Advanced High Temperature Adhesives, Fillers, Coatings, Tape, Cloths, Blankets and Materials

We provide a range of high performance adhesives, fillers, coatings, tapes and cloths designed for operation under the harshest environmental conditions. Ideally suited for insulating and bonding to an extensive range of materials, including metals, ceramics, plastics and glass, with the majority offering the advantage of curing at room temperature.

Found across many industries including Aerospace, Automotive, OEM Electronics, Fabrication and Foundries, with an extensive range of applications covering bonding, potting, sealing, casting, moulding and coating. For whatever the application demands, be it sustained high temperature operation, thermal shock stability, corrosion, abrasion and/or chemical resistance while maintaining excellent electrical and mechanical performance characteristics, we have a solution and technical advice available.

PERFORMANCE
Epoxy thermosetting solutions, with operating temperatures up to 200ºC.

EPOXY
Compounds and fillers, with operating temperatures up to 340ºC.

CERAMIC
Compounds, fillers and materials, with operating temperatures up to 3000ºC.

For assistance please call our technical team...

CONTENTS

Adhesive Product Characteristics Table - Epoxy/Thermosets

Product	Moulded Part ref.	Type	Operating Temperature	Product Designation	Packaging
S1005	-	Epoxy/polyamide two part paste	-55°C to 135°C	S1005 Kit 1	178ml bottle part A 89ml bottle part B
S1006	-	Epoxy/polyamide two part paste	-55°C to 135°C	S1006 Kit 8	50ml dual syringe
				S1006 Kit 1	Two 15g packs
				S1006 Kit 2	Four 7.5g packs
				S1006 Kit A	Ten 3g packs
S1009	-	Epoxy/polymercaptan two-part paste	-55°C to 135°C	S1009 KIT A	Ten 3g packs
				S1009 KIT 8	50ml dual syringe
S1255-04	-	One-part epoxy tape adhesive	-55°C to 200°C	S1255-04	Tape 19mm x 0.51mm x 30m
S1125	-	Epoxy/polyamide two part paste	-55°C to 150°C	S1125 Kit 1	Five 10g packs*
				S1125 Kit 2	Two 10g packs
				S1125 Kit 3	One 100g pack
				S1125 Kit 4	Five 10g packs
				S1125 Kit 5	One 10g pack
				S1125 Kit 8	50ml dual syringe
	/225	Pre-coated latent curing epoxy/polyamide	-75°C to 150°C	Only on -25 moulded parts	-
S1264	-	Epoxy/polyamide two part paste	-55°C to 150°C	S1264 Kit 1	One 10g pack
				S1264 Kit 8	50ml dual syringe
S1184	-	Two-part electrically conductive epoxy/ polyamide	-55°C to 150°C	S1184 Kit 1	Two x 10ml syringes
RT125	-	Two part general purpose adhesive	-55°C to 150°C	RT125-DS-050	50ml dual syringe

* Plus utensils

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Adhesive Product Characteristics Table (continued) - Epoxy/Thermosets

Product	Pot Life @ 23ºC	Curing Conditions	Shelf Life* @ 23ºC	Spec. **	Comments
S1005	20 min	24 hr @ 20ºC min. or 1 hr @ 95ºC	1 year	RK-6611	Flexible low viscosity thermosetting general purpose adhesive.
S1006	1hr	96 hr @ 20ºC min. or 1 hr @ 120ºC	2 years, 1 year Kit 8	RT-1006 RK-6612 A-A-56031***	General purpose harnessing adhesive. Not used on fluoroelastomer, silicone or PVDF.
S1009	20 min	24 hr @ 20ºC min. or 1 hr @ 95ºC or 45 min @ 120ºC	2 years, 1 year Kit 8	RT-1009	General purpose harnessing adhesive. Not used on fluoroelastomer or silicone.
S1255-04	-	90 min @ 155ºC. or 15 min @ 260ºC	1 year with refrigeration	RT-1014	One part epoxy tape used with fluoroelastomer harness systems
S1125	1.5 hrs	24 hr @ 20ºC min. or 1 hr @ 85ºC	18 months	RT-1011 RK-6619 VG-95343	Good fluid resistance epoxy used with system 25 components
/225	-	Cure during installation of moulded parts	36 months	VG-95343 RK-6630	Pre-coated epoxy system for -25 moulded parts
S1264	90 min	24 hr @ 20ºC min. or 1 hr @ 85ºC	18 months	RT-1012	Tested to NBC requirements
S1184	1 hr	48 hrs @ 20ºC or 2 hrs @ 80ºC	6 months	RK-6627 RT-1084	Conductive epoxy adhesive for use with screened terminations.
RT125	1.5 hrs	24 hrs @ 20ºC or 1 hr @ 85ºC	18 months	-	Two part general purpose flexible harnessing adhesive.

* Shelf life from date of manufacture.
** For specific adhesion properties, see product specification sheets.
*** Only S1006 Kit A conforms to A-A-56031.

