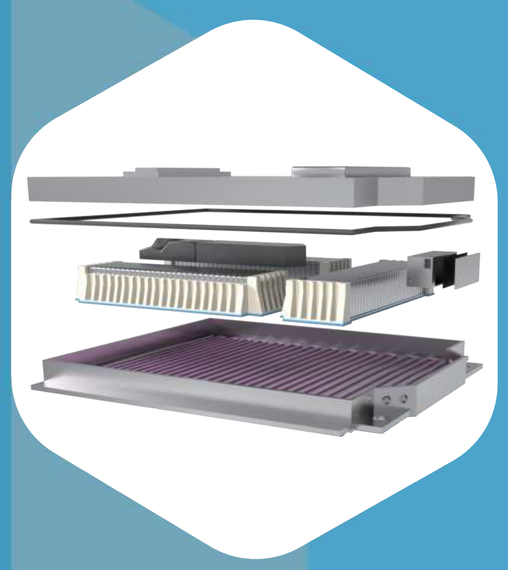


Bonding Sealant

KLEBER KB-XEAL SE5931

Product Introduction

KLEBER KB-XEAL SE5931 is a one-component, de-alcoholization type, fast-curing silicone elastomer. Designed for bonding and sealing structural components and electronic parts in automotive systems, it cures rapidly upon exposure to ambient moisture at room temperature with flexible and durable property.

Application

- Automotive lamp bonding & sealing
- Electronics module fixation (PCB/transport equipment)
- PV product sealing (solar panels/batteries)

Surface Treatment

All substrate surfaces must be clean, dry, and free from dust, oil, grease, old sealant residues, or other contaminants that may affect adhesion. Degrease surfaces with solvent-saturated cloths, then wipe dry with clean cloths. Remove dust using oil-free compressed air.

Packaging

300mL/cartridge, 2600mL/cartridge, 20L pail, or 200L drum.

Shelf Life/Storage

Store in a cool, dry place away from direct sunlight. Keep out of children's reach. When stored in original sealed containers below 30°C, SE5931 has a standard shelf life of 6 months from production date. Refer to storage recommendations and expiration date on packaging. We cannot guarantee product compliance beyond this date.

Typical Properties

Typical Properties	SE5931	Unit	Test Method
Extrusion Rate	160	g/s	0.5MPa, 5mm diameter
Density	1.4	g/cm^3	GB/T 13477-2002
Surface Drying Time	15	min	GB/T 13477
Curing Depth	3	mm/24h	GB/T 29595-2013
Solid Content	98	%	1g, 105 ° C/3H (before curing)
Hardness	40	Shore A	GB/T 531-2008
Tensile Strength	2.5	MPa	GB/T 528-2009
Elongation at Break	500	%	GB/T 528-2009
Volume Resistivity	1.9×10^{15}	Ω ・cm	GB/T 1692
Dielectric Strength	25	kV/mm	GB/T 1695
Thermal Conductivity	0.4	W/(m・K)	GB 10297
Flammability Rating	HB	-	UL 94

Thermally Conductive Acrylic Adhesive

KLEBER KB-XERM AA1003

Product Introduction

KLEBER KB-XERM AA1003 is a two-component acrylic adhesive designed to provide both thermal conductivity and adhesion to electronic applications. It can be cured in short time without primer at room temperature and produce a flame retardant material.

Application

- Power modules
- Routers and communication station
- Security system

Shelf Life/Storage

Shelf life of each component is 6 months from date of manufacture when stored at 4-10°C in original unopened container. Do not return dispensed adhesive to the original container.

Operation Process

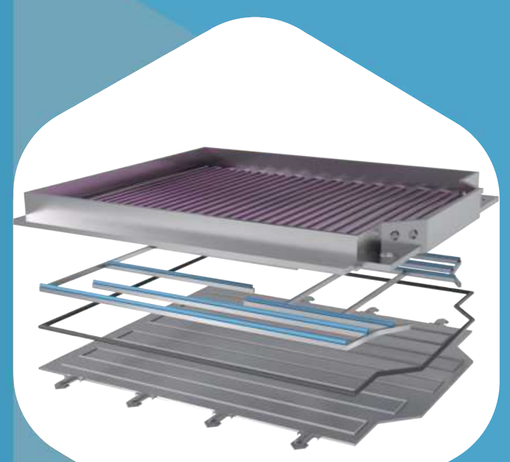
Mixing: mix the two parts at a ratio of 4:1 by volume, handheld cartridges or automatic dispense are recommended for accurately mixing.
Applying: clean the substrates and apply the mixed adhesive to bond surfaces, join the parts within short operating time and add enough pressure until the handling strength is reached.
Curing: the mixed adhesive can reach handling strength in 6-10 minutes at room temperature, and achieve full strength in 2-3 hours. The curing can be indicated by visual color change.

