62	1041	1040	17.5
TSE350		Two-component, condensation cure liquid silicone rubber designed for mold making	Arts, crafts, architecture interiors and in the fabrication of buttons.	Stone white, White	12	1.18		1	47	2.5	170	
TSE3450		Tlansparent, High strenght, NON Oil bleed.	Mold making, Transparent products, Emblems	Transparent	A-70 B - 1.5, 48(Mixed)	1.02(Base), 1.02(Catalyst)	2	3	47	4.65	350	10
TSE3453		Molding of precise parts, HIgh sternght, NON Oil bleed	Mold making, Roll	Translucent	A-55 B- 2.75	1.1(Base), 1.08(Catalyst)	1	2	40	5.65	400	-
TSE3453T		Molding of precise parts, High strenght, NON Oil bleed Hardness 40	Architectural and Furniture Molding; Prototyping	Translucent	50(Base) 2.3(Catalyst), 42(mixed)	1.09 (Base) 1.02 (Catalyst)	2	2.5	40	928	400	25
TSE3455ST		Overseas product name of TSE3455T (below)	Architectural and Furniture Molding; Prototyping	Translucent	A-34 B-0.68	1.1	-	-	40	5.73	-	-
TSE3455T		Lowest viscosity product. Excellent resistance to polyurethane.	Architectural and Furniture Molding; Prototyping	Translucent	45 (Base) 1.500 (Catalyst), 30 (mixed)	1.10 (Base) 0.99 (Catalyst)	1.5	2	40	924	360	19.6
TSE3456T		Molding of precise parts, High strenght, NON Oil bleed Hardness 40	Architectural and Furniture Molding; Prototyping	Translusent	A- 88(Base) B- 3.3(Catalyst), 50(Mixed)	1.1	1	2	40	6.07	-	-
TSE3457T		Medium durometer, good dimensional stability. Prototype for Head lamp	Prototyping	Translucent	A-50(Base), 2.5(Catalyst) , 42 (Mixed)	1.1	1.5	2	45	6.7	350	29
TSE3458T		Molding of precise parts, High strenght, NON Oil bleed Hardness 40	Architectural and Furniture Molding; Prototyping	Translusent	A-50(Base), 1.4(Catalyst), 40(Mixed)	1.08	4	6	40	6	380	32
TSE3466		High durometer, low viscosity. High Hardness 60	Architectural and Furniture Molding; Prototyping	Translucent	70(Base) .300 (Catalyst), 45(mixed)	1.10 (Base) 1.02 (Catalyst)	1.5	2	60	1073	350	15.9
TSE3476T		Molding of precise parts, Oil Bleed, Hardness 37 Excellent resistance to polyurethane.	Architectural and Furniture Molding; Prototyping	Translusent	A- 70 C- 1.4 D- 1.5	1.08	1.5	-	37	6	380	26

Location: Indicates regional 2020/2021 sales, where = AMR, = EUR, and = PAC

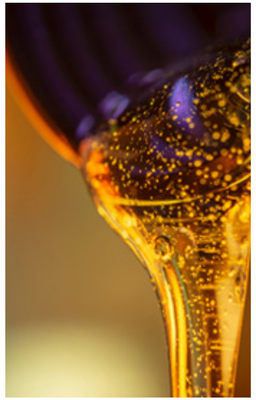
Part Number	Loc	Features	Typical Applications	Final Color	Viscosity (Pa.s)	Specific Gravity	Work Life (Hours)	Pot Life (Hours)	Hardness (Shore A)	Tensile (MPa)	Elongation (%)	Tear (N/mm)
TSE3477T		Molding of precise parts, High strenght, Hardness 45, Oil bleed, Prototype	Architectural and Furniture Molding; Prototyping	Translucent	A-62 C-3.0 D-2.6	1.1	1.5	-	45	6.3	320	34
TSE3478T		Molding of precise parts, High strenght, Hardness 40, Oil bleed, Prototype	Architectural and Furniture Molding; Prototyping	Translucent	A-50 C-3 D-1.4 E-0.6 F-0.6	1.08	3	-	40	6	380	32
TSE3480T		Molding of precise parts, Tough Rubber, Hardness 40, NON Oil bleed, Prototype	Architectural and Furniture Molding; Prototyping	Translucent	A-55 C/D-0.5 F/G-0.8	1.08	2	3.00	42	6	380	20
TSE3488T		Two-component, addition cure liquid silicone rubber designed for mold making.	Prototype mold making for electric, electronic and automotive industries; Emblem for shoes, shirts, etc.	Transparent	A-90 C-1.0 D-1.1 E/F-0.5	1.08	2	-	41	6.5	390	28
TSE3562		Two-component, condensation cure liquid silicone rubber designed for mold making.	Mold making for figurines, decorative objects, furniture, etc.	Light green, Light red, White	A-45	1.09	0.2	-	28	4	410	19
YE5626		Two-component, addition cure liquid silicone rubber designed for mold making.	Prototype mold making in electronics (e.g. TVs, appliances, mobiles); or auto industry (e.g. console boxes, lamp housings)	Translucent	A- 60, B- 1.0	-	-	-	40	6.0	420	25