Hot Melt Adhesive and Sealant Tapes

Selection Guide

Product Characteristics

Adhesive Product Characteristics Table - Hot Melt/Thermoplastics

Product	Moulded Part ref.	Type	Operating Temperature	Product Designation	Packaging
S1017	/42	Hot-melt/polyamide	-20°C to 60°C	S1017	Tape 25mm x 0.3mm x 15m
S1030	/180	Hot-melt polyolefin	-80°C to 80°C	S1030	Tape 20mm x 0.3mm x 10m
S1048	/86	Hot-melt, high performance	-55°C to 120°C	S1048	Tape 25mm x 0.66mm x 30m
S1124	/164	Hot-melt, elastomeric polymer	-55°C to 105°C	S1124	Tape 20mm x 0.46mm x 30m
S1260	n/a	Hot melt,	-55°C to +240°C	S1260	Tape 19mm x 0.33mm x 7.6m
S1297	/97	Hot-melt/polyamide	-20°C to 90°C	S1297	Tape 25mm x 0.3mm x 3m

Sealants Product Characteristics Table - Butyl Sealant

Product	Moulded Part ref.	Type	Operating Temperature	Product Designation	Packaging
S1278	-	Hot-melt grey butyl sealant	-40°C to 90°C	S1278-01	Tape 25mm x 1.57mm x 7.6m
				S1278-02	Tape 95mm x 3.18mm x 3m
S1305	-	Hot-melt grey butyl sealant, flame retardant	-40°C to 90°C	S1305-01	Tape 25mm x 1.57mm x 7.6m

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Adhesive Product Characteristics Table (continued) - Hot Melt/Thermoplastics

Product	Pot Life @ 23ºC	Curing Conditions	Shelf Life @ 23ºC	TE Spec	Comments
S1017	-	120ºC	Unlimited	RT-1050/1	General purpose harnessing adhesive. Standard for -3 and -4 moulded parts.
S1030	-	120ºC	Unlimited	RT-1050/6 RK-6017	Good low-temperature flexibility. Available as a pre-installed tape for -100 moulded parts.
S1048	-	160ºC	Unlimited	RT-1050/3 RK-6626	Requires high temperature to achieve bonding. Highest service temperature for hot-melt.
S1124	-	150ºC	Unlimited	RT-1050/13	Requires re-flowing @ 150ºC for 90 mins. Designed to bond to -51 moulded parts
S1260	-	150ºC	Unlimited	RT-1050/29	Requires re-flowing @ 150ºC for 90 mins. Bonds to fluoropolymers and fluoroelastomers
S1297	-	120ºC	Unlimited	RW-2019	Standard pre-coated adhesive in CES, CSGA cable entry seals and SST-FR tubing

Adhesive Product Characteristics Table (continued) - Butyl Sealant

Product	Pot Life @ 23ºC	Curing Conditions	Shelf Life @ 23ºC	TE Spec	Comments
S1278	-	110ºC	Unlimited	RW-2020	General purpose sealant and cable breakout area filler
S1305	-	110ºC	Unlimited	RW-2020	Halogen-free, flame-retardant sealant & cable breakout area filler

Adhesive/Material Compatibility

Selection Guide Overview

Product Characteristics

Adhesive/Sealant Selection Table....

Substrate Category	Typical Product	Moulded Part Material Dash Number					
		-3	-4	-8	-12	-25	-50
Polyolefin	RNF-100	S1006	S1006	-	-	-	-
	VERSAFIT	S1009	S1009	-	-	-	-
	CRN	S1017	S1017	-	-	-	-
	BSTS	S1030	S1030	-	-	-	-
	SST	S1048	S1048	-	-	-	-
	HR	S1297	S1297	-	-	-	-
Fluoropolymer	PVDF	S1009	S1009	S1009	-	S1125	-
		S1048	S1048	-	-	-	-
		S1125	S1125	-	-	-	-
	RT-555	-	-	-	S1255-04	-	-
	HCTE	-	-	-	S1255-04	S1125	-
	CONVOLEX	-	-	-	S1125	-	-
Vinyl	PVC	S1006	S1006	-	-	-	-
		S1009	S1009	-	-	-	-
		S1017	S1017	-	-	-	-
Elastomer	DR-25	-	-	-	-	S1125	S1125
	NT	S1006	S1006	-	-	-	-
		S1009	S1009	-	-	-	-
		S1017	S1017	-	-	-	-
	NTFR	-	-	-	-	S1125	-
	SFR	-	-	-	-	-	-
	SRFR	-	-	-	-	-	-
	RW-200-E	-	-	-	S1255-04	-	-
	VPB	-	-	-	-	-	S1125
		-	-	-	-	-	S1255-04
Zerohal	XFFR	-	-	-	-	-	-
	ZHTM	-	-	-	-	-	-

For further details on the full range of moulded part materials above, please contact us.

