Using INSULCAST Potting Compounds & Encapsulants Is as Easy as...

1

RTVS 27 SILICONE ENCAPSULANT
- easy 1:1 mix ratio
- high temperature
- flame retardant (UL 94V-0)

2

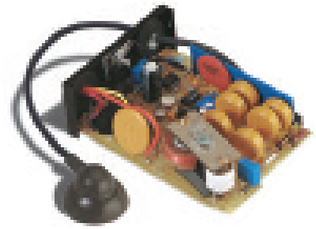
116 FR EPOXY ENCAPSULANT
- easy 1:1 mix ratio
- flame retardant (UL 94V-0)
- safe and solvent-free

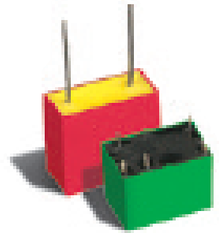
3

CALL (800) 645-7546 FOR:
- technical assistance
- application support
- product recommendation

ITW Polymer Technologies/Insulcast
130 Commerce Drive, Montgomeryville, PA 18936
(215) 855-8450 • FAX (215) 855-4688

ITW Polymer Technologies
ENCAPSULANTS, POTTING MATERIALS & SILICONE GREASES





INSULCAST®

ENCAPSULANTS, POTTING MATERIALS & SILICONE GREASES

www.insulcast.com

About ITW and its family of companies

Illinois Tool Works (ITW) is a Fortune 200 company headquartered in Glenview, IL. We design and produce a wide array of highly engineered fasteners, components, equipment, consumable systems and specialty products for customers around the world. A leading diversified manufacturing company with more than 90 years of history, ITW's nearly 825 decentralized business units in 52 countries employ approximately 60,000 men and women who are focused on crafting value-added products and innovative customer solutions. A core operating principle of ITW is the 80/20 philosophy that allows our people to focus on key products and customers while simplifying operations and improving customer satisfaction. The underlying goals driving all ITW businesses are to create value and improve operating efficiencies for every one of our customers.

ITW Polymer Technologies
(ITW Philadelphia Resins) is a grouping of ITW business units that focus on providing solutions to customers who use polymer materials. Six decades of research and experience in various fields provide us with the resources to remain on the leading edge of technology. We continually strive to create innovative, proven solutions to difficult problems. Included in this group are such well known companies as:

ITW Polymer Technologies, Montgomeryville, PA, is a leading supplier of polymer grouts, coatings, adhesives and repair compounds to industrial, marine and commercial markets. Brand names include Chockfast®, Escoweld®, Impax®, and Phillyclad®.

ITW Polymer Technologies
130 Commerce Drive, Montgomeryville, PA 18936
Telephone: 215.855.8450 • Fax: 215.855.4688
www.itwpolytech.com

ITW American Safety Technologies is the worldwide leader in the manufacture of anti-slip floor and deck systems for marine and industrial applications. We also produce a complete line of electrical encapsulants under the Insulcast name.

ITW American Safety Technologies
565 Eagle Rock Avenue, Roseland, NJ 07608
Telephone: 800-631-7841 · Fax: 215.855.4688
www.astantislip.com

ITW PolySpec® THIOKOL®, manufacturer of coatings, linings, flooring and sealants for construction and corrosion protection for the industrial, institutional, commercial and marine markets.

ITW PolySpec®
6614 Gant Road, Houston, Texas 77066
Telephone: 888-797-0033 · Fax: 281-397-6512
www.polyspec.com

ITW Polymer Technologies
ENCAPSULANTS, POTTING MATERIALS & SILICONE GREASES

Products are produced in our ISO 9001:2000 facilities in Montgomeryville, U.S.A. and Shannon, Ireland; our products and expertise are available in over 35 countries around the world through our network of product distributors.

As a business unit of Illinois Tool Works (ITW), our operations are supported by the ITW Technology Center in Glenview, IL, U.S.A. This technical center assists in providing engineering ideas and solutions for worldwide markets. Combined with our own specialized staff at our Montgomeryville headquarters, we offer unique solutions to your application problems.

DISTRIBUTOR LOCATIONS

ARGENTINA
AUSTRALIA
AUSTRIA
BELGIUM ■ BRAZIL
CANADA
CHILE ■ CHINA
DENMARK
EGYPT
ENGLAND ■ FINLAND
FRANCE
GERMANY
HOLLAND
INDONESIA
ITALY ■ JAPAN
KUWAIT
MALAYSIA
MEXICO
NORWAY
OMAN ■ PERU
PHILIPPINES
POLAND
QATAR
SAUDI ARABIA
SINGAPORE
SOUTH AFRICA
SOUTH KOREA
SPAIN
SWEDEN
SWITZERLAND
SYRIA
TAIWAN
THAILAND
U.A.E.
UNITED STATES
VENEZUELA
VIETNAM
WEST INDIES

INSULCAST® ENCAPSULANTS, POTTING MATERIALS & SILICONE GREASES
Visit www.insulcast.com or call (800) 645-7546.