Typical Properties

Properties	Unit	Part A	Part B	Mixed
Appearance	-	Blue paste	Off-white paste	Blue paste
Viscosity @ 25 ° C	Pa · s	200-400	200-400	-
Specific Gravity	g/cm³	1.65	1.75	1.67
Mix Ratio by Volume	-	4	1	-
Working Time @ 25 ° C	min	-	-	3
Time to Handle Strength@ 25 ° C	min	-	-	6 to 10
Full Cure time @ 25 ° C	h	-	-	2 to 3

Typical Cured Properties

Properties	Unit	Test Method	Value
Thermal Conductivity	W/m · K	ASTM D5470	1
Hardness	Shore D	ASTM D2240	60
Lap Shear Strength, Aluminum@ 25 ° C	MPa	ASTM D1002	10
Glass Trannsition Temperature	° C	DMA	80
Dielectric Strength	KV/mm	ASTM D149	18



Thermally Conductive Epoxy Adhesive

KLEBER KB-XERM EA1060

Product Introduction

KLEBER KB-XERM EA1060 is a two-component , thermally conductive epoxy adhesive designed for electronic or general applications that require both reliable bonding and heat sink. It can be cured at room or elevated temperature and product a flame retardant material.

Application

- Battery package assembly
- Communication electronics

Shelf Life/Storage

Shelf life of each component is 6 months from date of manufacture when stored at 15-30°C in original unopened container.

Operation Process

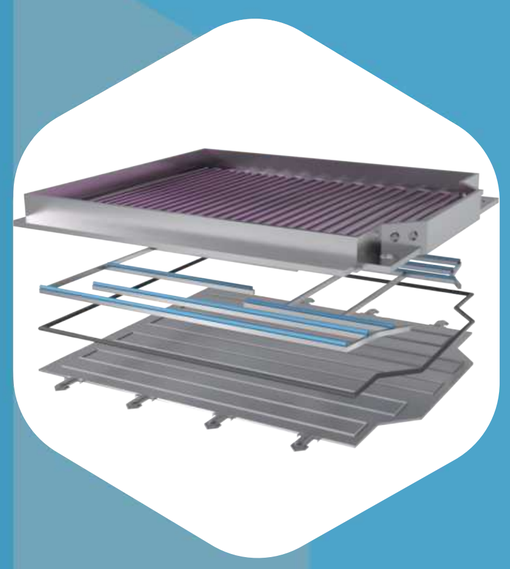
Mixing: mix the two parts with ratio of 1:1 by volume, Handheld cartridges or automatic dispense are recommended for accurately mixing.
Applying: clean the substrates and apply the mixed adhesive, join the parts and add enough pressure until the handling strength is reached.
Curing: the mixed adhesive will reach full cure in 2-3 days at room temperature. Cure can be accelerated with elevated temperature like 80°C for 1.5-2 hours, the bonding performance can be improved by higher temperature curing.

Typical Properties

Properties	Unit	Part A	Part B	Mixed
Appearance	-	White Paste	Black Paste	Gray Paste
Viscosity @ 25 ° C, 10 s-1	Pa · s	100	50-100	100-150
Specific Gravity	g/cm ^{3}	1.65	1.6	1.62
Mix Ratio by Volume	-	1	1	-
Working Time @ 25 ° C	min			60
Time to Handle Strength @ 25 ° C	h	-	-	6 to 8
Curing Time @ 25 ° C	Day	-	-	2 to 3
Curing Time @ 80 ° C	h	-	-	1.5-2

Typical Cured Properties

Properties	Unit	Test Method	Value
Thermal Conductivity	W/m · K	ASTM 5470	1
Hardness	Shore D	ASTM D2240	80 ± 5
Lap Shear Strength, Aluminum	MPa	ASTM D1002	15
Tensile Strength	MPa	ASTM D638	10
Elongation at Break	%	ASTM D638	1 to 2
Glass Trannsition Temperature	° C	DMA	80



Thermally Conductive Epoxy Adhesive

KLEBER KB-XERM EA2030

Product Introduction

KLEBER KB-XERM EA2030 is a two-component , thermally conductive epoxy adhesive designed for electronic or general applications that require both reliable bonding and heat sink. It can be cured at room or elevated temperature and product a flame retardant material.