Nuclear - Adhesive/Sealant Selection Table

Substrate Category	Typical Product	Moulded Part Material Dash Number		
		-770	-780	-790
Nuclear Fluoropolymer	RT770	S1264	-	-
	RT780	-	S1255-04	-
	RT790	-	-	S1255-04

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Adhesive/Sealant Selection Table (Continued)

Substrate Category	Typical Product	Moulded Part Material Dash Number					
		-51	-55	-71	-100	-125	-130
Polyolefin	RNF-100	-	-	S1006	-	-	S1006
	VERSAFIT	-	-	S1009	-	-	S1009
	CRN	-	-	S1017	-	-	S1017
	BSTS	-	-	S1030	-	-	-
	SST	-	-	S1048	-	-	-
	HR	-	-	S1297	-	-	-
Fluoropolymer	PVDF	-	-	S1009	-	S1009	-
		-	-	S1048	-	S1048	-
		-	-	S1125	-	S1125	-
	RT-555	-	S1255-04	-	-	S1255-04	-
	HCTE	-	S1255-04	-	-		-
	CONVOLEX	-	S1125	-	-	-	-
Vinyl	PVC	-	-	S1006	-	-	-
		-	-	S1009	-	-	-
		-	-	S1017	-	-	-
Elastomer	DR-25	S1125	-	-	-	-	-
	NT	S1124	-	S1006	-	-	-
		-	-	S1009	-	-	-
		-	-	S1017	-	-	-
	NTFR	S1124	-	-	-	-	-
	SFR	-	-	-	-	-	-
	SRFR	-	-	-	-	-	-
	RW-200-E	-	S1255-04	-	-	S1255-04	-
	VPB	-	-	-	-	-	-
		-	-	-	-	-	-
Zerohal	XFFR	-	-	-	S1030	-	-
	ZHTM	-	-	-	S1030	-	-

For further details on the full range of moulded part materials above, please contact us.

S1005, S1006 and S1184

Epoxy Adhesives - Two Part up to 150ºC

Overview

S1005 Low-viscosity Adhesive
Two-Part Polyamide Epoxy
Flexible low-viscosity, two part general purpose polyamide epoxy supplied in polythene bottles. Can be mixed by volume or weight. One bottle contains Part A, the pale yellow epoxy and the other bottle contains Part B, the amber polyamide hardener.

Temperature Range: -55ºC to +135ºC

Packaging:

S1005 Kit 1: 2 bottles, 89ml Part A and 178ml Part B

S1006 High-viscosity Adhesive
Two-Part Polyamide Epoxy
Flexible high-viscosity, two part polyamide epoxy is supplied in a bi-pack to ensure correct mixing. S1006 consists of a pale yellow epoxy resin and an amber polyamide hardener.

Excellent adhesive for polyolefin tubing and moulded parts, aluminium alloy fittings and mild steel, brass and copper.

Temperature Range: -55ºC to +135ºC

Packaging:
S1006 Kit 1: 2 sachets, 15g each
S1006 Kit 2: 4 sachets, 7.5g each
S1006 Kit A: 10 sachets, 3g each
S1006 Kit 8: 50ml syringe

S1184 Adhesive
Two-Part Highly Conductive Epoxy
A silver loaded adhesive, developed to terminate screened moulded shapes. Can withstand high temperatures and aggressive solvents and fuels.

Once mixed, S1184 has a pot life of approximately 1 hour at 25ºC and will cure at room temperature after 24 hours.

Resistivity 0.01Ω/cm

Temperature Range: -55ºC to +150ºC

Packaging:
S1184: Two 10ml Syringes, 3 x mixing cups and sticks

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S1125 Adhesive

Epoxy Two Part Adhesive
Kit Selection Overview

S1125 is a flexible two part epoxy high performance adhesive, developed to match the superior chemical and heat resistance properties of DR-25 heat-shrinkable tubing and -25 heat-shrinkable moulded parts.

Features and Benefits

- High performance, chemical and heat resistant epoxy based adhesive.
- Easy to use and less waste.
- Suitable for use with a range of materials and applications.
- Can be applied directly to the application.
- When mixed the adhesive has a 60 minute workable life at room temperature.

Operating Temperature

-55°C to +150°C

Specifications & Approvals

- DIN VG95343 Pt 15

Part Number	Description
S1125 Kit 1	5 sachets, 10g each + accessories
S1125 Kit 2	2 sachets, 10g each
S1125 Kit 3	1 sachet, 100g
S1125 Kit 4	5 sachets, 10g each
S1125 Kit 5	1 sachet, 10g each
S1125 Kit 8	50ml Duo syringe, 3 x mixing nozzles, 5 x mixing cups & sticks, abrasive strips.

Application Equipment	
Handgun-050 (1:1)	Duo-syringe application gun
RT-Nozzle-5mm	Duo-syringe static mixing nozzle

Performance Test @ 23°C	Result
Lap Shear (Al/Al)	7KN to RK6619 Clause 2.1
Peel Strength (Aluminium to DR-25)	100N to RK6619 Clause 2.2
Lap shear strength (Al to Al @ +150°C)	1500N to RK6619 Clause 2.1
Solvent Resistance (De-icer, Petrol, Hydraulic Fluid)	Excellent

Installation - To mix both components, remove the plastic separation clip from the centre of the bi-pack and then squeeze the bi-pack thoroughly. When mixed, the adhesive should have a uniform black colour. The separation clip may be used to ensure that the last traces of the epoxy and hardener are squeezed from the corners of the pack.

