CELERA

Passion for Technique

Complete solutions in Thermal Management
for electronic devices and heat generating components

PRODUCT CATALOG




Celera is part of a global network with years of experience in research, development, manufacturing and distribution of highly advanced Thermal Management solutions to a wide variety of industries.

Several leading companies at electronic, automotive, medical, aerospace and lighting industries rely on our technical expertise in order to develop new applications and improve current products.

The corporate principles that guide all our activities are the precise understanding of our customer needs, fast support and world-class products.

These guiding principles are the main drivers behind our approach to the market and also to our work environment, which have enabled Celera to be recognized as a leading and reliable partner for the Industry.

Get to know our solutions and contact us.

CELERA
Passion for Technique

TECNOLOGY, KNOWLEDGE AND PASSION

Contribute to people's lives by enabling the electronic industry to develop more realible and efficient products

INDEX

THERMAL INTERFACE MATERIALS

POTTING AND CONFORMAL COATING

COOLPad®

Sililcon Thermal Conductive Pads

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COOLPad®

Interface pads

Description

COOLPad® is a line of high performance thermal interface pads, developed to address the industry's growing requirements for easy application, low levels of thermal resistance and high conformability, even at the most challeging and uneven surfaces. COOLPad® is specially suitable for applications with low clamping forces between the heat generating component and the heat disspation surface.

Features

- Low Thermal Resistance
- High Conformability
- Electrically Insulating
- RoHS, Reach and UL 94-V0 compliant"

Applications

- Electronic components like LEDs, CPUs, MOS
- Mobiles, Laptops, Tablets
- Electrical Vehicle Batteries
- Power devices and modules"

Delivery Format

- Sheets of 200x400m
- Die-cut parts"

COOLPad®
CP1010X

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Typical Properties

Properties	Standard	Unit	CP1010X
Color	-	-	Grey
Carrier Type	-	-	Silicon
Carrier Reinforcement			No
Thickness	ASTM D374	mm (inch)	0,25-5,0 (0,010-0,20)
Density	ASTM D792	g/cm^3	3,40
Thermal Conductivity	ASTM D5470	W/m.k	10,00
Volume Resistance	ASTM D257	ohms.cm	3.1*10^{11}
Thermal Resistance (50psi)	ASTM D5470	°C-in2 / W	0,013
Hardness	Shore C	-	20,00
Thermal Resistance	ASTM D5470	°C	-60 to 200
Dielectric Strength	ASTM D149	kV/mm	> 5,0
Shelf Life	-	-	5 years
Flame Rate	UL 94	-	V0

COOLPad®
CP1015FG

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Typical Properties

Properties	Standard	Unit	CP1015FG
Color	-	-	Grey
Carrier Type	-	-	Silicon
Carrier Reinforcement			Yes (Fiber Glass)
Thickness	ASTM D374	mm (inch)	0,25-5,0 (0,010-0,20)
Density	ASTM D792	g/cm^3	2,30
Thermal Conductivity	ASTM D5470	W/m.k	1,00
Volume Resistance	ASTM D257	ohms.cm	3.1*10^{11}
Thermal Resistance (50psi)	ASTM D5470	°C-in2 / W	0,51
Hardness	Shore C	-	30,00
Thermal Resistance	ASTM D5470	°C	-60 to 200
Dielectric Strength	ASTM D149	kV/mm	> 4,0
Shelf Life	-	-	5 years
Flame Rate	UL 94	-	V0

COOLPad® CP1020

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Typical Properties

Properties	Standard	Unit	CP1020
Color	-	-	Dark Grey
Carrier Type	-	-	Silicon
Carrier Reinforcement			No
Thickness	ASTM D374	mm (inch)	0,25-5,0 (0,010-0,20)
Density	ASTM D792	g/cm^3	2,30
Thermal Conductivity	ASTM D5470	W/m.k	2,00
Volume Resistance	ASTM D257	ohms.cm	3.1*10^{11}
Thermal Resistance (50psi)	ASTM D5470	°C-in2 / W	0,02
Hardness	Shore C	-	25,00
Thermal Resistance	ASTM D5470	°C	-60 to 200
Dielectric Strength	ASTM D149	kV/mm	> 4,0
Shelf Life	-	-	5 years
Flame Rate	UL 94	-	V0

COOLPad® CP1030 ULTRA SOFT

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Typical Properties

Properties	Standard	Unit	CP1030
Color	-	-	Light Blue
Carrier Type	-	-	Silicon
Carrier Reinforcement			No
Thickness	ASTM D374	mm (inch)	0,25-5,0 (0,010-0,20)
Density	ASTM D792	g/cm^3	2,30
Thermal Conductivity	ASTM D5470	W/m.k	3,00
Volume Resistance	ASTM D257	ohms.cm	3.1*10^{11}
Thermal Resistance (50psi)	ASTM D5470	°C-in2 / W	0,02
Hardness	ASTM D2240	Shore 00	30±5
Thermal Resistance	ASTM D5470	°C	-60 to 200
Dielectric Strength	ASTM D149	kV/mm	> 4,0
Shelf Life	-	-	5 years
Flame Rate	UL 94	-	V0