Application

- Battery package assembly
- Automotive electronics
- Communication electronics

Shelf Life/Storage

Shelf life of each component is 6 months from date of manufacture when stored at 15-30°C in original unopened container.

Operation Process

Mixing: mix the two parts with ratio of 1:1 by volume, Handheld cartridges or automatic dispense are recommended for accurately mixing.
Applying: clean the substrates and apply the mixed adhesive, join the parts and add enough pressure until the handling strength is reached.
Curing: the mixed adhesive will reach full cure in 2-3 days at room temperature. Cure can be accelerated with elevated temperature like 80°C for 1-2 hours, the bonding performance can be improved by higher temperature curing.

Typical Properties

Properties	Unit	Part A	Part B	Mixed
Appearance	-	White Paste	Black Paste	Gray Paste
Viscosity @ 25 ° C, 10 s-1	Pa · s	100-200	50-150	100-150
Specific Gravity	g/cm³	2.6	2.6	2.6
Mix Ratio by Volume	-	1	1	-
Mix Ratio by Weight	-	100	100	-
Working Time @ 25 ° C	min			60
Time to Handle Strength @ 25 ° C	h	-	-	6 to 8
Curing Time @ 25 ° C	Day	-	-	2 to 3
Curing Time @ 80 ° C	h	-	-	1 to 2

Typical Cured Properties

Properties	Unit	Test Method	Value
Thermal Conductivity	W/m · K	ASTM 5470	1
Hardness	Shore D	ASTM D2240	80±5
Lap Shear Strength, Aluminum	MPa	ASTM D1002	15
Tensile Strength	MPa	ASTM D638	10
Elongation at Break	%	ASTM D638	1 to 2
Glass Trannsition Temperature	° C	DMA	80

Thermally Conductive Silicone Gap filler

KLEBER KB-XERM SG2060

Product Introduction

KLEBER KB-XERM SG2060 thermally conductive silicone gap filler is a two-component system designed to provide excellent thermal conductivity for electronic applications.

Application

- On board charger
- Power modules
- Automotive
- Communication components

Shelf Life/Storage

Shelf life of each component is 6 months from date of manufacture when stored at 10-25°C in original unopened container.

Operation Process

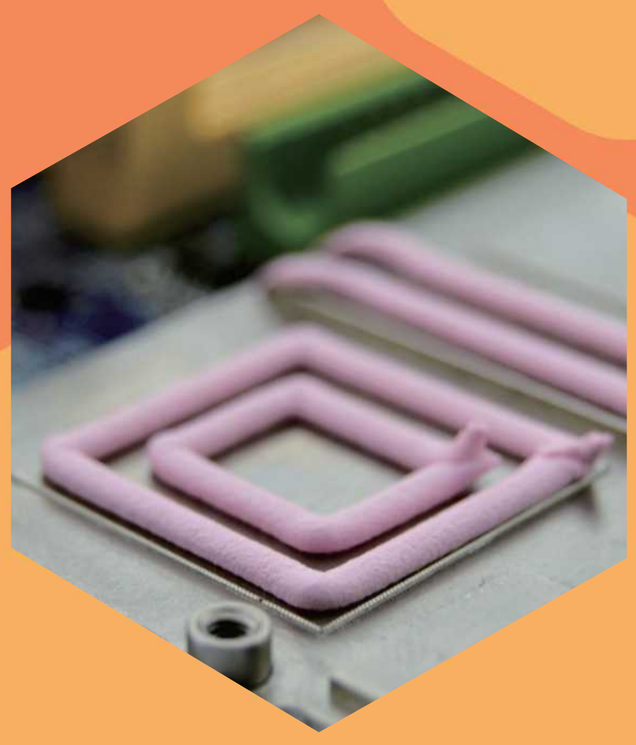
Mixing and apply: Mix A and B parts at a ratio of 1:1 by weight or volume.
Automatic mix/dispense equipment can be used for high volume production.
Vacuuming are recommended to eliminate the air bubbles during the mixing.
Curing: the mixed encapsulant can be cured for 20 minutes at 100°C, or 12hours at room temperature, Avoid applying to substrates containing inhibitors like amines, sulfuer or tin salts.