For best results, adhesive mixed from dual packs, or ejected from duo-syringes without a mixing nozzle, should be dispensed into a separate disposable dish and mixed with a separate disposable dish and mixed with a spatula before application to the substrate.

RT125 Adhesive

Epoxy Adhesive

A specially formulated, flexible, two part, room temperature curing adhesive for general purpose wire and harnessing applications. An excellent bond is formed between metals, plastics and most cable insulation materials.

Features and Benefits

- Excellent flexibility, high shear and peel strengths.
- Outstanding chemical and fluid resistance.
- Bonds metals, glass, wood, rubber and many plastics.
- Standard size is 50g, with associated mixing nozzles and dispenser guns.

Operating Temperature

-75°C to +150°C

Part Number	Description
RT125-DS-050	Duo Syringe: 50g
RT-Nozzle-5mm	Mixing nozzle
Handgun-050 (1:1)	Application tool
Prep-and-mix-Kit (5 x 4 items)	Preparation Kit: Dish; Spatula; Clean wipe; Abrasive strip

Typical Performance @ 23°C	Description
Lap Shear (Al/Al)	20 MPa
Peel Strength (XLPE/XLPE)	370 N / 25mm
Peel Strength after thermal shock (4hrs@215°C)	370 N / 25mm
Dynamic Shear (backshell/boot/cable. Shell size 22)	520N
Solvent Resistance (De-icer, Petrol, Hydraulic Fluid)	Excellent

Related Products

A wide range of general purpose adhesives and sealants for a broad range of applications is available. From simple bonding applications to small volume potting, complex and flexible sealing and beyond, we can offer the solution for your epoxy adhesive requirements.

- RT110 fast setting epoxy adhesive
- RT112 non-sag, fast setting epoxy sealant
- RT152 low viscosity, optically clear epoxy resin
- RT183 electrically conductive epoxy adhesive.
- TriPatch wraparound epoxy repair system

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S1017, S1030 and S1048

Hot Melt Adhesive Tapes

Overview

S1017

Hot-Melt Thermoplastic Adhesive Tape

A general purpose adhesive supplied in tape form for easy application to cable substrates. Tough yet flexible adhesive, suitable for bonding polyolefins, vinyls, neoprene and metals such as steel and aluminium.

Available as a pre-coat designation /42

Temperature Range: -20°C to +60°C

Packaging:
S1017: 25mm x 0.3mm x 15m roll

S1030

Hot-Melt Adhesive Tape

Non-flame-retarded polyolefin based hot-melt adhesive tape. Recommended for high flexibility at temperatures as low as -80°C. The tape is often pre-applied to low fire hazard moulded parts.

Recommended for use with polyurethane materials and -25 / -100 moulded parts, plus DR-25, RNF and RW-175 heat shrink tubing. Plus FDR jacketed cabled.

Available as a pre-coat designation /180

Temperature Range: -80°C to +80°C

Packaging:
S1030: 20mm x 0.3mm x 10m roll

S1048

Hot-Melt Adhesive Tape

Generally used as a high strength hot-melt adhesive. Will adhere extremely well to most cable jacket materials such as ZHTM, DR-25, or RNF, after enough heat has been applied at the installation stage to ensure complete flow and wetting of the adhesive to a substrate.

Available as pre-coat /86

Temperature Range: -55°C to +120°C

Packaging:
S1048: 25mm x 0.66mm x 30m roll

S1255-04, S1260 and S1297

Hot Melt Adhesive Tapes

Overview

S1255-04

High Temperature Adhesive Tape

Single part epoxy tape developed to match the superior chemical and heat resistance properties of our fluoro-elastomeric high performance materials.

For use with System 200 and 300 components and for Fluoroelastomer cable applications

Temperature Range: -55°C to +200°C

Packaging:
S1255-04: 20mm x 0.5mm x 30m roll

RoHS compliant

S1260

Hot-Melt Adhesive Tape

Fast, permanent field repairs to high temperature PTFE wire and cable. Made from an environmentally resistant modified fluoropolymer.

Particularly suitable for aerospace and defence applications where resistance to solvents and fluids is essential. Suited for power cables with fluoropolymer and fluoroelastomer insulations and jackets.

Temperature Range: -55°C to +240°C

Packaging:
S1260: 19mm x 0.33mm x 7.6m roll

RoHS compliant

S1297

Holt-Melt Thermoplastic Adhesive Tape

Hot-melt thermoplastic pre-coat adhesive designed for use with heavy duty boots and cable entry seals. It is suitable for bonding to various cable jacket substrates including Polyethylene, PVC, Polychloroprene and metals such as Steel and Aluminium.

Can be used with CES, cable entry seals.

Available as a pre-coat designation /97

Temperature Range: -20°C to +90°C

Packaging:
S1297: 25mm x 0.3mm x 3m roll

RoHS compliant

For more detailed information please contact us.

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66N, 67N, 68N Silicone Tapes

Range of Silicone Elastomer Tapes
Self-amalgamating

A wide range of silicone elastomer tapes, which self-amalgamate at ambient temperature. These tapes are used for sealing, connecting and finishing the cut ends of sleeves exposed to high temperature. These products can also be used to provide local protection to connection accessories and other wiring harness components.