OPTICAL BONDING

WATCH THE VIDEO
Optical Bonding Silicone Solutions for Large, Curved Form-Factor Displays

Part Number	Loc	Features	Typical Applications	Final Color	Adhesion (MPa)	Viscosity (cPs)	Hardness (Shore type E)	Refractive Index	Specific Gravity
OP1012	■■■	Soft gel	Optical bonding	Clear	0.2	800	Gel	1.41	0.97
OP1112	■	Soft gel	Optical bonding	Clear	0.3	3000	Gel	1.41	0.97
OP1822	■■■	Soft gel	Optical bonding	Clear	0.3	46000	Gel	1.41	0.97
OP21315D	■■■	Soft gel	Optical bonding	Clear	0.3	2300	7	1.41	0.97
OP1131D	■	Soft gel	Optical bonding	Clear	0.3	2900	Gel	1.41	0.97
OP2012L	■■	Soft rubber	Optical bonding	Clear	0.4	100	25	1.41	0.97
OP2012S	■■	Soft rubber	Optical bonding	Clear	0.4	800	25	1.41	0.97
SN1001	■■■	Soft gel	Optical bonding	Clear	0.6	1000	Gel	1.41	0.97
SN3001	■■■	Soft gel	Optical bonding	Clear	0.6	1000	Gel	1.41	0.97
XE13-OP007	■	Soft gel	Optical bonding	Clear	0.3	2500	Gel	1.41	0.97
XE14-D0059	■■	Soft gel	Optical bonding	Clear	0.3	7000	Gel	1.41	0.97
SN4591	■■■	Soft gel	Optical bonding	Clear	0.5	80	Gel	1.41	0.97
OP2831D	■■■	Soft gel	Dam for optical bonding	Clear	-	35000	13	1.41	0.97
OP2922	■■	Soft rubber	Dam for optical bonding	Translucent	-	62000	-	1.41	0.97
OP1912	■■■	Soft gel	Dam for optical bonding	Clear	-	98800	Gel	1.41	0.97

Location: Indicates regional 2020/2021 sales, where ■ = AMR, ■ = EUR, and ■ = PAC



PRIMER

LEARN MORE ABOUT PRIMERS

Part Number	Loc	Features	Typical Applications	Final Color	Specific Gravity	Solids (%)	Tack Time (min)
SS4004P	■■■	General Purpose	Helps promote adhesion to: Aluminum, Copper, Steel and Stainless Steel	Pink	0.85	15	10
SS4044P	■■■	General Purpose, FDA compliant	Helps promote adhesion to: Aluminum, Copper, Steel & Stainless Steel	Transparent	0.85	15	10
SS4120P	■■■	FDA complaint	Use with addition cure RTVs	Transparent	0.82	3	30
SS4155P	■■■	General Purpose	Use with addition cure RTVs	Blue	0.82	10	30
SS4179P	■■■	FDA complaint	For use with difficult-to-bond to plastic substrates	Transparent	0.91	6	10
XP81-A6361	■	Primer for adhering heat cured silicone rubber to various kinds of substrates.		Light yellow, transparent	0.69	5.6	-
XP81-B0016	■	One-component primer for addition cure silicone rubber.	Adhesion to metals, glass, etc.	Light yellow, transparent.	0.71	7.9	-