Global Technology Leader

ITW Insulcast is one of 700 U.S. divisions of a $16 billion global manufacturer and marketer of high performance coatings, speciality lubricants and cleaners that employs over 49,000 people and operates manufacturing and distribution facilities in 48 countries.

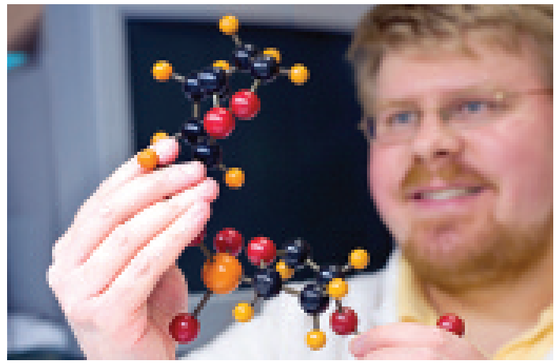
Worldwide growth is fueled by innovation — approximately 20% of sales are from products developed in the last three years. Strong funding of research and development coupled with quality application engineering and consistent capital investment yields a steady stream of new products.

ITW Insulcast operates with a group of worldwide companies servicing the applied precision coatings business and the maintenance, repair and overhaul business with products for the electrical, electronic, transportation, aviation, military, automotive and medical industries.

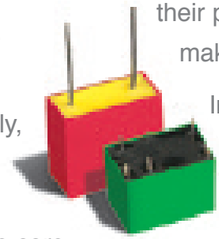
You Want Answers

Anyone can fill an order. It's delivering the right solution for your application that counts. That means knowing how to work with your engineering and manufacturing personnel and how to ask the critical questions to ensure you get the correct formulation for the job. It also means getting you the specs you need, samples for testing, a custom formulation for a new application, or the answer you want—now.

What makes Insulcast stand out is our reputation for going the extra mile. Basically, it all comes down to being able to trust someone to get the job done in a professional and timely manner. That is the core of how we do business. We just happen to do it while making some of the finest encapsulating and potting materials in the industry.



So, next time you need a real answer—someone who can eliminate the headaches and deliver on their promises—give us a call. We're here to make you look good.



Insulcast manufactures a wide range of standard and custom formulated epoxies and silicones in our state-of-the-art facilities in Roseland, New Jersey and Montgomeryville, PA. Our "Total Quality System" includes quality control, research, and technical service laboratories on site.

EXTENSIVE EXPERIENCE

- Military and commercial high voltage power supplies
- Transformers
- Coils
- Custom formulations

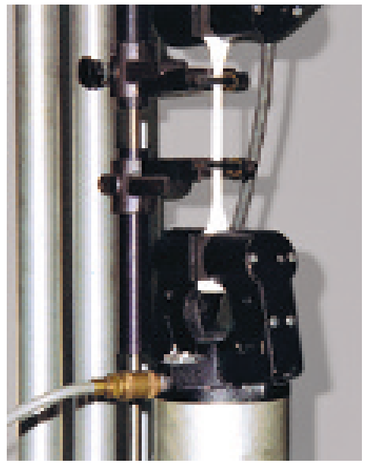
FORMULATION EXPERTS

- Thermally conductive material
- Room temperature and heat cure
- High strength
- One and two part systems
- 25 durometer Shore A to 90 durometer Shore D

INSULCAST® ENCAPSULANTS, POTTING MATERIALS & SILICONE GREASES
Visit www.insulcast.com or call (800) 645-7546.

ITW Polymer Technologies
ENCAPSULANTS, POTTING MATERIALS & SILICONE GREASES

Which Product is Right for You?



When reliability cannot be compromised.

ITW Insulcast gives you superior choices with encapsulants, potting materials & silicone greases.

HOW YOUR BOTTOM LINE BENEFITS FROM INSULCAST

EPOXIES	Insulcast epoxies are both general purpose and thermally conductive. They are designed to protect components in applications such as heat sink bonding, surface mount and die attach while meeting the challenges of heat dissipation.
SILICONES	Insulcast silicones are both general purpose and thermally conductive. They are designed to protect components in applications such as heat sink bonding, surface mount and die attach while meeting the challenges of heat dissipation.
SILICONE GREASES	Insulcast greases contain no carbon or graphite. They maintain electrical and lubricating properties such as resistance to moisture and humidity, and inertness to chemicals, ozone and radiation over a broad environmental range.
SILICONE PRIMERS	RTVS primers are dilute solutions of reactive silicone resins which can be used to improve adhesion of micro-electronic coatings and various RTV silicones to a variety of substrates. Various primers are available for addition cured and condensation cured silicone RTVs. These primers may be used on metal, wood, glass, ceramics, and many plastics.