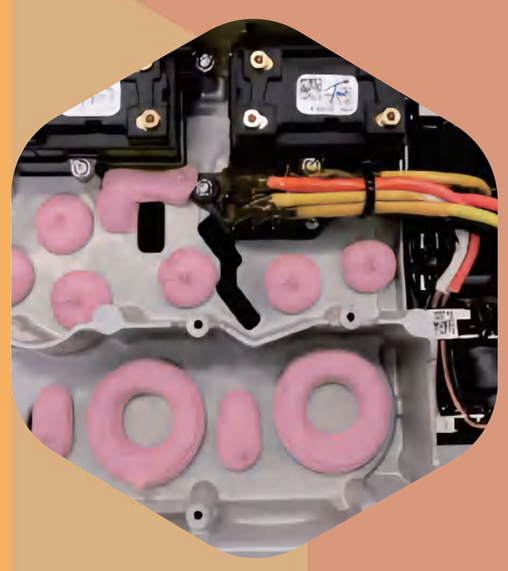
Typical Properties

Properties	Unit	Part A	Part B	Mixed
Appearance	-	Yellow	White	Yellow
Viscosity @ 25 ° C	Pa · s	75	75	75
Specific Gravity	g/cm ^{3}	2.8	2.8	2.8
Mix Ratio by volume	-	1	1	-
Mix Ratio by weight	-	1	1	-
Working time @ 25 ° C	min	-	-	60
Curing time @ 25 ° C	h	-	-	12
Curing time @100 ° C	min	-	-	20

Typical Cured Properties

Properties	Unit	Test Method	Value
Thermal Conductivity	W/m · K	ASTM 5470	2
Hardness	Shore OO	ASTM D2240	65 ± 5
Tensile Strength	MPa	ASTM D638	0.25
Elongation at Break	%	ASTM D638	75
Volume Resistivity	Ohm-cm	AASTM D 257	1x10
Dielectric Strength	kV/mm	ASTM D149	16 ^{13}





Thermally Conductive Silicone Gap filler

KLEBER KB-XERM SG4060

Product Introduction

KLEBER KB-XERM SG4060 thermally conductive silicone gap filler is a two-component system designed to provide excellent thermal conductivity for electronic applications.

Application

- On board charger
- Power modules
- Automotive
- Communication components

Shelf Life/Storage

Shelf life of each component is 6 months from date of manufacture when stored at 10-25°C in original unopened container.

Operation Process

Mixing and apply: Mix A and B parts at a ratio of 1:1 by weight or volume.
Automatic mix/dispense equipment can be used for high volume production.
Vacuuming are recommended to eliminate the air bubbles during the mixing
Curing: the mixed encapsulant can be cured for 30 minutes at 100°C, or 12hours at room temperature, Avoid applying to substrates containing inhibitors like amines, sulfuer or tin salts.

Typical Properties

Properties	Unit	Part A	Part B	Mixed
Appearance	-	Pink	White	Ling Pink
Viscosity @ 25 ° C	Pa · s	100	90	90
Specific Gravity	g/cm^3	3.4	3.4	3.4
Mix Ratio by volume	-	1	1	-
Mix Ratio by weight	-	1	1	-
Working time @ 25 ° C	min	-	-	60
Curing time @ 25 ° C	h	-	-	12
Curing time @100 ° C	min	-	-	30

Typical Cured Properties

Properties	Unit	Test Method	Value
Thermal Conductivity	W/m · K	ASTM 5470	4
Hardness	Shore OO	ASTM D2240	89
Tensile Strength	MPa	ASTM D638	0.4
Elongation at Break	%	ASTM D638	30-40
Volume Resistivity	Ohm-cm	AASTM D 257	1x10
Dielectric Strength	kV/mm	ASTM D149	8^{13}

Thermally Conductive Polyurethane Adhesive

KLEBER KB-XERM UA1530

Product Introduction

KLEBER KB-XERM UA1530 is a two-component polyurethane adhesive designed to provide both high thermal conductivity and adhesion to electronic applications. It can be cured at room temperature and produce a flame retardant material with medium hardness.

Application

- Battery package assembly
- Power modules

Shelf Life/Storage

l Shelf life of each component is 6 months from date of manufacture when stored at 15-30 °C in original unopened container. After opening, protect each component from excessive moisture by using dry nitrogen as an inert cover.