Features and Benefits

- Good fluid resistance.
- Self-amalgamating.
- Local protection.
- Shelf life: One year after date of manufacture.

Operating Temperature

From -60°C to +250°C

Specifications & Approvals

- 66N & 67N: ABS 5334
- 67N: A-A-59163
- 68N: ASNA 5107

Part Number	Thickness	Width	Colour	Glass Tape Substrate	Reel Size	NATO Specification
Tape-66-N	0.3mm	19mm	Red/Brown	No	15m	5970-14-467-8824
Tape-67-N	0.5mm	19mm	Black	No	15m	5970-14-474-7041
Tape-68-N	0.5mm	19mm	Red/Brown	Yes	15m	5970-14-464-7312

25mm and 50mm width options are also available, please contact for details

Recommended time for amalgamation

Temperature	250°C	200°C	150°C	127°C	120°C
Time in minutes	15 min	20 min	35 min	80 min	120 min

Technical Performance

Property	Test Method	66N	67N	68N
Operating temperature range	-	From -60°C to +250°C		
Elongation at break	-	500 to 600%	200 to 300%	26%
Tensile strength	-	50 N	16.3 N	90 N
Average dielectric strength	NFC 26.225	13 KV/mm	16 KV/mm	17 KV/mm
Fluid Resistance				
• Jet Fuel (JP5) • Hydraulic fluid (Skydrol 500B4) • Mineral Oil (NATO 0142) • Synthetic Oil (NATO 0156) • Cleaning Fluids MIL C 87836 | 25% Propanol + 75% White Spirit | Foran 141 B • Cooling Fluid (MIL-A-8243)	The silicone tape amalgamated on its support immersed for a few seconds	No deterioration to the amalgamated tape		

SRT Silicone Tape

Silicone Rubber
Self-amalgamating

SRT is a Silicone Rubber based material that is a tough, resilient, self-amalgamating tape, ideal for covering irregular shapes and objects. It can also be used for masking ends and sections of shafts and tubes.

Features and Benefits

- Tough and flexible.
- High temperature performance to 260°C.
- Provides void free insulation.
- Recommended for powder coating, E-coating, plating and anodising.
- Range of sizes, thicknesses and colours.
- No adhesive.
- Waterproof.

Operating Temperature

-54°C to +260°C

Specifications & Approvals

- ASTM D-2000 Classification FC, FE, GE
- MIL-STD-417, TA

Part Number	Width	Thickness	Length	Colour
SRT0750-20	19.05 mm	0.51 mm	11 m	Black
SRT1000-20	25.40 mm	0.51 mm	11 m	Grey
SRT1000-30	25.40 mm	0.76 mm	11 m	Orange
SRT1500-20	38.10 mm	0.51 mm	11 m	Red
SRT1500-30	38.10 mm	0.76 mm	11 m	Blue
SRT1750-20	44.45 mm	0.51 mm	11 m	Green
SRT2000-20	50.80 mm	0.51 mm	11 m	Yellow
SRT2000-30	50.80 mm	0.76 mm	11 m	White

Technical Performance

Description	ASTM Test Method	Results
Hardness	-	45 to 55 Shore A
Tensile strength	ASTM D-412	700 PSI
Percent elongation at break	-	300%
Cold brittle point	ASTM D-2137	-65°C

Note: SRT is made from a commercial grade silicone, it is not suitable for direct food and medical contact, such as internal medical applications.

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ISKT22 Polyimide Tape

High temperature Adhesive Tape

This high temperature film tape offers optimum performance in electrical and thermal insulation. It offers flame resistant and electrical protection, can be used as a wire and cable wrap, as well as for solder masks.

Features and Benefits

- Mechanical stability under extreme temperature.
- Excellent electrical and thermal insulation properties.
- Resistance to most chemicals, solvents, lubricants and fuels.
- Short term temperature withstand 315°C.

Specifications & Approvals

- UL Approval E113238
- ASTM D3652 and D-3759

Operating Temperature

-73°C to +260°C
(Adhesive backing rated at 200°C)

Part Number	Width	Length	Colour
ISKT22-4mm	4.0 mm	33 m	Amber
ISKT22-8mm	8.0 mm	33 m	Amber
ISKT22-0375	9.5 mm	33 m	Amber
ISKT22-0500	12.7 mm	33 m	Amber

Also available in a wide range of alternative sizes, please contact us for details

Technical Performance

Description	ASTM Test Method	Results
Film thickness	D-3652	0.03 mm
Adhesive thickness	D-3652	0.04 mm
Total thickness	D-3652	0.07 mm
Adhesive	-	Crosslinked Silicone
Breaking strength	-	5.4 Kg/cm
Elongation at break	D-3759	60%
Adhesion to Steel	-	0.3 Kg/cm
Dielectric strength	-	7,500 Volts
Insulation class	-	'H' 180°C

Extensive range of speciality compounds for electrical, structural and industrial applications

We provide a range of high performance adhesives, fillers, coatings, tapes and cloths designed for operation under the harshest environmental conditions.