ITW Insulcast formulas are found within the electrical, utility, rail transportation, aerospace, telecommunications, product assembly, automotive, power generation and electronic markets.

In addition to providing superior bonding to a variety of substrates, Insulcast products are designed to withstand chemicals and corrosion.

ITW Insulcast's full grasp of epoxies, silicones and adhesives technology enables us to adapt to today's changing business needs across a wide array of applications. ITW Insulcast offers timely solutions to your needs and our quality standards enable us to be an industry leader.

INSULCAST®
ENCAPSULANTS, POTTING MATERIALS & SILICONE GREASES

Visit www.insulcast.com or call (800) 645-7546.

Solid Answers Superb Technical Support

Developing new product specs? Need a sample in a hurry? Have a problem to solve? Give us a call. We provide the answers that you need to move forward. The earlier in the process you can include us the better. Of course, if you're under the gun, that's all the more reason to call on our expertise. We're here to help.

Call (800) 645-7546

INSULCAST®
ENCAPSULANTS, POTTING MATERIALS & SILICONE GREASES

Visit www.insulcast.com or call (800) 645-7546.

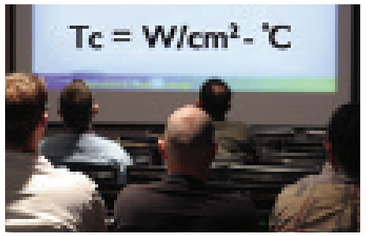
Proven Solutions

ELECTRONIC PACKAGE DESIGNS RUNNING HOTTER

Heat Transfer and Thermal Conductivity are Critical Factors…

As industry demands that electronic packages continue to become smaller and more compact, the need to address the heat generated by these small devices continues to increase. Dissipating this heat and removing it from the unit is a key factor in the performance and longevity of many devices. ITW Insulcast manufactures a number of materials that provide superior heat transfer and thermal conductivity characteristics to meet these demanding requirements. These materials draw heat out from the unit where it is not wanted and transfer it to the outside where it can be dissipated. Thermally conductive materials that come in a variety of viscosities, mix ratios and hardnesses are available to meet most processing requirements.

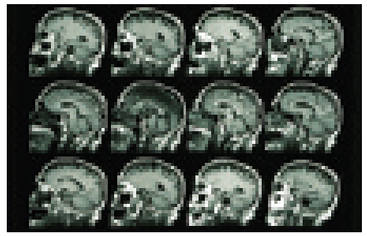
DESIGN ASSISTANCE

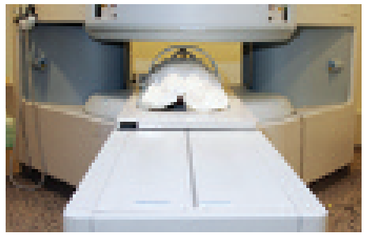


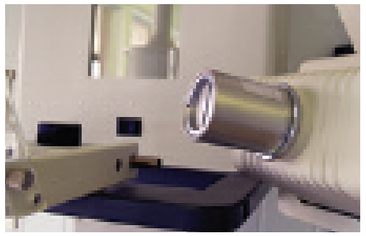
Highly Trained Technical Support Staff…

Unit design, construction and testing are big undertakings for your design engineering staff. Potting material specification is made quick and easy by our highly trained and knowledgeable sales staff. Experience and know how is what separates us from other suppliers. From an inside technical support team that can walk you through even the toughest applications to our world wide distribution network and product specialists. ITW Insulcast is prepared to support your operations in this global marketplace.

SPECIALIZED MATERIALS, SPECIFIC APPLICATIONS



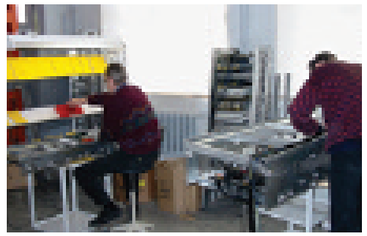


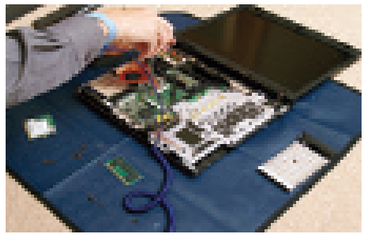


High Voltage Power Supplies…

Encapsulating high voltage power supplies and equipment presents its own technical challenges that need to be overcome with highly engineered potting and encapsulation materials. High voltage equipment produces heat transfer, corona, vibration and adhesion issues that are unique to the electronics industry. ITW Insulcast has long been a leader in this demanding industry. Our selection of specialized materials designed to meet these particular challenges has been used for many years by some of the top names in the industry. Our product selection continues to evolve in order to meet the ever-changing requirements of this fast paced industry.

ELIMINATE CRACKING AND STRESS ISSUES





Silicone-Epoxy Copolymer…

Our unique silicone-epoxy copolymer is widely used to successfully address the problem of cracking during thermal cycle stress. This material also exhibits excellent primerless adhesion to most substrates. In a number of instances, this family of copolymers was the only material passing all test parameters.