COOLPad®
CP1050

CELERA
Passion for Technique

Typical Properties

Properties	Standard	Unit	CP1050
Color	-	-	Dark Blue
Carrier Type	-	-	Silicon
Carrier Reinforcement			No
Thickness	ASTM D374	mm (inch)	0,25-5,0 (0,010-0,20)
Density	ASTM D792	g/cm^3	2,30
Thermal Conductivity	ASTM D5470	W/m.k	5,00
Volume Resistance	ASTM D257	ohms.cm	3.1*10^{11}
Thermal Resistance (50psi)	ASTM D5470	°C-in2 / W	0,02
Hardness	Shore C	-	25,00
Thermal Resistance	ASTM D5470	°C	-60 to 200
Dielectric Strength	ASTM D149	kV/mm	> 4,0
Shelf Life	-	-	5 years
Flame Rate	UL 94	-	V0

COOLPad®
CP1060

CELERA
Passion for Technique

Typical Properties

Properties	Standard	Unit	CP1060
Color	-	-	Grey
Carrier Type	-	-	Silicon
Carrier Reinforcement			No
Thickness	ASTM D374	mm (inch)	0,25-5,0 (0,010-0,20)
Density	ASTM D792	g/cm^3	2,30
Thermal Conductivity	ASTM D5470	W/m.k	6,00
Volume Resistance	ASTM D257	ohms.cm	3.1*10^{11}
Thermal Resistance (50psi)	ASTM D5470	°C-in2 / W	0,02
Hardness	Shore C	-	25,00
Thermal Resistance	ASTM D5470	°C	-60 to 200
Dielectric Strength	ASTM D149	kV/mm	> 4,0
Shelf Life	-	-	5 years
Flame Rate	UL 94	-	V0

FlexGRAF®

High Performance Graphite

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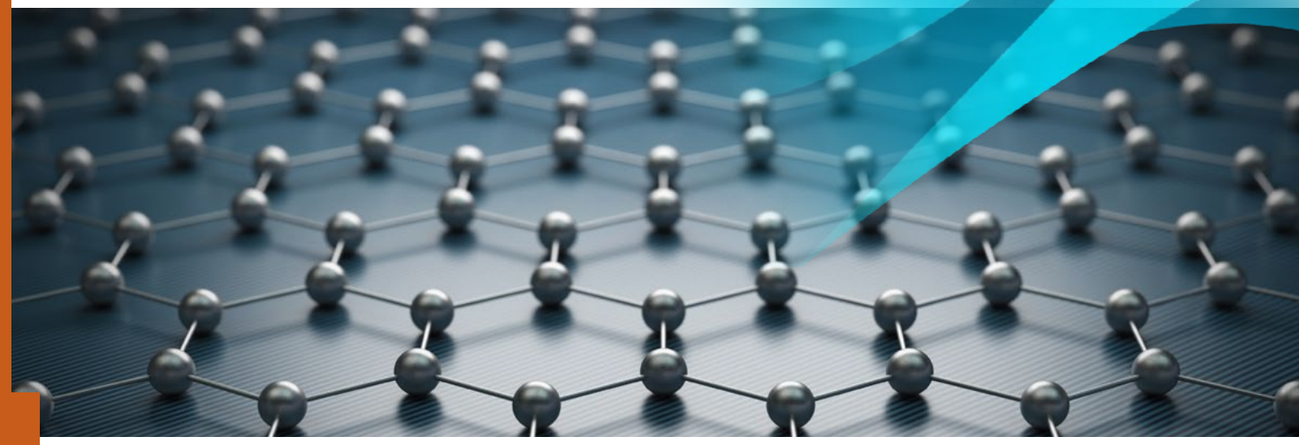
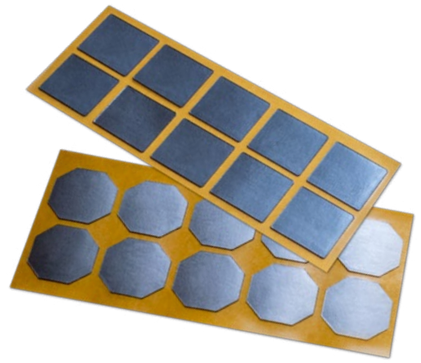


FlexGRAF®

Thermal Interface Graphite Sheet



Description

FlexGRAF® FG500 is a thermal interface material with superior thermal conductivity, both in and trough-plane, which enables a homogenous thermal distribution inhibiting the formation of hot-spots. It's flexible nature allows it to be cut into diverse geometries and it's good compressibility reduces thermal contact resistance, making it a good choice for applications that require long-term performance. FlexGRAF® FG500 is RoHS and Reach Compliant

Features

- High Operating Temperature Resistance: up to 750°F
- Flammability class UL 94 V0
- Very high heat dissipation
- Might be laminated with a electrical insulation foil to offer dielectric resistance

Delivery Format

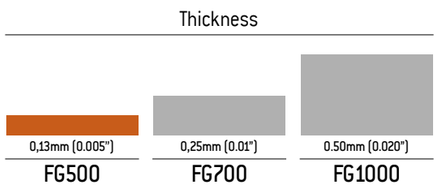
- Rolls from 0.2" to 39.37" widht and 328 ft long
- Without adhesive, or with adhesive on single or both sides
- Die-cut pieces