TEXTILE COATING

Part Number	Loc	Features	Typical Applications	Final Color	Mix Ratio	Elongation (%)	Tensile (PSi)	Hardness (Shore A)	Viscosity (Pa.s)
SLE5401	■■	Excellent adhesion to synthetic fabrics while providing durable antiblocking characteristics.	Nylon, kevlar, fiberglass, polypropylene, polyethylene, natural fibers and other industrial and structural fabrics.	Translucent	(1:1)	200	800	45	25
SLE5700	■■	Typically enhances the physical strength of engineered textiles while providing durable antiblocking characteristics.	Natural fabrics and fiberglass.	Translucent	(1:1)	200	500	40	20
SLE5600	■■■	High strength and abrasion resistance. FDA compliance capability	Primarily mechanical adhesion. May require the use of a primer for chemical adhesion.	Beige	(1:1)	195	825	61	82.57

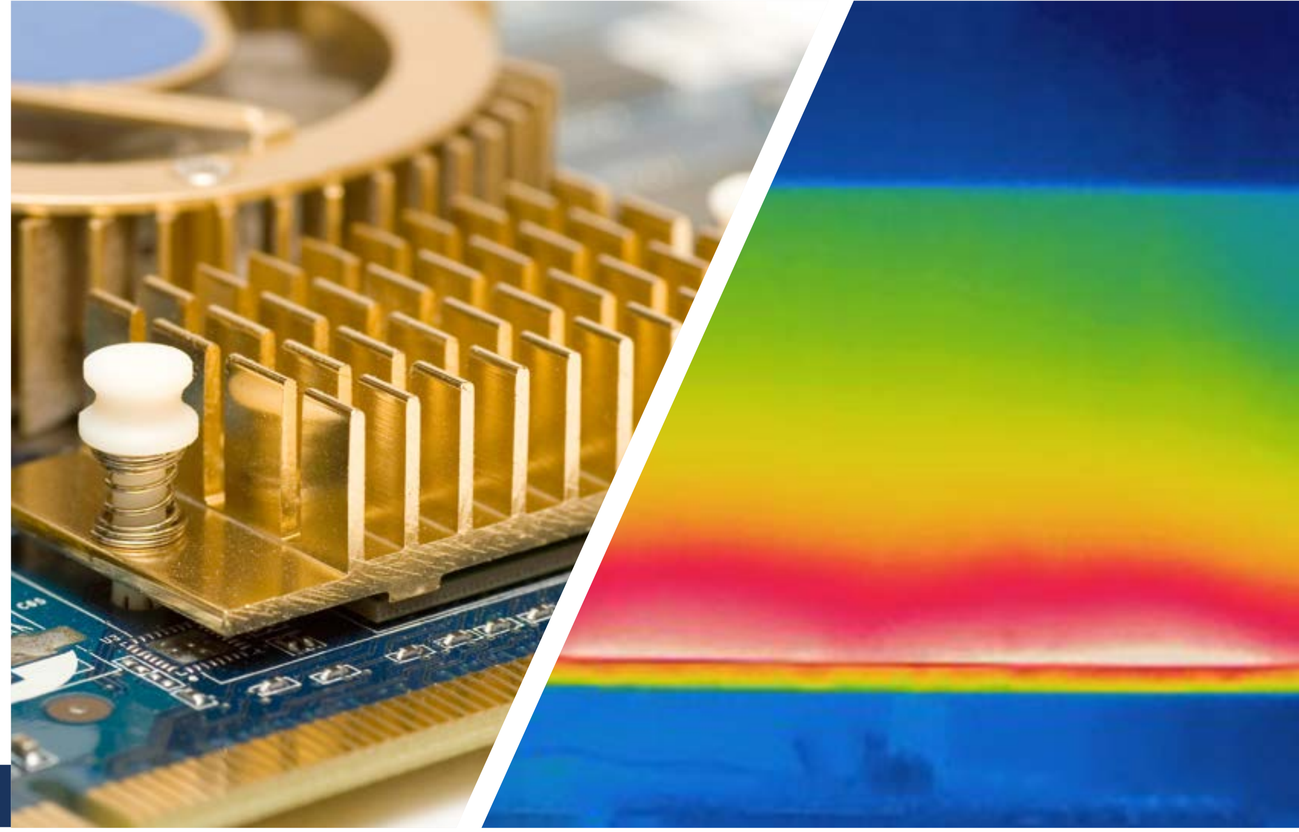
Location: Indicates regional 2020/2021 sales, where ■ = AMR, ■ = EUR, and ■ = PAC