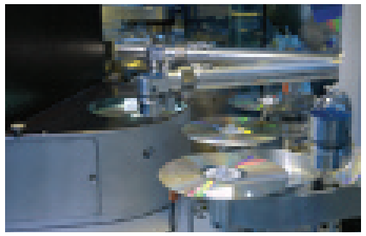
In one case, the use of this copolymer not only allowed a leading manufacturer to keep one of its primary operations that was slated for closure open, but its use resulted in that firm cementing its position as the dominant supplier in its field.

Copolymer chemistry allows for decreased overall cycle time as well as superior characteristics that address unique problems in critical electronic applications resulting in lower reject rate and superior performance.

INSULCAST® ENCAPSULANTS, POTTING MATERIALS & SILICONE GREASES
Visit www.insulcast.com or call (800) 645-7546.

Proven Solutions

VOLUME PRODUCTION MATERIALS

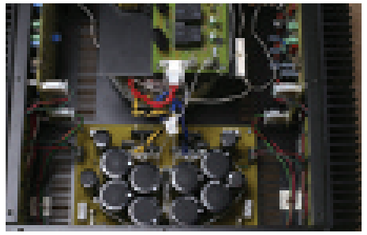


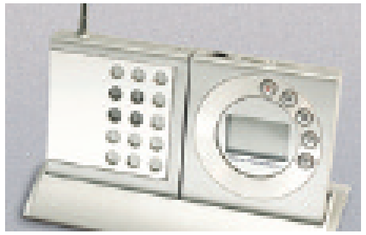
Insulcast 116FR…

Insulcast 116FR is a one-to-one mix ratio (weight or volume) epoxy potting and casting compound designed for production use. The convenient mixing ratio of the material makes it ideal for production line mixing as well as automatic dispensing. Insulcast 116FR is among the safest epoxy compounds available. It appreciably reduces the risk of eye, skin or respiratory problems generally associated with the use of epoxies.

Insulcast 116FR is UL recognized under file E86165 and meets the flammability requirement of UL 94V-0.

GENERAL PURPOSE MATERIALS

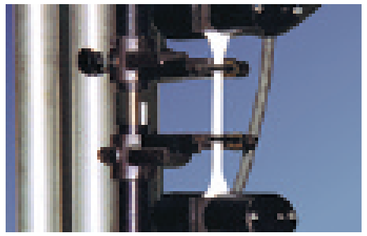


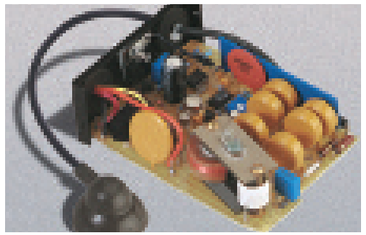


Insulcast 333…

This widely popular epoxy product offers good thermal conductivity characteristics while at the same time being easily pourable and process friendly. Insulcast 333 is UL certified, exhibits good adhesion to most substrates and provides superior impact resistance. This material can be used with a variety of curatives to provide the processing and mechanical specifications you desire while at the same time providing a low cost system that can be used in a variety of applications.

SILICONE CHEMISTRY





High Operating Temperature Materials…

The RTVS 27 is one in a family of silicone materials designed for applications requiring the unique features of a silicone encapsulant. The RTVS 27 is a low viscosity, UL 94V-0 flame retardant, reversion resistant RTV silicone with the ability to cure rapidly at elevated temperatures. RTVS 27 combines the virtues of low temperature flexibility, excellent electrical properties, high temperature resistance and easy removal for component replacement and repair.

STRENGTH, DIVERSITY AND QUALITY

Key Benefits Available from ITW Insulcast…

ITW is comprised of nearly 700 business units in 48 countries, employing approximately 49,000 men and women.

Diverse Product Selection…

ITW Insulcast manufactures a complete line of two component epoxy and silicone products ranging from general purpose materials to thermally conductive compounds.

Quality and Reliability…

This diverse selection of products includes a number of highly engineered custom formulations, as well as our proprietary family of silicone-epoxy copolymer materials.

Technical Expertise…

Our team of chemists and quality control personnel, combined with experienced product specialists and a customer service group dedicated to providing excellent support, works diligently to offer both superior product quality and customer satisfaction.

INSULCAST®
ENCAPSULANTS, POTTING MATERIALS & SILICONE GREASES
Visit www.insulcast.com or call (800) 645-7546.