FlexGRAF® FG500

CELERA Passion for Technique

Typical Properties

Characteristics	Standard	Unit	Value
Color	-	-	Dark Grey
Specific Gravity	ASTM D792	g/cm3	1.5 to 1.6
Carbon Content	-	%	98,0
Thickness	ASTM D374	mm	0,13mm (0.005")
Hardness	ASTM D2240	Shore A	80
Tear Strength	-	psi	650
Flammability Class	-	UL 94	V0
Dielectric Resistance	-	Kv	0
Operating Temperature	-	˚C	-40 to 400
Thermal Conductivity @ 700kPa Vertical Direction (Through-Plane) Horizontal Direction (In-Plane)	ASTM D5470	W/m.k	15 350
Thermal Impedance @ 700 kPa	-	K-cm²/W	0,34
Electrical Resistivity (Through Plane)	-	μΩm (Direction x-y) μΩm (Direction z)	65 1250
Outgassing TML	-	%	0,15
Outgassing CVCM	-	%	0,09

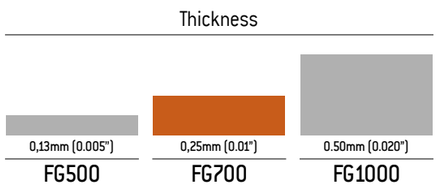


FlexGRAF® FG700

CELERA Passion for Technique

Typical Properties

Characteristics	Standard	Unit	Value
Color	-	-	Dark Grey
Specific Gravity	ASTM D792	g/cm3	1.5 to 1.6
Carbon Content	-	%	98,0
Thickness	ASTM D374	mm	0,25mm (0.01")
Hardness	ASTM D2240	Shore A	85
Tear Strength	-	psi	650
Flammability Class	-	UL 94	V0
Dielectric Resistance	-	Kv	0
Operating Temperature	-	˚C	-40 to 400
Thermal Conductivity @ 700kPa Vertical Direction (Through-Plane) Horizontal Direction (In-Plane)	ASTM D5470	W/m.k	15 350
Thermal Impedance @ 700 kPa	-	K-cm²/W	0,42
Electrical Resistivity (Through Plane)	-	μΩm (Direction x-y) μΩm (Direction z)	65 1250
Outgassing TML	-	%	0,15
Outgassing CVCM	-	%	0,09

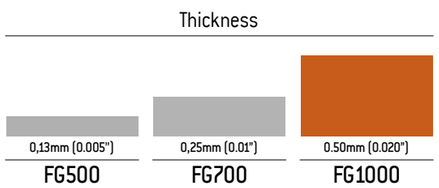


FlexGRAF®
FG1000

CELERA
Passion for Technique

Typical Properties

Characteristics	Standard	Unit	Value
Color	-	-	Dark Grey
Specific Gravity	ASTM D792	g/cm3	1.5 to 1.6
Carbon Content	-	%	98,0
Thickness	ASTM D374	mm	0.50mm (0.020")
Hardness	ASTM D2240	Shore A	85
Tear Strength	-	psi	650
Flammability Class	-	UL 94	V0
Dielectric Resistance	-	Kv	0
Operating Temperature	-	°C	-40 to 400
Thermal Conductivity @ 700kPa Vertical Direction (Through-Plane) Horizontal Direction (In-Plane)	ASTM D5470	W/m.k	15 350
Thermal Impedance @ 700 kPa	-	K-cm^2/W	0,55
Electrical Resistivity (Through Plane)	-	$\mu\Omega$m (Direction x-y) $\mu\Omega$m (Direction z)	65 1250
Outgassing TML	-	%	0,15
Outgassing CVCM	-	%	0,09



THERMALTape®

Double Sided Thermally Conductive Adhesive Tapes

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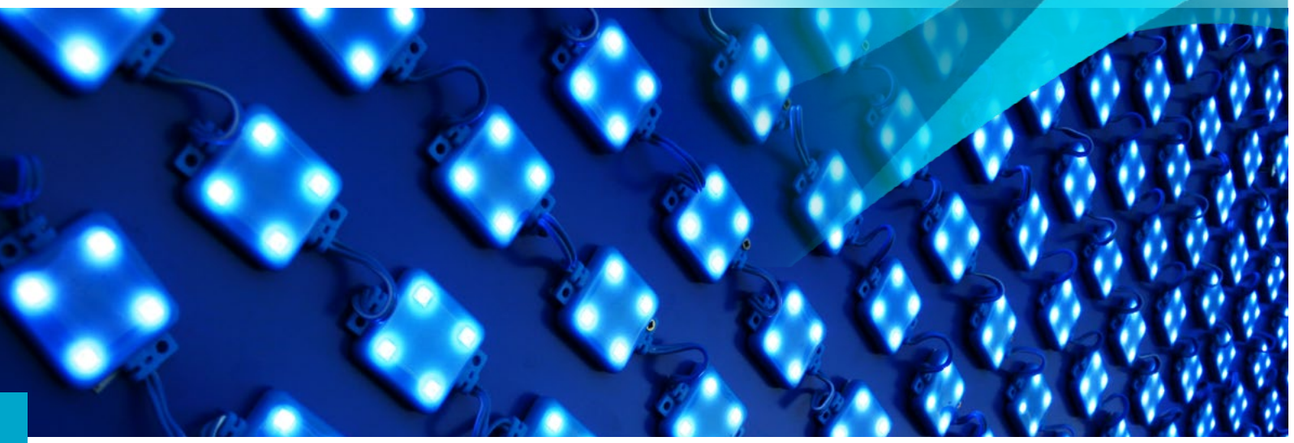
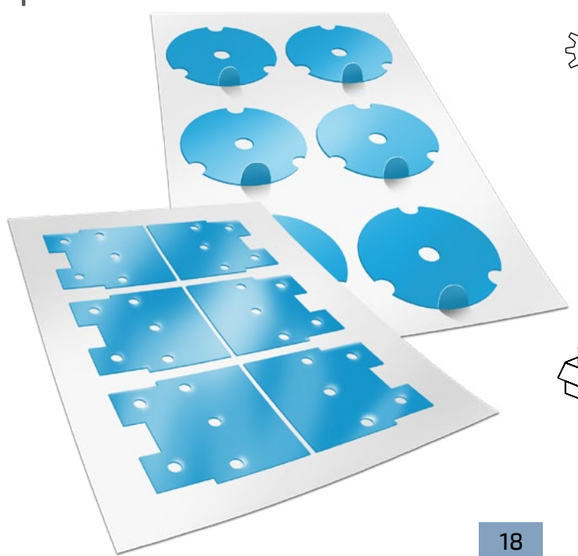