THERMAL INTERFACE

Part Number	Loc	Type	Features	Final Color	Tack Free Time (min)	Tensile (MPa)	Hardness (Shore A)	Specific Gravity	Thermal Conductivity (W/m.K)	Viscosity (Pa.s)
TIA0220		Adhesive	High thermal conductivity, low volatility, non- corrosive, wide temp range	Gray	10	5.2	88	2.87	2.2	300
TIA0260		Adhesive	High thermal conductivity, low volatility, non- corrosive to metals and flame retardant UL94 V-0	Light Gray	5	4.4	88	2.98	2.46	-
TIA260		Adhesive	One-component, heat curable silicone adhesive,	Gray	10	4.8	90	3.0	2.6	150
TIA250RZ		Adhesive	1-component, heat curable silicone adhesive.	Gray		4.8	84	2.8	2.2	40
TIA350R		Adhesive	Easy to use, Electrically insulative, non corrosive to metals, good thermal conductivty	Gray	-	1.6	77	3.1	3.5	67
TSE3281-G		Adhesive	1-component, medium viscosity, thermally conductive material.	Gray		4.5	84	2.7	1.68	60
TSE3280-G		Adhesive	1-component, medium viscosity, thermally conductive material.	Gray		3.2	62	2.1	0.88	60
TIS370C		Compound	1-part room temperature cure thermal compound.	Gray	10	-	-	3.19	3.7	400
TIS380C		Compound	1-part room temperature cure thermal compound.	Gray	-	-	-	3.8	3.25	200
TIA241GF		Gap filler	2-component, soft, thermally conductive gap filler.	Blue	-			3.14	4.1	
TIA225GF		Gap filler	2-component, thermally conductive silicone gap filler.	Gray				2.9	2.5	
TIS420C		Gap filler gel	Good thermal conductivity, Fast/ low temp cure, helps provide stress relief during thermal cycling	Gray	10	-	-	3.2	4.2	-
TIA216G		Potting	Thermally conductive, low temperature / fast cure soft pottant.	Gray	-	-	20	2.69	1.6	8
TIA219R		Potting	2-part thermally conductive potting material.	Gray	-	0.8	25	2.7	1.9	8
TIA222G		Potting	Thermally conductive, low temperature / fast cure soft pottant. UL certified.	Gray	-	-	20	2.81	2.2	20
SDI3578		Adhesive	One-component, medium thermal conductivity robust reliability performance for flip chip BGA package.	Gray	-	1.2	75	3.25	3.5	80
SDI5279		Adhesive	One-component, high thermal conductivity robust reliability performance for flip chip BGA package.	Gray	-	1.2	75	3.25	5.2	130
SDI4779*		Adhesive	One-component, high thermal conductivity with good flowability for flip chip BGA package.	Gray	-	1.2	75	3.25	4.7	90

*product not commercialized but planned in 2022

Location: Indicates regional 2020/2021 sales, where = AMR, = EUR, and = PAC



WATCH THE VIDEO

High Thermal Management Silicones for Automotive and E-Mobility: Thermal Gap Fillers

SURFACE PREPARATION & ADHESION

What Is Adhesion?

Adhesion refers to the bond between two adjacent materlals and is related to the force required to affect their complete separation.

Why Is Surface Preparation Important?