Epoxy Specifications

ITW Polymer Technologies
ENCAPSULANTS, POTTING MATERIALS & SILICONE GREASES

TWO PART ROOM TEMPERATURE CURE

	CHARACTERISTICS								HANDLING PROPERTIES	
END USE	THERMAL CONDUCTIVITY	FLAME RESIST	FILLED (YES/NO)	LOW STRESS	LOW VISCOSITY[1]	HIGH TEMPERATURE	TEMPERATURE RATING	SYSTEM (VAR PTB) A/B	RATIO BY WEIGHT	MIXED VISCOSITY[1]
REPAIRABLE GEL		NO	X	X			-40 to 105˚C	I-GEL 50FC	100/25	400
SHOCK RESISTANT		X	YES		X		-40 to 105˚C	I-GEL 70ccFRNS	100/10	3000
REPAIRABLE GEL			NO	X	X		-40 to 105˚C	I-GEL 90	100/25	200
CO-POLYMER	X		YES	X		X	-55 to 125˚C	I-CAST 42	100/10	15000
UL 94V-O	X	X	YES	X			-40 to 105˚C	I-CAST 116FR	100/100	8100
UL 94V-O	X	X	YES	X			-40 to 105˚C	I-CAST 116FRFCFS	100/100	8800
GENERAL PURPOSE			YES		X	X	105 to 155˚C	I-CAST 125	SEE MIXING CHART BELOW	AVG. 3000
CONFORMS TO MIL-I-16923E			YES			X	105 to 155˚C	I-CAST 136		AVG. 25000
HIGH THERMAL CONDUCTIVITY	X	X	YES			X	-55 to 155˚C	I-CAST 140FR	100/4	50000@60˚C
HIGH THERMAL CONDUCTIVITY	X		YES			X	105 to 155˚C	I-CAST 141	SEE MIXING CHART BELOW	100000
HIGH THERMAL CONDUCTIVITY	X	X	YES			X	105 to 155˚C	I-CAST 147FR		50000
UL 94V-O, MIL-I-16923E	X	X	YES		X		105 to 155˚C	I-CAST 333		AVG. 3000
GENERAL PURPOSE			NO	X	X		105 to 155˚C	I-CAST 504		AVG. 300
CRACK RESISTANT			NO		X	X	-55 TO 155˚C	I-CAST 512 HTCR	100/20	800
SYNTACTIC FOAM			YES				105 to 155˚C	I-CAST 961FR		AVG. 7000
HIGH THERMAL CONDUCTIVITY	X		YES		X	X	105 to 155˚C	I-CAST 3230LV	SEE MIXING CHART BELOW	AVG. 9000
CRACK RESISTANT			YES				-40 TO 105˚C	LN 1-05		5000

TWO PART ROOM TEMPERATURE CURE

	HANDLING PROPERTIES			TYPICAL CURED PROPERTIES						
END USE	POT LIFE[2]	SPECIFIC GRAVITY[3]	CURE CYCLE[4]	SHORE HARDNESS[5]	THERMAL CONDUCTIVITY[6]	VOLUME RESISTIVITY[7]	DIELECTRIC CONSTANT[8]	DISSSIPATION FACTOR[8]	DIELECTRIC STRENGTH[9]	CTE[10]
REPAIRABLE GEL	.25	1.04	12HRS/25˚C	50A	.23	$1X10^{14}$	3.5	.02	375	$60X10^{-6}$
SHOCK RESISTANT	.5 - .75	1.55	24HRS/25˚C	50D	.52	$7X10^{12}$	4.1	.08	400	$90X10^{-6}$
REPAIRABLE GEL	1 - 1.5	1.04	16HRS/25˚C	90A	.23	$1X10^{14}$	3.5	.02	375	$60X10^{-6}$
CO-POLYMER	.25 - .50	1.64	24HRS/25˚C	75 - 80A	.60	$1X10^{15}$	4	.0006	500	$45X10^{-6}$
UL 94V-O	1.5	1.5	24HRS/25˚C	75 - 80D	.43	$1X10^{14}$	4.4	.02	420	$50X10^{-6}$
UL 94V-O	.5	1.5	16HRS/25˚C	80D	.58	$1X10^{14}$	4.4	.02	420	$45X10^{-6}$
GENERAL PURPOSE	SEE INSULCURE FEATURES CHART	1.55	SEE INSULCURE FEATURES CHART	AVG. 85D	.62	$5X10^{14}$	4.2	.023	420	$48X10^{-6}$
CONFORMS TO MIL-I-16923E		1.59		AVG. 88D	.72	$5X10^{16}$	4.8	.02	440	$40X10^{-6}$
HIGH THERMAL CONDUCTIVITY	2.5	2.55	2HRS/120˚C	92D	2.88	$1X10^{15}$	6.3	.02	420	$26X10^{-6}$
HIGH THERMAL CONDUCTIVITY	SEE INSULCURE FEATURES CHART	2.3	SEE INSULCURE FEATURES CHART	AVG. 92D	1.44	$4X10^{16}$	6.4	.02	475	$28X10^{-6}$
HIGH THERMAL CONDUCTIVITY		2.75		AVG. 89D	4.32	$1.2X10^{15}$	6.9	.015	410	$26X10^{-6}$
UL 94V-O, MIL-I-16923E		1.4		80 - 85D	.62	$1X10^{15}$	4.4	.02	420	$48X10^{-6}$
GENERAL PURPOSE		1.1		85 - 90D	.23	$2X10^{15}$	4.0	.023	450	$77X10^{-6}$
CRACK RESISTANT	6	1.05	2HRS/100˚C	85D	.23	$1X10^{15}$	4.2	.02	500	$75X10^{-6}$
SYNTACTIC FOAM		0.75		AVG. 70D	.17	$1X10^{13}$	2.7	.02	375	$40X10^{-6}$
HIGH THERMAL CONDUCTIVITY	SEE INSULCURE FEATURES CHART	2.1	SEE INSULCURE FEATURES CHART	AVG. 90D	1.3	$1.3X10^{16}$	6.3	.02	475	$28X10^{-6}$
CRACK RESISTANT		1.55		85D	.65	$1X10^{15}$	5.15	.01	400	$32X10^{-6}$