The products are ideally suited for insulating and bonding to an extensive range of materials, including metals, ceramics, plastics and glass, with the majority offering the advantage of curing at room temperature.

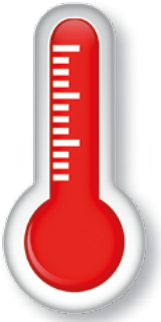
The products can be found across many industries including Aerospace, Automotive, OEM Electronics, Fabrication and Foundries, with an extensive range of applications covering bonding, potting, sealing, casting, moulding and coating.

For whatever the application demands, be it sustained high temperature operation, thermal shock stability, corrosion, abrasion and/or chemical resistance while maintaining excellent electrical and mechanical performance characteristics, we have a solution.

Duralco® High Temperature Epoxies Bonding and Filling to 340°C

Resbond® High Temperature Ceramics, Adhesives, Fillers and Coatings to 3,000°C

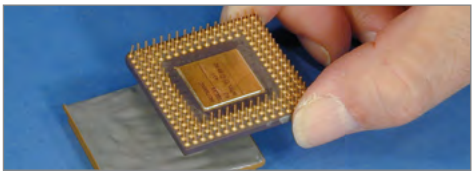
Information on the two above product ranges can be found in this section. Please note that not all product is supplied in syringes (dispensing tubes) as shown, these are available as an option on request. Please contact us for details.



Ultra High Temperature Adhesives

EPOXY

Including; Electrically conductive, Thermally conductive, Low viscosity, Ambient cure, Machinable, Specialist, Potting compounds.



CERAMIC

Including; Electrically resistant, Thermally conductive, Ultra temperature, Metallic adhesives, Putties, Potting compounds.

FLEXIBLE Ceramics

Including; Thermal insulation, Fabrics and tapes, Ceramic paper, Liquid hardener.

MACHINABLE Ceramics

Including; High strength alumina and glass ceramic.

Miscellaneous

Including; Thread locker and pipe sealant, installation instructions.

High Temperature **Epoxies**

Maximum Operating Temp. up to 340°C
Properties and Part Selection

Selection Table - Epoxy-Based Adhesive Properties

Features	Conductive		Room Temperature Cure			
Product Ref	**120**	**132IP**	**4461IP**	**4525IP**	**4538**	**7050**
Properties	Super electrically conductive	Highly thermally conductive	Low viscosity adhesive	Electrically resistant, general purpose	Super flexible stress free adhesive	Nylon bonder, bonds most plastics
Maximum Temp. °C	260	260	260	260	230	205
Components Colour	Silver	Silver	Amber	Black	Tan	Black
Viscosity cps	25,000	36,500	600	25,000	10,000	20,000
Density gm/cc	3.8	1.8	1.1	1.7	1.0	1.3
Hardness Shore 'D'	70	75	90	90	60 - 80	70
Tensile Strength psi	6,500	7,200	9,500	10,000	6,000	5,000
Thermal Conductivity (W/m°C)	7.2	5.7	0.57	1.9	1.0	0.65
Thermal Expansion (x 10-5 / °C)	5.4	8.0	5.4	3.3	6.0	4.8
Dielectric Strength kV/mm	N/A	3.9	17.55	17.55	17.55	15.6
Volume Resistivity ohm-cm	0.00008	106	10^{13}	10^{15}	10^{14}	10^{14}
Heat Distortion °C	210	210	210	210	75	75
Elongation %	0.2	0.2	5.0	2.0	12 - 100	3.0
Thermal Stability % (1000hr @ 200°C)	0.2	0.2	0.2	0.05	0.5	0.5
Shrinkage % max	0.2	0.8	0.8	0.2	0.8	0.8
Moisture Absorption % 30 Days	0.2	0.2	0.15	0.1	0.5	0.2
Mix Ratio (by weight)	100:3.4	100:8	100:17	100:8	100:120	100:10
Working Time 25 gms (mins. @ 24°C)	30	30	30	30	90	30
Cure (hrs. @ 24°C)	16 - 24	16 - 24	16 - 24	16 - 24	16 - 24	4 - 16
Cure (mins. @ 120°C)	7	5	5	5	60	1 - 2 hrs

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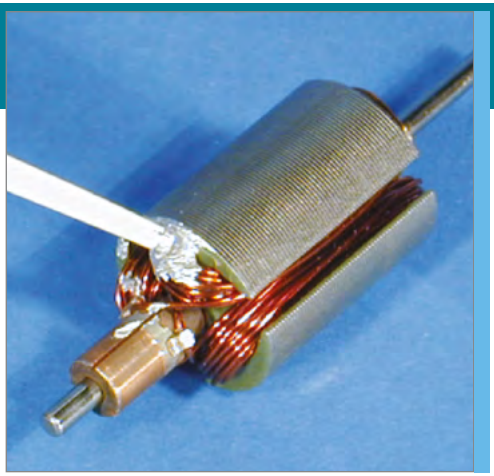
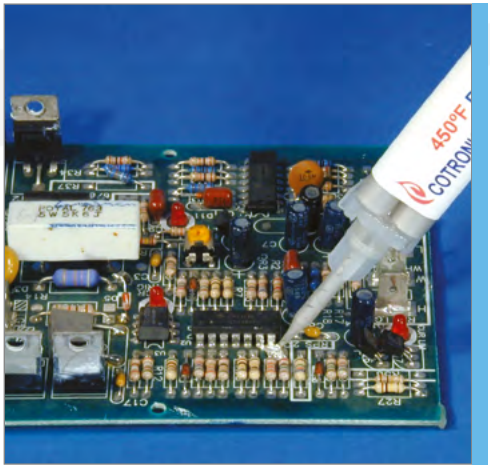
Selection Table - Epoxy-Based Adhesive Properties (Continued)