Substrate preparation is critical to good adhesion, and poor substrate preparation can contribute to adhesion problems. It's important to remove any contaminations such as process oils, mold release, dirt, grease, etc. This can be done by

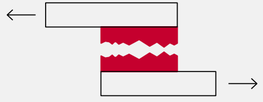
Appropriate solvent deaning:

- AcetDne, IPA, ethyl acetate, toluene, etc.
- Wipe, Immerse

Detergent cleaning:

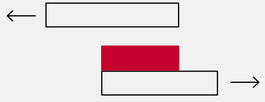
- Soap and water
- wash and water rinse, dry thoroughly

Types of Failure



COHESIVE FAILURE

Cohesive failure (slllmne breaks): Adhesive ruptures leavlng adhesive on both substrates Involved In the bond.



ADHESIVE FAILURE

Adhesive failure (bond breaks): Adhesive pulls cleanly away from the substrate.

FOR DIFFICULT TO BOND TO SUBSTRATES & SURFACES

MECHANICAL ROUGHENING

Examples:

- Sandpaper
- Sandblasting
- Metal Wool

CHEMICAL TREATMENT

Chemical treatment is the process of treating a clean surface by chemical means. The chemical nature of the substrate surface is altered to make It highly receptive to adhesion.

Examples:

- Etching with oxalic acid/sulfuric add/ distilled water
- Etching with hydrofluoric acld/ dlstllled water

CORONA TREATMENT

- High voltage, high frequency discharge in air; another oxidation method, in which new functional groups are produced on the surface

FLAME TREATMENT

- High temperature flame which oxidizes the surface of the substrate and provides new functional groups
- Used for many types of plastics

USE OF PRIMERS

- One-component, no mixing required
- Promote adhesion to difficult-to-bond substrates
- Apply In thin coats (0.5 mil)
- Dry at room temperature and ambient humidity conditions
  - Allow the primer to air-dry for at least 30 minutes before applying silicone
  - When drying, avoid touching the primer or allowing it to be exposed to dust or water
- Refer to "Primers" section for options

PLASMA TREATMENT

- Neutral and charged species created by a discharge in the presence of a gas

FOOD CONTACT APPLICATIONS FOR SILICONE RUBBER COMPOUNDS

Several Momentive Performance Materials RTV sllicone rubber compounds can be evaluated for food contact appllcations where FDA, USDA and NSF regulations apply.

The Use of these Sealants is Subject to the Following Conditions:

The sealant must be applied in accordance with good manufacturing practices at a thickness not to exceed 6mm (l/4") from an exposed edge, and as a continuous film between joints acting as a functional barrier between the food and the substrate (the area underneath the joint).

The sealant must be cured for a minimum of 14 days at 25°C (77°F) and 50% RH. The sealant must be thoroughly cleansed before the first use.

The sealant, when properly cured, must comply with the extractives limitations at temperatures up to and incuding reflux applications. The user should verify compliance with extractives limitations at higher temperatures.

Compliance with 21CFR177.2600 does not authorize use of these sealants for the manufacture of baby bottle nipples.

All prevlously mentioned sealants must be evaluated to determine bond strength for each specific application. If greater adhesion is required, the evaluation of primer SS4044 (clear) is recommended. SS4044 may be used in repeated contact with food under 21CFR175.105 "Adhesives" and used in conjunction with the RTV products covered under 21CFR177.2600.

The following two-part RTV silicone rubber compounds may be used in repeated contact with foods under FDA regulation 21CFR177.2600, "Rubber Articles Intended for Repeated use".

RTV11	RTV615	SLE5500
RTV41	RTV664	SLE5600

The compound must be applied in accordance with Good Manufacturing Practices. The compound must be thoroughly cleansed before the first use. Compliance with 21CFR177.2600 does not authorize use of the compound for the manufacture of baby bottle nipples.

RTV11 and RTV41 must be formulated with Dibutyl Tin Dilaurate (DBT) or RTV9950 In comply with 21CFR175.300, 21CFR177.2600. RTV11, RTV41 and SLE5500 compounds should not be used in contact with acid foods.

As with the sealants, primers may be desired. If so, the evaluation of primers SS4044P or SS4120 is recommended.

These are covered under FDA regulation 21CFR175.105 "Adhesive", and can be used in conjunction with the silicone compounds mentioned above covered under 21CFR177.2600.

FDA Status

The followlng one-part RTV silicone rubber compounds may be used in repeated contact with foods under FDA regulation 21CFR177.2600 "Rubber Articles intended for Repeated Use" (and, by reference, 21CFR175.300 "Resins and Polymeric Coatings").