TWO PART HEAT CURE

	CHARACTERISTICS								HANDLING PROPERTIES	
END USE	THERMAL CONDUCTIVITY	FLAME RESIST	FILLED (YES/NO)	LOW STRESS	LOW VISCOSITY[1]	HIGH TEMPERATURE	TEMPERATURE RATING	SYSTEM (VAR PTB) A/B	RATIO BY WEIGHT	MIXED VISCOSITY[1]
THESE FLEXIBLE SYSTEMS EXHIBIT EXCELLENT THERMAL CYCLING AND ELECTRICAL PROPERTIES	X	X	YES	X		X	155˚C	I-CAST 985FR	100/100	50000
			YES	X		X	155˚C	I-CAST 987CM	200/300	60000

TWO PART HEAT CURE

	HANDLING PROPERTIES			TYPICAL CURED PROPERTIES						
END USE	POT LIFE[2]	SPECIFIC GRAVITY[3]	CURE CYCLE[4]	SHORE HARDNESS[5]	THERMAL CONDUCTIVITY[6]	VOLUME RESISTIVITY[7]	DIELECTRIC CONSTANT[8]	DISSSIPATION FACTOR[8]	DIELECTRIC STRENGTH[9]	CTE[10]
THESE FLEXIBLE SYSTEMS EXHIBIT EXCELLENT THERMAL CYCLING AND ELECTRICAL PROPERTIES	4 - 6HRS	1.56	16HRS/85˚C	68 - 75D	.5	$6X10^{15}$	3.8	.03	425	$32X10^{-6}$
	>48HRS	1.39	16HRS/85˚C	62 - 67D	.42	$1X10^{15}$	4.9	.05	375	$45X10^{-6}$

MIXING INSTRUCTIONS FOR INSULCURE HARDENERS

	INSULCURE PROPERTIES					
RESIN	9	11B	20	24	26	44
125	6-7	9-10	15-20	25-50	25-40	14-15
136	6-7	9-10	15-20	25-50	25-40	14-15
140FR	3.3	3-4	7.3	10.4	9.6	6
141	3	4-5	7.9	12-24	12-20	6-7
147FR	1.75	2.5	5.9	8.4	7.8	4.8
333	6	9	12-16	20-40	20-35	12-13
504	13-14	18-20	30-40	40-100	40-80	27-28
961 FR	11-12	17-19	25-35	35-90	35-70	26-27
3230LV	4-5	5-7	12.1	17.3	16	9.8

INSULCURE FEATURES

NUMBER	FEATURE	VISCOSITY (CPS)	POT LIFE (MINUTES)[1]	CURE SCHEDULE
9	HIGHEST HDT, ROOM TEMPERATURE CURE	55	45	36HRS/25˚C
11B	TEMPERATURE RESISTANT, RIGID, HEAT CURE	700	300	3HRS/100˚C
20	GOOD IMPACT, RAPID CURE	700	60	16HRS/25˚C
24	GOOD FLEXIBILITY, LARGE CASTINGS	12000	80	36HRS/25˚C
26	LOW VISCOSITY, GOOD IMPACT, VERY LARGE CASTINGS	800	120	36HRS/25˚C
44	LOW VISCOSITY AND EXOTHERM, ROOM TEMP. CURE	10	50	24HRS/25˚C

[1] ASTM D2393 (cps @ 25˚C); [2] Time to double in viscosity (hours @ 25˚C for 150 gms); [3] ASTM D1475 (gm/cc @ 25˚C); [4] There is more curing information on each individual data sheet; [5] ASTM D2240 (instantaneous @ 25˚C); [6] W/m-K; [7] ASTM D257 (Ohm-cm @ 25˚C); [8] ASTM D150 (@1KHZ); [9] ASTM D149 (volts/mil @ 25˚C); [10] (in/in-˚C)

