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	RTV Products-Elastomers 800.332.3390	304.746.1623
	Sealants and Adhesives and Construction 877.943.7325	304.746.1654
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143-005-00E-GL
6/06

GE
Advanced Materials

Silicone Solutions for Displays

High Performance Materials Solutions
for Flat Panel Display and CRT Components & Assemblies



GE imagination at work

Silicone Solutions for Flat Panel Displays & CRTs

GE Advanced Materials, Silicones offers high performance materials solutions for current and future display products. Our material portfolio for the display industry includes silicone coatings/encapsulants, formed in place gasket (FIPG) sealants, adhesives, potting compounds, thermal interface materials and optical materials/coatings.

Long-Term System Reliability

The protection and longevity of sensitive circuits and components is important in flat panel and cathode ray tube (CRT) displays. We offer UL94 V-0 rated adhesives that have a quick cure profile to drive productivity, primerless adhesion to many substrates, and are available in standard and repairable grades. These silicones help to protect delicate display electrodes against moisture and dust, adding to system reliability.

The SilCool* family of silicone adhesives and greases may help to improve thermal management in displays systems. These thermally conductive materials may aid in maximizing product life by dissipating heat generated from electronic components.

Our insulating, protective coatings designed for the fine pitch patterns of flat panel display (FPD) panels and Driver Integrated Circuits (ICs) provide reliability and durability to end products.

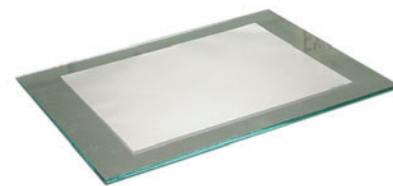
Image Enhanced Designs

Anti-glare materials and coatings can help to deliver optimal image viewing. GE Advanced Materials, Silicones' HardCoats work to enhance and sustain the surface appearance and service life of flat panel display screens. They provide excellent long-term protection against abrasion, scratch, mar, chemicals, solvents and ultraviolet light.

InvisiSil* LED encapsulants deliver a high refractive index and light transmittance to effectively transmit light emitted from LEDs. InvisiSil* LED encapsulants can also address the need for enhanced performance and long-term reliability in backlight units. This series of silicone encapsulants helps contribute to device durability and dependability with their long term resistance to yellowing and to delamination of the encapsulant from the substrate.



LCD monitor using GE Plastics' Illuminex* film



GE Plastics' Illuminex* diffuser films for LCD industry



LCD laptop using GE Plastics' Illuminex* diffuser films

Offering very good performance in almost every respect, our products can help you to deliver a reliable and high image quality product.

Electrode/Driver IC Coatings

- Insulating protective coatings designed for fine pitch patterns of FPD panel electrodes and Driver ICs
- Conformal coatings to moisture proof electronic parts
- Provide reliability and durability to the end product

Product Features

- Fast tack free time (~5-7 minutes)
- Excellent primerless adhesion to many substrates
- Non-corrosive to most metals (MIL-A-46146⁽¹⁾)
- Low odor cure
- Superior thermal and electric properties
- Resistance to hot and cold temperatures

Products

	Viscosity(Pa•s)	Notes
ECS0600	5.8	Repairable
ECS0601	1.2	UL94 HB Rating
ECS0609FR	18.0	UL94 V0 Rating
TSE3944	Semi-flowable	UL94 V0 Rating

Heat Generating Devices / Heat Sinks

- SilCool* thermal interface materials to drive off and dissipate heat generated by electronic components
- Adhesives and greases used to connect heat generating devices and heat sinks

Product Features

- Superior thermal and electric properties
- Resistance to hot and cold temperatures

Products

	Thermal Conductivity (W/m•K)	Material Type	Thermal Interface
TSE3941	0.83	Adhesive	-
TSE3281-G	1.6	Adhesive	TIM1
TSE3282-G	2.0	Adhesive	TIM1
TIG210BX	2.1	Grease	TIM2
XE13-C1862	2.5	Adhesive	TIM1
TIG825	4.0	Grease	TIM2

Optical Grade LED Encapsulants

- InvisiSil* LED encapsulants help to effectively transmit light emitted from backlight source LEDs

Product Features

- Selection from a range of refractive index up to 1.53 (n_D25)
- High light transmittance (>95%, 400-800nm)
- High purity

Products

	Refractive Index	Material Type	Tensile Strength (MPa)
IVS4012	1.40	Gel	-
IVS4312	1.41	Rubber	0.8
IVSM4500	1.41	Rubber	4.7
IVS5022	1.51	Gel	-
IVS5332	1.53	Rubber	0.3

- (1) Testing is performed in accordance with current GE Advanced Materials, Silicones quality test methods, laboratory conditions, procedures, frequency and sampling.
- (2) Oxime type, not available for sale in North America. Typical property values; should not be used as specifications. Some products may not be available globally; please contact your local sales representative for more information.

Backlight Unit Seal

- Formed in place gasketing offering long term reliability
- Dust free seal for seams between housing and panel
- Ideal for LCD panel support and backlight shield
- FIPG process can be automated improving productivity
- Opportunity for reduced failure rates vs. conventional manual tape methods

Product Features

- Room temperature cure
- Fast cure (Tack Free Time ~5 minutes)
- UL94HB Rating
- One component

Products

	Notes
XE11-C1106	Excellent heat resistance, white paste
XE11-C1331	Translucent paste

Adhesives/Potting Compounds

- General assembly adhesives/potting compounds
- Adhesives to affix indium tin oxide (ITO) electrode to glass

Product Features

- Fast tack free time
- Non-corrosive to most metals
- Room temperature cure

Products

	Material Type	Notes
TSE3040	Paste	Fast tack free time, UL94 V0 rating
TSE3033	Rubber	Low viscosity, transparent encapsulant
TSE3941	Paste	Thermally conductive, UL94 V1 rating
TSE3995	Paste	Flowable, low viscosity, low volatile
TSE3996	Coating	Flowable, low viscosity, low volatile

Optical Materials and Coatings

Material options for plastic films are available to provide long term protection and anti-glare properties.

Product Features

- Abrasion Resistance
- Chemical Resistance
- Good Flow Characteristics
- Impact Resistance
- UV Stability
- Clarity
- Thermal Stability

Product

	Substrate	Cure Type	Notes
UVHC7000	PC	UV	Broad based adhesion
OM1000	PC	UV	Spin coat application
SHC5020	PMMA	Thermal	Flow, dip, spray coated

CRT Options

Below is a list of general product uses for our materials in CRT applications. For a more detailed description of uses and applications, please contact us at 1.800.295.2392.

- Anode Cap - Adhesives (TSE3940, TSE3843-W, TSE3854D-G)
- Cathode Ray Tube - Adhesives (TSE392, TSE382-W⁽²⁾, TSE3925, RTV5242)
- Deflection Yoke - Adhesives and coatings (TSE392, TSE382-W⁽²⁾, TSE3940, TSE3944)
- Fly Back Transformer - Adhesives, sealants, and potting compounds (TSE322-B, XE13-A8692, TSE399-C, TSE398-C, XE14-B095, TSE3331K-EX)
- Heat Dissipation - TIG1000