Thermal TAPE®

High Performance Thermal Attachment Tapes



Description

ThermalTAPE® is a thermally conductive double sided adhesive tape with a very high mechanical strength and good thermal transfer performance. It is made from a fiber glass base combined to ceramic nanoparticles. ThermalTAPE® uses an acrylic PSA Adhesive with superior adhesion properties and can be used on a wide variety of substrates such as aluminum, plastics, PMMA, etc.

Features

- High mechanical and adhesive strength to attach heat-sinks to aluminum or FR4 PCBs, replacing screws, holders and fasteners
- Electrically Insulating
- RoHS and Reach compliant
- Good thermal conductivity

Supply Formats

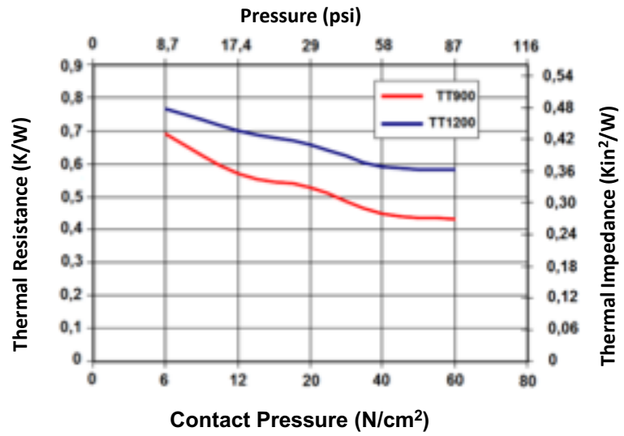
- Rolls from 0,20" to 39" width and 82 ft long
- Liner on single or both sides
- Die-cut parts

Thermal TAPE®

Applications

- LED Modules
- Linear LED Fixtures
- Attachment of heat generating components
- Automotive Industry
- Heat Sensors

CELERA
Passion for Technique



Typical Properties

Property	Standard	Unit	TT900	TT1200
Color	-	-	White	White
Fillers	-	-	Ceramic	Ceramic
Thickness	-	mm/inches	0,25/0,010"	0,50/0,020"
Volume Resistivity	-	ohms.cm	> 10^{12}	> 10^{12}
90° Peel Test (@ 60°C)	-	/25mm	> 2.650	> 4.250
Adhesion Strength	-	N/25mm	> 18,0	> 18,0
Dielectric Strength	ASTM D149	Kv/mm	> 4,0	N.A.
Thermal Impedance	AMD2240	°C.in2/W	0,85	1,19
Thermal Conductivity	ASTM D22470	W/m.k	> 1,0	> 1,0
Thermal Resistance	-	°C	-20 to 120	-20 to 120
Flammability Class	UL 94	-	V0	V0

FORMAPad®

Form-in-place Thermally Conductive Pads

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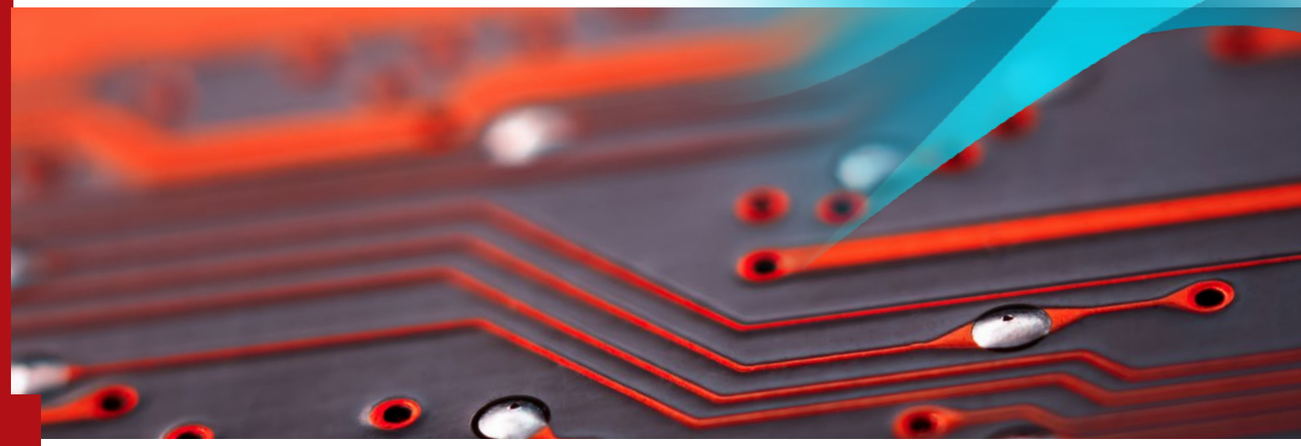
Passion for Technique