Silicone Specifications

ITW Polymer Technologies
ENCAPSULANTS, POTTING MATERIALS & SILICONE GREASES

ADDITION CURE SYSTEMS

	CHARACTERISTICS								HANDLING PROPERTIES	
END USE	THERMAL CONDUCTIVITY	FLAME RESIST	FILLED (YES/NO)	LOW STRESS	LOW VISCOSITY	LOW TEMPERATURE	SERVICE TEMP RATING	SYSTEM A/B	RATIO BY WEIGHT	MIXED VISCOSITY[1]
ELECTRONIC ENCAPSULANT		X	YES	X	X		-55 to 204˚C	RTVS 27	100/100	3000
HIGH VOLTAGE POTTING	X	X	YES		X		-55 to 232˚C	RTVS 27HTC	100/100	6000
LOW VISCOSITY			YES	X	X		-55 to 204˚C	RTVS 27 LV	100/100	1200
CLEAR ENCAPSULANT			NO	X	X		-55 to 204˚C	RTVS 61M	100/10	4500
HIGH THERMAL CONDUCTIVITY	X	X	YES				-55 to 260˚C	RTVS 3-95-1	100/5	10000
HIGH THERMAL CONDUCTIVITY	X	X	YES				-55 to 260˚C	RTVS 3-95-2	100/100	35000
HIGH THERMAL CONDUCTIVITY	X	X	YES	X			-55 to 260˚C	RTVS 3-95-2 GEL	100/100	25000
THERMALLY CONDUCTIVE	X	X	YES		X		-55 to 204˚C	RTVS 8127	100/100	4000

ADDITION CURE SYSTEMS

	HANDLING PROPERTIES									
END USE	POT LIFE[2]	DENSITY[3]	CURE CYCLE[4]	SHORE A[5]	THERMAL CONDUCTIVITY[6]	VOLUME RESISTIVITY[7]	DIELECTRIC CONSTANT[8]	DISSSIPATION FACTOR[8]	DIELECTRIC STRENGTH[9]	CTE[10]
ELECTRONIC ENCAPSULANT	1 - 1.5	1.5	16HRS/25˚C	55 - 65	.31	$1X10^{15}$	3.0	.004	500	$22X10^{-5}$
HIGH VOLTAGE POTTING	1	2.08	16HRS/25˚C	55 - 60	1.01	$1X10^{15}$	4	.007	500	$17X10^{-5}$
LOW VISCOSITY	2	1.47	24HRS/25˚C	60	.31	$3X10^{14}$	3.4	.004	500	$22X10^{-5}$
CLEAR ENCAPSULANT	2	1	16HRS/25˚C	30 - 40	.19	$1X10^{15}$	2.7	.001	500	$27X10^{-5}$
HIGH THERMAL CONDUCTIVITY	1.5	2.35	16HRS/25˚C	60 - 70	1.25	$5X10^{14}$	5.0	.005	500	$18X10^{-5}$
HIGH THERMAL CONDUCTIVITY	1.5	2.31	24HRS/25˚C	85A	1.44	$1X10^{14}$	5.0	.01	425	$15X10^{-5}$
HIGH THERMAL CONDUCTIVITY	1.5	2.25	24HRS/25˚C	SOFT GEL	1.50	$5X10^{14}$	5.0	.01	425	$18X10^{-5}$
THERMALLY CONDUCTIVE	.5 - 1	1.78	24HRS/25˚C	50 - 60	.75	$1X10^{-15}$	4.0	.005	500	$18X10^{-5}$

CONDENSATION CURE SYSTEMS

	CHARACTERISTICS								HANDLING PROPERTIES	
END USE	THERMAL CONDUCTIVITY	FLAME RESIST	FILLED (YES/NO)	LOW STRESS	LOW VISCOSITY	LOW TEMPERATURE	SERVICE TEMP RATING	SYSTEM A/B OR VARIABLE	RATIO BY WEIGHT	MIXED VISCOSITY[1]
GEN. PURPOSE MIL AA 56023			YES	X	X		-55 to 204˚C	RTVS 11	SEE CATALYST SELECTOR CHART BELOW	12000
HIGH TEMP. MIL 56023			YES				-55 to 260˚C	RTVS 16		25000
CO-POLYMER			YES	X			-55 to 155˚C	RTVS 42 CURTIS II		16000
LOW DENSITY			YES				-50 to 204˚C	RTVS 46		40000
LOW TEMP. APPLICATION			YES	X		X	-115 to 232˚C	RTVS 51		12000
PRIMERLESS ADHESION		X	YES	X	X		-55 to 204˚C	RTVS 200	100/7	4000
PRIMERLESS ADHESION			YES			X	-115 to 260˚C	RTVS 287	100/2-3	14000