Operation Process

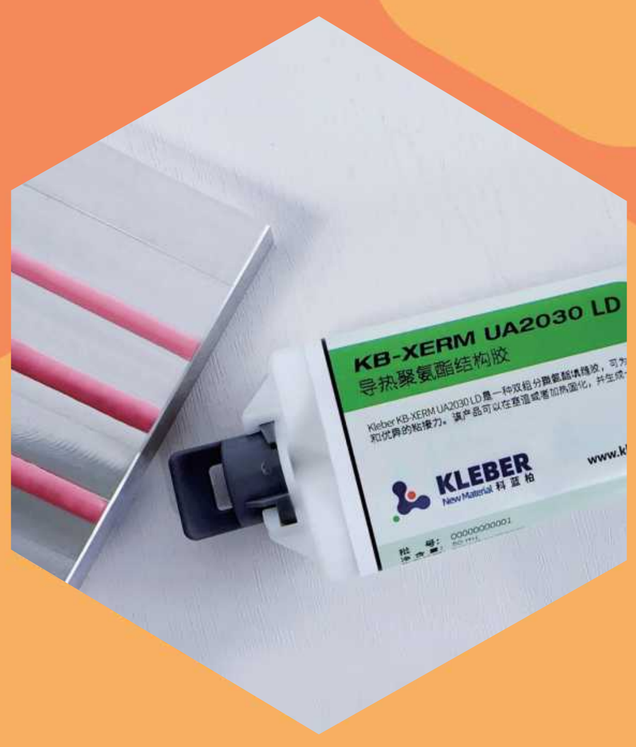
Mixing: mix the two parts at a ratio of 1:1 by volume. Handheld cartridges or automatic dispense are recommended for accurately mixing.
Applying: clean the substrates and apply the mixed adhesive to bond surfaces, join the parts and add enough pressure until the handling strength is reached.
Curing: the mixed adhesive will reach cure in 24 hours at room temperature. Cure can be accelerated with elevated temperature like 80°C 3 hour.

Typical Properties

Properties	Unit	Part A	Part B	Mixed
Appearance	-	Red Paste	White Paste	Pink Paste
Viscosity @ 25 ° C	Pa · s	200-300	200-300	300
Specific Gravity	g/cm^3	1.86	1.94	1.9
Mix Ratio by weight	-	1	1.04	-
Mix Ratio by Volume	-	1	1	-
Working Time @ 25 ° C	min	-	-	30-40
Time to Handle Strength @ 25 ° C	h	-	-	2 to 3
Curing Time @ 25 ° C	h	-	-	24
Curing Time @80 ° C	h	-	-	2 to 3

Typical Cured Properties

Properties	Unit	Test Method	Value
Thermal Conductivity	W/m · K	ASTM 5470	1.5
Hardness	Shore D	ASTM D2240	60
Lap Shear Strength, Aluminum @	MPa	ASTM D1002	8
Tensile Strength	MPa	ASTM D638	10
Elongation at Break	%	ASTM D638	12
Volume Resistivity @ 25 ° C	Ohm-cm	ASTM D257	$1x10^{15}$
Dielectric Strength	kV/mm	ASTM D149	20



Thermally Conductive Polyurethane Adhesive

KLEBER KB-XERM UA2030LD

Product Introduction

KLEBER KB-XERM UA2030 LD is a two-component polyurethane adhesive designed to provide both high thermal conductivity and adhesion to electronic applications. It can be cured at room temperature and produce a flame retardant material with medium hardness.

Application

- Battery package assembly
- Power modules

Shelf Life/Storage

l Shelf life of each component is 6 months from date of manufacture when stored at 10-25°C in original unopened container. After opening, protect each component from excessive moisture by using dry nitrogen as an inert cover.

Operation Process

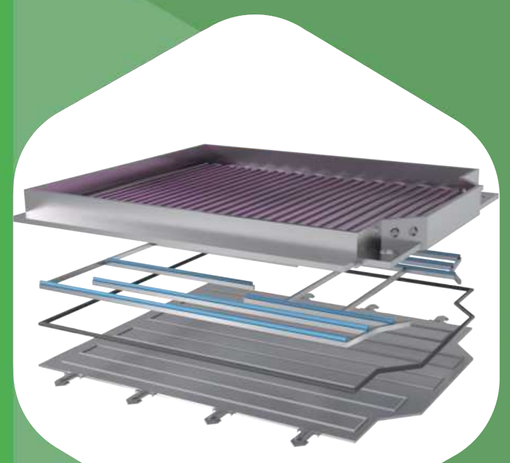
Mixing: mix the two parts at a ratio of 1:1 by volume or 1:1.02 by weight. Handheld cartridges or automatic dispense are recommended for accurately mixing.
Applying: clean the substrates with dry rag or solvents, and apply the mixed adhesive, join the parts and add enough pressure until the handling strength is reached.
Curing: the mixed adhesive will reach cure in 24 hours at room temperature. Cure can be accelerated with elevated temperature like 80°C 3 hour.