RTV102	RTV103	RTV106
RTV108[1]	RTV109	RTV112
RTV116	RTV118	IS808
IS803	IS806	[1]USP Class VI

USDA Status

Momentive Performance Materlals has on file approval letters from the USDA which states that R1V102, R1V103, R1V106, RTV108, R1V109, R1V112, RTV116, R1V118, IS802, IS803, IS806 and IS808 sealants, are chemically acceptable for use as sealants on equipment that may contact edible products in official establishments operating under the federal meat and poultry products inspection program. The areas sealed should be thoroughly rinsed with potable water after the sealant has properly cured. The compound must be used in a manner that prevents direct or indirect contamination of edible products.

If greater adhesion is required, the evaluation of primer SS4044P (clear) is recommended. SS4044(P) is listed with the USDA.

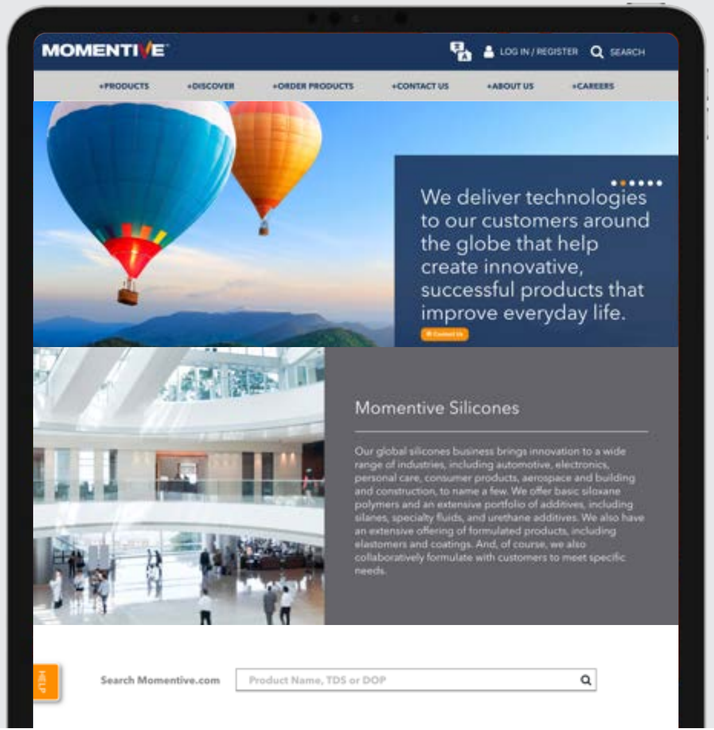
The final granting of authorization for the proposed use of such sealants is the responsibility of the inspector in charge of the official plant. Technical assistance will be provided by the Product Safety Branch of USDA upon request. These sealants are found in the "List of Proprietary Substances and Nonfood Compounds" issued by USDA. A copy of the approval letter may be required by the USDA Inspector. A copy of the approval letter may be obtained from the Momentive Product Regulatory Compliance Operation.

NSF Status

The National Sanitation Foundation lists RTV102, RTVV03, RTV106, RTV108, R1V109, RTV112, RTV116, RTV118, IS802, IS803, IS806 and IS808 sealants under NSF Standard No. 51 "Plastic Materials and components for Use In Food Equipment as satisfactory for use on food contact surfaces. If greater adhesion is required, the evaluation of SS4044 primer is recommended. SS4044, is also listed under NSF Standard No. 51.

PRODUCT DATA SHEETS

Product data sheets describing specific product properties, typical industrial applications and instructions for use are available from Momentive Performance Materials. Call the Momentive sales office nearest you, or an authorized Momentive product distributor. You can vislt our website at www.momentive.com.



FREQUENTLY ASKED QUESTIONS

What does RTV mean?

RTV stands for Room Temperature Vulcanization (cure). Despite the low-temperature connotations conveyed by this name, RTV silicones consist of both Room Temperature Cure and Heat Cure grades.

What is the cure mechanism of a condensation cure product?