CONDENSATION CURE SYSTEMS

	HANDLING PROPERTIES									
END USE	POT LIFE[2]	DENSITY[3]	CURE CYCLE[4]	SHORE A[5]	THERMAL CONDUCTIVITY[6]	VOLUME RESISTIVITY[7]	DIELECTRIC CONSTANT[8]	DISSIPATION FACTOR[8]	DIELECTRIC STRENGTH[9]	CTE[10]
GEN. PURPOSE MIL AA 56023	.25 - 2	1.18	24HRS/25˚C	40-50	.31	$9X10^{14}$	3.4	.02	500	$25X10^{-5}$
HIGH TEMP. MIL 56023	.1 - 2	1.43	24HRS/25˚C	55-65	.31	$1X10^{15}$	3.7	.02	500	$21X10^{-5}$
CO-POLYMER	.25	1.43	24HRS/25˚C	75	.58	$1X10^{15}$	4	.006	500	$45X10^{-6}$
LOW DENSITY	2 - 3	.7	16HRS/25˚C	25-35	.25	$1X10^{14}$	2.6	.004	250	$10X10^{-5}$
LOW TEMP. APPLICATION	.25 - 2	1.25	24HRS/25˚C	45-55	.31	$2X10^{15}$	3.6	.005	520	$22X10^{-5}$
PRIMERLESS ADHESION	.1	1.33	16HRS/25˚C	55A	.65	$1X10^{15}$	3.8	.01	500	$20X10^{-5}$
PRIMERLESS ADHESION	.25 - 2	1.4	24HRS/25˚C	45-55	.31	$2X10^{15}$	4	.01	525	$20X10^{-5}$

RTVS CATALYSTS

PRODUCT NUMBER	COLOR	CONSISTENCY	FEATURE	MIX RATIO WEIGHT / 100 RTVS	POT LIFE (HRS) AT LOWEST LEVEL	CURE RATE	RECOMMENDED FOR DEEP SECTION CURE
2	CLEAR, AMBER	LIQUID	STANDARD CURE	0.1 TO 0.5	2 TO 6	MODERATE	NO
9	CLEAR, AMBER	LIQUID	FASTEST CURE	0.1 TO 0.5	0.5	FASTEST	NO

RTVS PRIMERS FOR ADHESION

R.T.V.S. rubber compounds are “natural” release agents, and as such, do not normally bond to other materials, except cured silicone rubbers. The use of primers enables them to bond to most plastics, metals and glass. The resultant bond should be stronger than the cured rubber.

PRODUCT NUMBER	COLOR	SPECIFIC GRAVITY	DRY TIME(HRS)	TYPE
40	PINK	0.85	1	CONDENSATION
41	BLUE	0.85	1	ADDITION

All surfaces must be cleaned. The primer is brushed or sprayed on – approximately 1/2-1 mil (dry) is desirable. Allow to dry one hour.

NOTE: The primers contain fast drying solvents which are highly flammable. Use only in well ventilated areas, away from sparks or flames.

SILICONE GREASE

PRODUCT	END USE	TEMP. RANGE	CONSISTENCY WORKED PENETRATION	BLEED	EVAPORATION	APPEARANCE	SPECIFIC GRAVITY	THERMAL CONDUCTIVITY	DIELECTRIC STRENGTH	DIELECTR IC CONSTANT	DISSIPATION FACTOR	VOLUME RESISTIVITY	WATER WASHOUT % (WT.)
SG 146LV	LOW VISCOSITY, FDA, POTABLE WATER	-40 to 204˚C	200-300	5% Max.	3% Max.	white semi-translucent	1.04	.1		2.7	0.002		3.8

GENERAL STORAGE AND USE INSTRUCTIONS

R.T.V.S. compounds will remain useful for 6 months when stored in the original, unopened containers at temperatures below 80°F. For longer periods, store in a refrigerator.

1. Mix R.T.V.S. compound in original container to be sure of uniformity.
2. Weigh out sufficient R.T.V.S. compound for application. *NOTE:* Be sure container and stirrer are clean.
3. Add catalyst in calculated amount to effect desired cure rate. If unsure, use a small amount of compound to check cure rate.
4. Mix thoroughly, being sure to incorporate material from sides and bottom of container. Keep air entrainment to a minimum.
5. De-airation under vacuum may be necessary if abolutely void-free castings are needed.
6. Pour into mold, cavity, etc.
7. Cure at room temperature. Length of cure will depend on amount and type of catalyst used. Faster cures can be achieved at 125°F for 2-3 hours.

[1] ASTM D2393 (cps @ 25˚C); [2] Time to double in viscosity (hours @ 25˚C for 150 gms); [3] ASTM D1475 (gm/cc @ 25˚C); [4] There is more curing information on each individual data sheet; [5] ASTM D2240 (instantaneous @ 25˚C); [6] W/m-K; [7] ASTM D257 (Ohm-cm @ 25˚C); [8] ASTM D150 (@1KHZ); [9] ASTM D149 (volts/mil @ 25˚C); [10] (in/in-˚C)