Features	Thermal Cure			Machinable		Single
Product Ref	**4460**	**4700**	**4703**	**4540**	**454B**	**4420**
Properties	High temp. low viscosity	High temp. adhesive and casting	Ultra temp, tooling repairs	Liquid metal, casting and repairs	Non-sag putty, adhesive	One component structural
Maximum Temp. °C	315	315	340	260	230	230
Components Colour	Amber	Black	Black	Silver	Silver	Grey
Viscosity cps	600	40,000	50,000	30,000	100,000	Paste
Density gm/cc	1.1	1.8	1.8	1.9	1.9	1.2
Hardness Shore 'D'	90	94	95	80	80	75
Tensile Strength psi	10,300	11,100	11,800	10,000	10,000	7,000
Thermal Conductivity (W/m°C)	0.57	1.9	2.6	5.0	5.0	1.2
Thermal Expansion (x 10-5 / °C)	6.4	6.4	6.8	8.0	8.0	4.5
Dielectric Strength volt/mil	19.5	21.45	17.55	3.9	3.9	15.6
Volume Resistivity ohm-cm	10^{14}	10^{14}	10^{10}	10^{8}	10^{10}	10^{10}
Heat Distortion °C	260	300	320	225	200	175
Elongation %	5.0	2.0	2.0	1.2	1.2	1.5
Thermal Stability % (1000hr @ 200°C)	0.1	0.1	0.02	0.5	0.5	0.6
Shrinkage % max	0.5	0.2	0.1	0.1	0.2	0.3
Moisture Absorption % 30 Days	0.1	0.02	0.15	0.2	0.2	0.5
Mix Ratio (by weight)	100:80	100:28	100:22	100:9	100:11	N/A
Working Time 25 gms (mins. @ 24°C)	N/A	N/A	N/A	30	30	N/A
Cure (hrs. @ 24°C)	N/A	N/A	N/A	16 - 24	16 - 24	N/A
Cure (mins. @ 120°C)	4 hours	4 hours	4 - 6 hours	8	10	30

Electrically Conductive Epoxy

Duralco® Product and Properties Guide
Electrical and Industrial Applications





Duralco® Conductive adhesives and potting compounds provide the conductivity required for many high temperature electronic and industrial applications. They will bond to glass, ceramics, metals and plastics, offering excellent resistance to most chemicals and solvents.

Applications include solder replacement, semi-conductor bonding, shielding, electronics, circuit board repair, etc.

Duralco 120 - 260°C Silver based
Epoxy that cures at room temperature to form electrically conductive bond lines for use up to 260°C. Ideal for forming electrically conductive bonds, attaching heat sensitive components and as a solder replacement.

Duralco 122 - 260°C Nickel based
Nickel filled adhesive and casting epoxy is specially formulated to provide an economical alternative to silver filled conductive epoxies. Ideal for use in applications where the ultimate in electrical conductivity is not required.

Duralco 124 - 340°C Ultra Temp, Silver based
Two component, silver filled adhesive for High Power applications. Mix & cure with mild heat.

Duralco 125 - 230°C Flexible, Silver based
Easy to use, “one to one”, applicator kit. Just dispense, mix and apply this smooth creamy paste and cure at room temperature. Bonds to most metals, ceramics and plastics to form stress free, electrically conductive bonds.

Duralco 126 - 230°C One part, Silver filled
A single component highly conductive epoxy specifically designed for production applications. No mixing, no mess, just dispense and heat cure. Commonly used in automatic dispensing equipment.

Duralco 127 - 200°C Graphite based
Easy to use, “one to one”, applicator kit. Just dispense, mix and apply. This smooth creamy paste cures at room temperature and is ideal for low cost production applications. Can be used in automatic dispensing equipment.