Typical Properties

Properties	Unit	Part A	Part B	Mixed
Appearance	-	Red Paste	White Paste	Pink Paste
Viscosity @ 25 ° C	Pa · s	200-300	200-300	300
Specific Gravity	g/cm^3	1.98	2.02	2
Mix Ratio by weight	-	1	1.02	-
Mix Ratio by Volume	-	1	1	-
Working Time @ 25 ° C	min	-	-	30-40
Time to Handle Strength @ 25 ° C	h	-	-	2 to 3
Curing Time @ 25 ° C	h	-	-	24

Typical Cured Properties

Properties	Unit	Test Method	Value
Thermal Conductivity	W/m · K	ASTM 5470	2
Hardness	Shore D	ASTM D2240	70
Lap Shear Strength, Aluminum @ 25 ° C	MPa	ASTM D1002	⩾10
Tensile Strength	MPa	ASTM D638	⩾8
Elongation at Break	%	ASTM D638	8 to 16
Volume Resistivity @ 25 ° C	Ohm-cm	ASTM D257	$1x10^{14}$
Dielectric Strength	kV/mm	ASTM D149	20



Acrylic Adhesive

KLEBER KB-XBOND AA107

Product Introduction

KB-XBOND AA107 is a two-component acrylic adhesive designed for general application. It can provide excellent bonding to metal materials. The adhesive can be cured rapidly at room temperature.

Application

- Automotive
- Bus
- Train

Shelf Life/Storage

l Shelf life of each component is 6 months from date of manufacture when stored under 25°C in original unopened container.Storage temperatures of 40-50°F (4-10°C) are recommended. If stored cold, allow product to return to room temperature before using. Protect from exposure to direct sunlight.

Operation Process

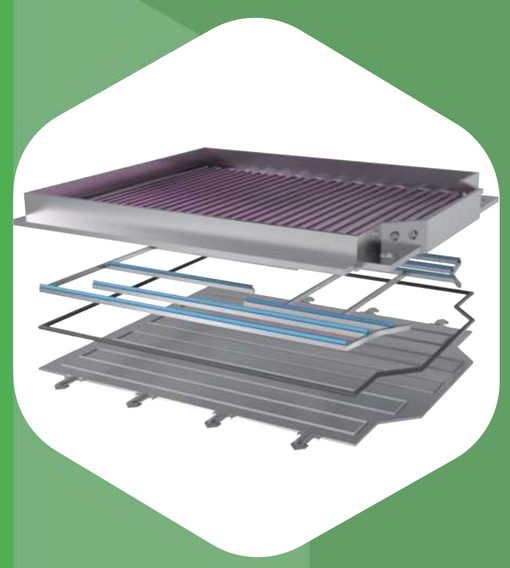
Mixing: mix the two parts at a ratio of 4:1 by volume, handheld cartridges or automatic dispense are recommended for accurately mixing.
Applying: clean the substrates and apply the mixed adhesive to bond surfaces, join the parts and add enough pressure until the handling strength is reached.
Curing: the mixed adhesive will reach full cure in 24 hours at room temperature. Cure can be accelerated with elevated temperature.

Typical Properties

Properties	Unit	Part A	Part B	Mixed
Appearance	-	Off-white Paste	Grey Paste	Grey Paste
Viscosity @ 25 ° C	Pa・s	100-300	100-300	100-300
Specific Gravity	g/cm^3	1.04	1.56	-
Mix Ratio by Volume	-	4	1	-
Working Time @ 25 ° C	min	-	-	7 to 9
Time to Handle Strength @ 25 ° C	min	-	-	24-28

Typical Cured Properties

Properties	Unit	Test Method	Value
Lap Shear Strength, Aluminum @ 25 ° C	MPa	ASTM D1002	18
Lap Shear Strength, FRP @ 25 ° C	MPa	ASTM D1002	8.5
T-peel Strength, Aluminum @ 25 ° C	N/mm	ASTM D1876	7
Tensile Strength	MPa	ASTM D638	19
Elongation at Break	%	ASTM D638	15-20
Glass Trannsition Temperature	° C	DMA	90



Acrylic Adhesive

KLEBER KB-XBOND AA130

Product Introduction

KLEBER KB-XBOND AA130 is a versatile two-component acrylic adhesive that delivers excellent bonding strength to metal substrates and cures rapidly at room temperature.