FORMAPad®

Thermally conductive liquid

Description

FORMAPad® are thermally conductive liquid gap filler materials formulated to provide a balance of cured material properties, highlighted by “gel-like” modules and good compression set or memory. This material is available in thermally conductive & electrically insulating, one part or two part, room or elevated temperature curing system. Form-in-place gap fillers are ideal for applying any thickness with little or no stress.

Features

- Low Thermal Resistance
- High Conformability
- Electrically Insulating
- RoHS, Reach and UL 94-V0 compliant

Applications

- Automotive ECU (Electronic Control Unit
- Power Supplies & semiconductors
- Fiber Optics equipment
- Power devices and modules

Delivery Format

- 30cc Syringes, 1 Kg Jar, 6 oz. Semco
- 300cc cartridges, 1 gallon & 5 gallon pails

FORMAPad®

CELERA
Passion for Technique

Typical Properties

Properties	Standard	Unit	FP 2004	FP 2301
Type	-	-	2 parts Silicone	1 part Silicone
Color	-	-	Pink	White
Viscosity	Brookfield	Pa.s	150	-
Mix Ratio	-	-	1:1	-
Specific Gravity	ASTM D792	g/cm^3	2,80	1,29
Thermal Conductivity	2,0	W/m.k	1,00	0,20
Volume Resistivity	ASTM D257	Ohm.m	10^{12}	10^{12}
Hardness	ASTM D2240	Shore 00	70,00	35,00
Cure Time @ 25°C	-	-	24-48h	24 h
Cure Time @ 100°C	-	-	20 min	-
Thermal Resistance	ASTM D5470	°C	-55 to 200	-55 to 260
Dielectric Strength	ASTM D149	kV/mm	12,0	12,0
Shelf Life	-	-	12 months	12 months
Flame Rate	UL 94	-	V0	V0

FlexSEAL®

Non VOC Sealant

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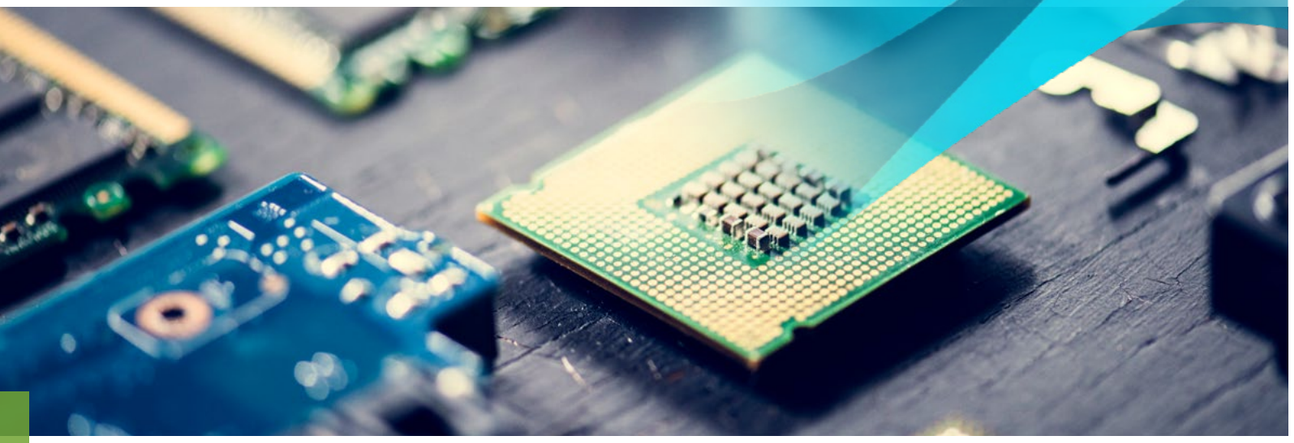

FlexSEAL®

Silicone Sealant and Adhesive

Description

FlexSEAL FS10010® is a silicone type adhesive which cures after absorbing moisture in the air, at room temperature, with no need for heat curing. It has good adhesive sealing performance and outstanding protection in harsh operational conditions.