Condensation cure silicone products cure when exposed to atmospheric moisture. Moisture in the air is generally required to cure (or vulcanize) condensation cure products. The cure process begins from the outer surface, and therefore time is required for complete cure. The cure time is affected by the reaction mechanism and viscosity of the material. Generally, at 25°C and 50%RH, condensation cure RTV silicones cure through in 24 to 48 hours. Full physical properties may take up to 7 days to develop.

What is the depth (bead thickness) limit for a condensation cure grade?

For 1-part, condensation cure products, the depth (bead thickness) limitation is approximately 6mm (1/4”). For 2-part, condensation cure products, the depth (bead thickness) limitation is approximately 25mm (1”).

Can I accelerate the cure time of a 1-part product?

Condensation cure silicone cure rates depend on humidity, silicone thickness, and to a smaller degree heat. Increasing the relative humidity around the silicone or reducing the thickness of the material will reduce the time to cure the material. Increased heat (not over 50°C) will somewhat reduce cure time but as mentioned will do so to a much smaller degree than humidity or thickness.

What is the cure mechanism of an addition cure product?

Addition cure silicone RTV products may be 1 or 2-part and cure when exposed to heat. Although some heat cure products can cure at room temperature, higher heat greatly accelerates the cure. 1-part heat cure products typically have an inhibitor in the formulation that stops the product from curing until an activation temperature, greater than room temperature, is achieved and the inhibitor is driven off and the cure reaction is allowed to proceed.

What does “tack free time” mean?

Tack free refers to the amount of time it takes for a condensation cure silicone product to form a cured outer layer (the cured outer layer is not tacky like uncured material).

What is “mix ratio”?

Mix ratio is a term used to state the amount of each material to be in a multi-component material. The mix ratios for 2-part products are described on the individual product data sheets and are given as a ratio by weight of each material.

What does “pot life” or “work life” mean?

The amount of time after a 2-part grade is mixed with its curing agent that it will remain useful or pliable.

How do I remove silicone?

Before it is cured: use a putty knife to remove any of the uncured paste. Wipe the area clean with isopropyl alcohol to remove any leftover residue. After it is cured: First mechanically remove as much of the silicone as you can with either a knife or a razor. A solvent (mineral spirits, toluene, xylene, acetone) can them be used to remove any oily residue or any remaining silicone, It may be necessary to soak the silicone in a solvent overnight to break it down.

Can I thin a silicone?

Silicone can be thinned using a solvent in which the silicone is miscible, generally an aromatic solvent such as toluene or xylene. As always, be sure to follow the producer’s instructions when using solvent products and always use in a well-ventilated area. The shrinkage of the silicone and the cure time will increase with the addition of solvent. Alternative suggestions would include nonreactive nonreactive fluids or an RTV with a lower viscosity.

What can I do to improve the adhesion of the silicone adhesive to my parts?

The first step to good adhesion is to have clean surfaces for the silicone to bond to. For difficult-to-bond-substrates, Momentive Performance Materials offers a number of primers that can be used to improve and maximize adhesion.

How do I ensure that air is removed from 2-part grades?

If you are hand mixing, air may become added to the material during the mixing process. Vacuum de-airing is most effective in removing air prior to use. Automated mixing equipment that utilizes a static mixer can eliminate the need to de-air prior to dispensing. On complex high-density electronics, air can sometimes be trapped under components during the potting process. Where this is a concern, potting under vacuum or vacuum de-airing after potting can remove the trapped air. An alternate approach may be to use a grade with a low viscosity and longer potlife and to cure at lower temperatures (if heat-cure grade), allowing entrapped air to escape prior to the cure of the material.

What is cure inhibition? How do I prevent it?

Cure inhibition is a phenomenon that may be observed in addition cure grades. These materials use a platinum catalyst to drive the curing reaction. Surfaces containing water, sulfur, nitrogen compounds, organic metal compounds, or phosphate compounds, may inhibit cure. Cure inhibition is characterized by a gummy or sticky appearance of the silicone at the interface between the silicone and offending substrate. Inhibition can be prevented by application of a barrier coat, cleaning of the offending material prior to application of the silicone material,replacing the offending material with a suitable alternative, or selection of a condensation cure grade.

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