Application

- Automotive
- Bus
- Train

Shelf Life/Storage

l Shelf life of each component is 6 months from date of manufacture when stored under 25°C in original unopened container.Storage temperatures of 40-50°F (4-10°C) are recommended. If stored cold, allow product to return to room temperature before using. Protect from exposure to direct sunlight.

Operation Process

Mixing: mix the two parts at a ratio of 4:1 by volume, handheld cartridges or automatic dispense are recommended for accurately mixing.
Applying: clean the substrates and apply the mixed adhesive to bond surfaces, join the parts and add enough pressure until the handling strength is reached.
Curing: the mixed adhesive will reach full cure in 24 hours at room temperature. Cure can be accelerated with elevated temperature.

Typical Properties

Properties	Unit	Part A	Part B	Mixed
Appearance	-	White Paste	Grey Paste	Grey Paste
Viscosity @ 25 ° C	Pa · s	100-300	100-300	100-300
Specific Gravity	g/cm^3	1.05	1.6	-
Mix Ratio by Volume	-	4	1	-
Working Time @ 25 ° C	min	-	-	25-30
Time to Handle Strength @ 25 ° C	min	-	-	48-75

Typical Cured Properties

Properties	Unit	Test Method	Value
Lap Shear Strength, Aluminum @ 25 ° C	MPa	ASTM D1002	18
Lap Shear Strength, FRP @ 25 ° C	MPa	ASTM D1002	4.5
T-peel Strength, Aluminum @ 25 ° C	N/mm	ASTM D1876	20
Tensile Strength	MPa	ASTM D638	20
Elongation at Break	%	ASTM D638	15-25
Glass Trannsition Temperature	° C	DMA	90

Thermally Conductive Polyurethane Adhesive

KLEBER KB-XERM UA2030

Product Introduction

KLEBER KB-XERM UA2030 is a two-component polyurethane adhesive designed to provide both high thermal conductivity and adhesion to electronic applications. It can be cured at room temperature and produce a flame retardant material with medium hardness.

Application

- Battery package assembly
- Power modules

Shelf Life/Storage

l Shelf life of each component is 6 months from date of manufacture when stored at 15-30 °C in original unopened container. After opening, protect each component from excessive moisture by using dry nitrogen as an inert cover.

Operation Process

Mixing: mix the two parts at a ratio of 1:1 by volume. Handheld cartridges or automatic dispense are recommended for accurately mixing.
Applying: clean the substrates and apply the mixed adhesive to bond surfaces, join the parts and add enough pressure until the handling strength is reached.
Curing: the mixed adhesive will reach full cure in 24 hours at room temperature. Cure can be accelerated with elevated temperature like 80°C 3 hour.

Typical Properties

Properties	Unit	Part A	Part B	Mixed
Appearance	-	Red Paste	White Paste	Pink Paste
Viscosity @ 25 ° C	Pa · s	300	200	180
Specific Gravity	g/cm^3	2.32	2.8	2.56
Mix Ratio by weight	-	1	1.2	-
Mix Ratio by Volume	-	1	1	-
Working Time @ 25 ° C	min	-	-	30-40
Time to Handle Strength @ 25 ° C	h	-	-	2 to 3
Curing Time @ 25 ° C	h	-	-	24
Curing Time @80 ° C	h	-	-	3

Typical Cured Properties

Properties	Unit	Test Method	Value
Thermal Conductivity	W/m · K	ASTM 5470	2
Hardness	Shore D	ASTM D 2240	70
Lap Shear Strength, Aluminum @	MPa	ASTM D1002	10
Tensile Strength	MPa	ASTM D638	12
Elongation at Break	%	ASTM D638	9
Volume Resistivity @ 25 ° C	Ohm-cm	ASTM D 257	$1x10^{14}$
Dielectric Strength	kV/mm	ASTM D149	22