Post-Cure Characteristics

- Protects against moisture, dirt and other atmospheric composition
- Relief for thermal shock and mechanical stress caused by vibration
- Excellent electrical insulation performance
- Outdoor aging, excellent service life up to 20-30 years
- Within the -60-260 °C temperature range it has stable mechanical and electrical properties
- Fire resistant

FlexSEAL
FS10010®

CELERA
Passion for Technique

Technical Properties

	Test Item	Testing Standart	Unit	Value
Before Curing	Color	-	-	White
	Viscosity	GB/T 10247-2008	mPa-s	Paste
	Density	GB/T 13354-92	g/cm3	1.40-1.50
	Tack Free Time	GB/T 13477.5-2002	Minutes	3 to 8
After Curing	Hardness	GB/T 531. 1-2008	Shore A	50-60
	Thermal Coefficient	GB/T 10297-1998	W/ mk	0.2
	Expansion Coefficient	GB/T 20673-2006	μ/(m, ℃)	210
	Water Absorption	GB/T 8810-2005	%	0.01 to 0.02
	Flame Class	UL-94		V0
	Elongation at Break	GB/T 528-1998	%	>150
	Tensile Strenght	GB 6328-86	Mpa	>0.6
	Shear Strength	GB/T 1693-2007	Mpa	>1.6
	Dielectric strength	GB/T 1693-2007	kV/mm	>20
	Loss Factor	GB/T 1693-2007	1 MHz	0.001
	Permittivity	GB/T 1692-92	DC500VΩ cm	5.00E + 14

Remark: All the above data come from 25℃ and 55% RH glue curing conditions after 7 days

Operation Process

1. Clean surface: Surface must be cleaned, remove rust, dust and oil, etc
2. Using: Twist the hose blocks, will glue crowded to clean surface has to clean up, the uniform distribution (for sealing rubber hoses, use first blocks cutting-edge pierced the sealing). For bonding, will be sticky face fixed can fold.
3. Curing: Curing at room temperature, 24 hours later and then put into use.

Packaging

- 10Ml And 30Ml Syringes
- 3000Ml Cartridges

Storage and Transportation

- Avoid light, heat preservation, sealed. (can be used as a non-dangerous goods preservation and transport);
- Shelf life: 12 months

LEDGlue®

Thermally Conductive Fluid Adhesive

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LEDGlue®

Thermal Conductive Silicone Adhesive

Description

LEDGlue® LG4000 is a silicon based, mono-componente, thermally conductive adhesive which provides superior thermal performance, offering low contact resistance and long life durability. LEDGlue® LG4000 is RoHS and Reach compliant

Characteristics

- Medium Viscosity
- Mono Component
- Short Hardening cycle
- Superior adhesion

Applications

- PCBs and Heat Sinks
- LED Modules
- Sensors
- Electronic Components

Delivery Format

- 300cc cartridges
- 30cc and 10cc syringes

LEDGlue®
LG4000

CELERA
Passion for Technique

Typical Properties

Property	Standard	Unit	Performance
Color	-	-	White
Viscosity	-	cpa	12.500
Tack free time	-	Minutes	7
Post-cure time	-	g/cm3	2,2
Shelf life @10°C	-	Months	12
Hardness	-	Shore A	80,00
Thermal Resistance	-	°C	-40 a 200
Dielectric Strength	-	kV/mm	10,00
Dielectric Constant	-	1000 Hz	5,50
Electrical Resistivty	-	Ohm.m	1011
Flammability Class	-	UL 94	V0
Thermal Conductivity	-	W/m.k	1,00
Cure Time	a 25°C	Hours	10
	a 125°C	Minutes	20
	a 150°C	Minutes	10

FlexCOAT®
SILCAP®

Conformal Coating
and Potting Products

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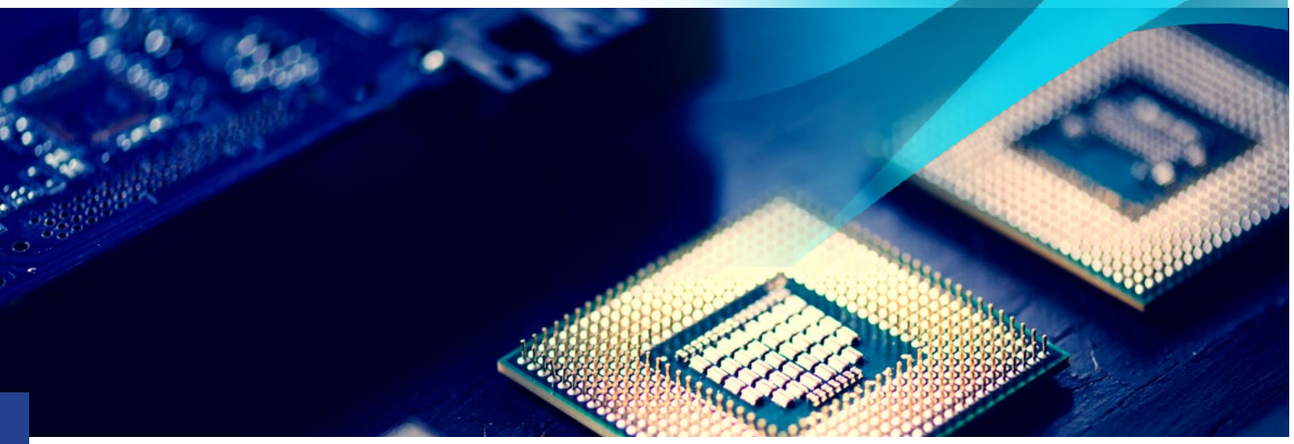
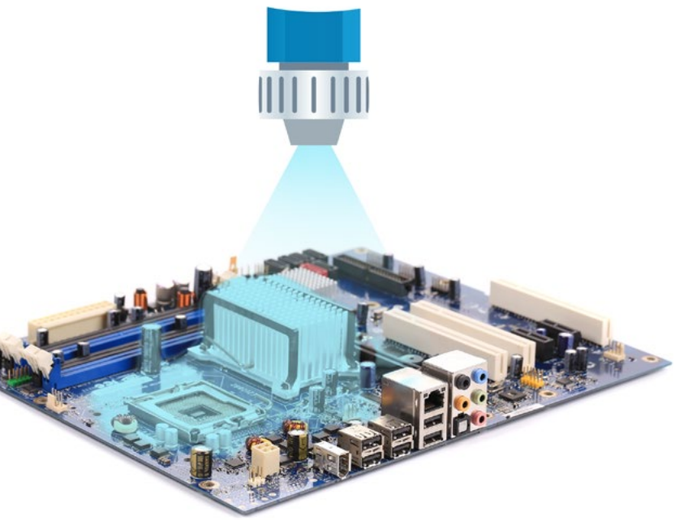


FlexCOAT®

Conformal Coating for LED Lighting



Description

FlexCOAT FC60 is a high quality flexible, transparent, ECO FRIENDLY Acrylic Conformal coating for LED Lighting. FlexCOAT FC60 is approved by C DOT and it conforms to MIL Standard: MIL - I - 46058C Type AR. It ensures protection for LED Lighting and components against moisture, Oxidation, fungus etc., in humid conditions. It is easy to apply and fast drying and has good flexibility. Servicing is easy as the coating is readily solderable. FlexCOAT FC60 has high dielectric strength ad it provides protection against high voltage arcing and corona shorts.

Features

- Protects LED lighting from higher humidity, salty weather, conductive dust, oxidation, corrosion, rusting and fungus, etc
- Provides transparent hard film coating on the surface of the LED lights and circuits
- Improves the functioning of LED lights
- Does not affect the luminosity of LED Lights
- Reduces service calls and repairs

Packing

- 1 Litre Bottles

Shelf Life

- 12 months in original sealed containers

FlexCOAT® FC60

CELERA
Passion for Technique

Technical Properties

Property	Value
Appearance	Clear, Transparant, Smooth & Glossy
Drying Time	Touch Dry:< 20 mts. in air. Curing @ 60°C for 30 mts.recommended
Cure Time	24 hrs. Optimum Properties: 7 days.
Working Temp.	- 50°C to 130°C
Di-electric strength	25 kV/mm.
CTI Value (Comparative Tracking Index)	600
Viscosity of Lacquer	60 secs. Zahn cup G1 @ 30°C
Flammability	Self extinguishing (coating) Liquid : flammable
Insulation Resistance	2.5 x 10 12 Ohm/cm
Dielectric Constant	2.5
Dissipation factor	0.01
Flash point	< 0 deg.C.

Application Guidelines

Clean the surface thoroughly before application. Pre- drying in a clean oven is recommended. FlexCOAT FC60 can be applied by Brushing, Dipping or by Spraying. This can be used in a Dip Coating Machine or can be applied by a dispenser

Removal

The coating can be removed using industrial thinner

Storage

FlexCOAT FC60 is a flammable material. Contact with skin or eyes and inhalation should be avoided. In case of contact: Skin: wash the affected areas with soap and plenty of water. Eyes: Wash with plenty of water. If irritation persists, get medical aid immediately. Keep away from open flames and Flammable material. Use in an adequately ventilated area only. Refer to our MSDS before using the product.

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SILCAP®
Silicon Potting Sealant

Description

SilCAP SC340 silicon encapsulation compound is a room temperature/heating curing and molding organic silicone material. This kind of two-component elastic silicone potting, designed to protect in harsh conditions of electronic products.

SilCAP SC340 organic silicon encapsulating glue uses an advanced technology which permits curing without the use of heat. The mixing ratio is 1:1 (weight or volume).

Post Cure Characteristics

Protege contra a umidade, sujeira e outros componentes atmosféricos;

- Protection against moisture, dirt and other atmospheric composition
- Easy to repair
- High frequency electric performance
- No solvents, no cure by-products (non VOC)
- Have stable mechanical and electrical properties between -50°C-200°C
- Excellent flame retardancy.

SILCAP®
SC340

CELERA
Passion for Technique

Technical Parameters

Item	Unit	Value
Mixing Ratio	Per weight	100 100
Mixing Ratio	Per volume	100 100
Viscosity	mPa·s 25°C	4000±1000
Density	g/cm3 25°C	1.50±0.05
Tack free time	Min 25°C	50±15
Curing time	°C/h	60/0.5 ou 25/10

(*) curing time for 100g test sample

Test Item	Standard	Unit	A	B
Color	Visual Inspection	---	Viscous black liquid	Viscous white liquid
Viscosity	GB/T 10247-2008	mPa·s(25°C)	4000±1000	3000±600
Density	GB/T 13354-92	g/cm3(25°C)	1.50±0.05	1.50±0.05

Application Process

Mix A and B components according to the right proportion and pour on the application. When possible use a vacuum chamber to obtain better results.

Caution Instructions

- Agent A place for a long time, maybe produce precipitation, mix part A and B access should be paid attention to save after sealing.
- Mixing should pay attention to the same direction, otherwise, it will stir with too much bubble; Borders and the bottom of the container sizing material should also stir well, can appear otherwise stir caused by uneven local not curing phenomenon.
- Casting the product vacuum pumping, remove again bubble can improve after curing products comprehensive performance.
- Temperature is too low will lead to curing speed partial slow, heat cure advice; Potting thickness more than 2 cm above 80 not directly in the curing, lest cause explosive together
- SilCAP SC340 with contain N, S, P element of compounds and some heavy metal ion compounds, will appear difficult contact curing or not curing phenomenon. These heavy metal ions including Sn, Pb, Hg, Bi, As, etc.

SILCAP®
SC340

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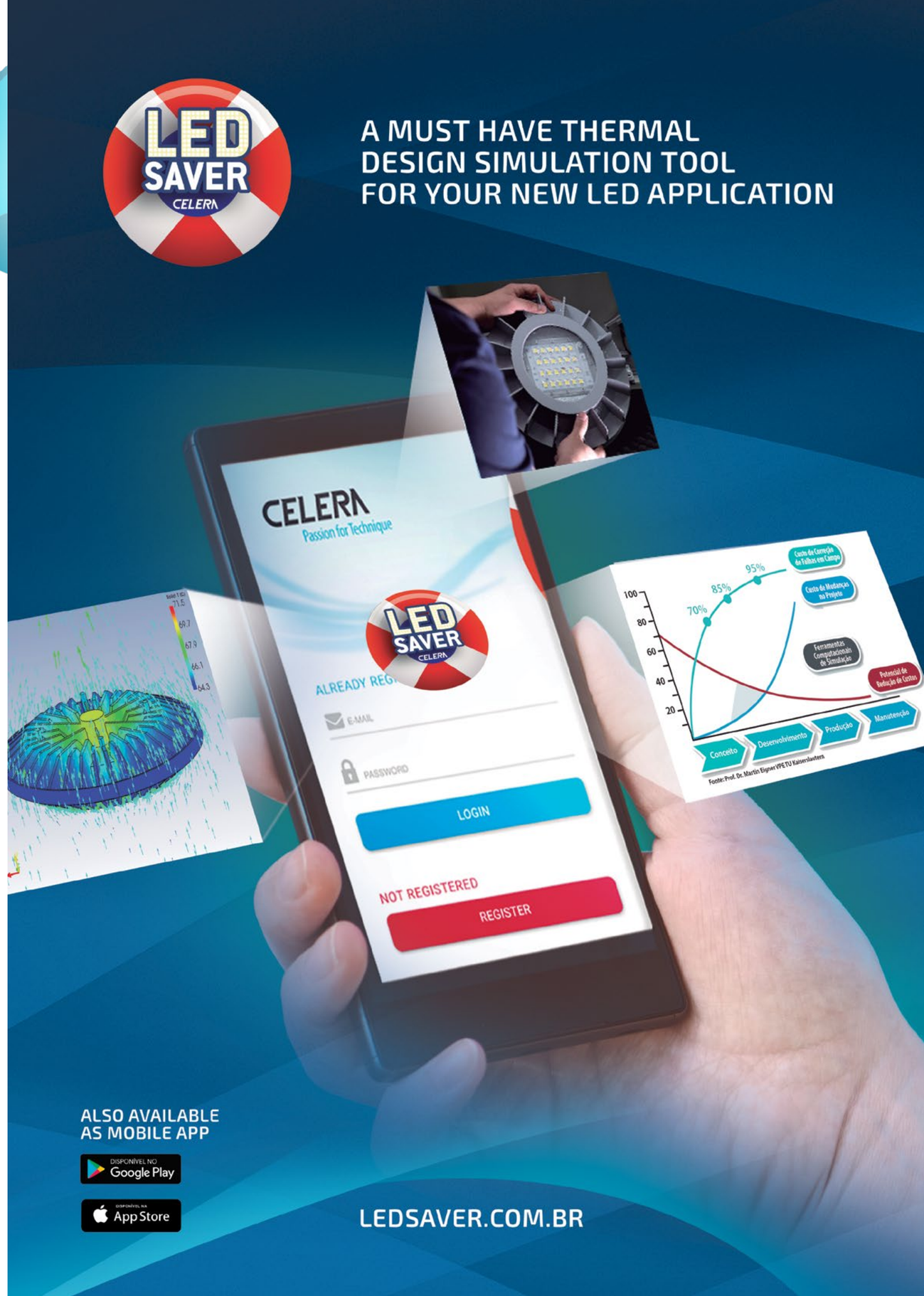
Typical Performance

Test Item	Standard	Unit	Value
Hardness	GB/T 531.1-2008	Shore A	50±5
Thermal Coefficient	GB/T 10297-1998	W/mK	0.8
Expansion Coefficient	GB/T 20673-2006	μm/(m,℃)	210
Water Absorption	GB/T 8810-2005	24h, 25℃, %	0.01-0.02
Flammability Class	UL-94	3mm, 105	V-0(E315820)
Dielectric Strength	GB/T 1693-2007	kV/mm (25℃)	>25
Dissipation Factor	GB/T 1693-2007	(1MHz) (25℃)	0.01
Dielectric Constant	GB/T 1693-2007	(1MHz) (25℃)	3.3
Volume Resistivity	GB/T 1692-92	(DC500V) Ω· cm	1.0×10^{15}

Packaging
Pails with 10 Kg

Transport and Storage
Part A and part B need to avoid light, heat, save after sealed. (Can be used as the non-dangerous goods transport and storage).

Shelf life:
2 years (2℃)



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