Performance Chart

Part Number	Volume Resistance	Thermal Conductivity	Cure Cycle Hours @	Cure Cycle Minutes @	Size
	Ω-cm	W/m°C	25°C	95°C	oz
120	0.0*	7.20	16-24	10	2
122	0.7	2.16	16-24	10	4
124	0.002	7.20	4@120°C	N/A	2
125	0.002	5.76	16-24	20	1
126	0.002	7.20	1/2@135°C	10@160°C	2
127	0.02	3.60	16-24	20	2.5

* Denotes 0.00008 actual

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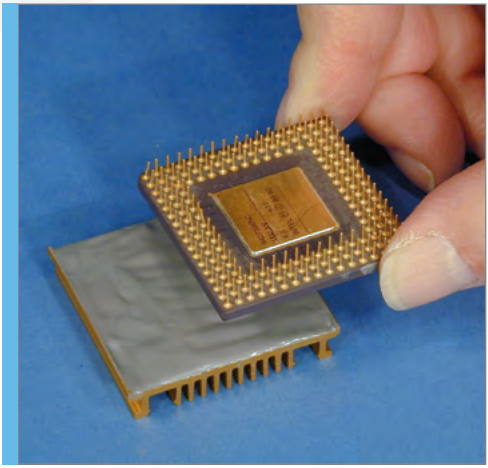
Thermally Conductive Epoxy

Duralco® Product and Properties Guide
Electrical and Industrial Applications



Duralco® Thermally Conductive adhesives and potting compounds provide the heat dissipation required for many high temperature electronic and industrial applications. These ultra temperature adhesives combine a unique polymer system and specially thermally conductive fillers to provide continuous service up to 340°C. They have excellent adhesion to glass, ceramics, metals and plastics. Resistant to most chemicals and solvents.

Duralco 128 - 260°C Ceramic based
Is a highly thermally conductive, electrically resistant adhesive potting compound. Just mix the resin and hardener, apply and cure at room temperature. Curing may be accelerated with mild heat.

Duralco 132IP - 260°C Aluminium based
An Aluminium metal filled epoxy that cures at room temperature to form machinable, thermally conductive bond lines, providing the max. heat transfer available in a 260°C epoxy system. Can be supplied as a no-sag putty, Duralco 132P, for heat tracing applications.

Duralco 133 - 315°C Aluminium based
A two component, heat curing, Aluminium filled, conductive epoxy. Cures with mild heat to form thermally conductive bond lines and heat transfer medium. It is readily machinable and ideal for all kinds of repairs and as a construction material.

Duralco 134 - 260°C Ceramic based Grease
Non-hardening, electrically insulating and thermally conductive grease. Ideal for use between components and heat sinks. Retains its paste like consistency, enabling parts to be easily removed and replaced and will not dry out even after extended periods of time.

Duralco 135 - 260°C Aluminium Grease
Filled with an ultra fine, aluminium metal powder to provide the maximum possible heat transfer rate in a non-hardening grease. Commonly used in many industrial applications where electrical resistance is not critical.

Performance Chart

Part Number	Volume Resistance	Thermal Conductivity	Colour	Cure Cycle Hours @	Size
	Ω-cm	W/m°C		25°C	oz
128	10^{16}	4.32	Tan	16-24	8
132IP	10^{5}	5.76	Silver	16-24	16
132P	10^{5}	5.76	Silver	16-24	8
133	10^{5}	5.76	Silver	4@120°C	16
134	10^{16}	5.04	Tan	N/A	8
135	N/A	5.76	Grey	N/A	4*

* Also available 8 oz

Ambient Cure Epoxies

Duralco® Product and Properties Guide
Electrical and Industrial Applications

Duralco 4525IP

260°C Electrically Resistant

Cures at room temperature, or in 5 minutes at 120°C, to provide high temperature stability, high bond strength, low shrinkage, low moisture absorption and excellent chemical and electrical resistance. Ideal for high performance bonding, potting, sealing, repairs and casting.

Duralco 4525IP-1	Pint kit
Duralco 4525IP-2	Gallon kit

Also available in pre-measured kits, please contact us for details.

Duralco 4538

230°C Super Flexible

Provides a high level of thermal shock and vibration resistance, sound absorption and excellent adhesion to dissimilar substrates.

Offers the flexibility of silicones and chemical stability of epoxies. Can be tailored by varying the mix ratio of resin to hardener, resulting in the flexibility required.

Duralco 4538-1	Pint kit
Duralco 4538-2	Gallon kit

Also available in pre-measured kits.

Duralco 4461IP

260°C Low Viscosity

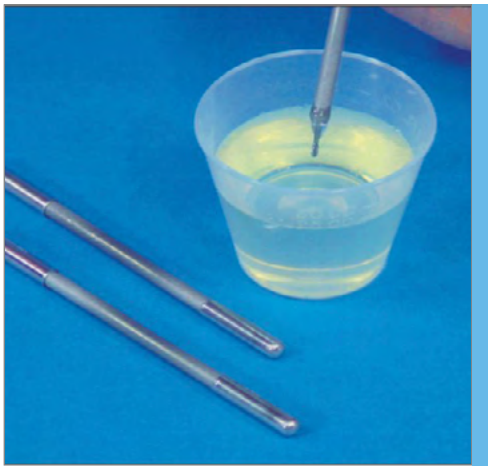
A free flowing liquid adhesive, ideal for ultra thin bond lines, impregnating, coating and encapsulation. Cures at room temperature.

Duralco 4461IP-1	Pint kit
Duralco 4461IP-2	Gallon kit

Slow setting version

Duralco 4461SS-1	Pint kit
Duralco 4461SS-2	Gallon kit

Also available in pre-measured kits, please contact us for details.



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Thermal Cure Epoxies

Duralco® Product and Properties Guide
Electrical and Industrial Applications

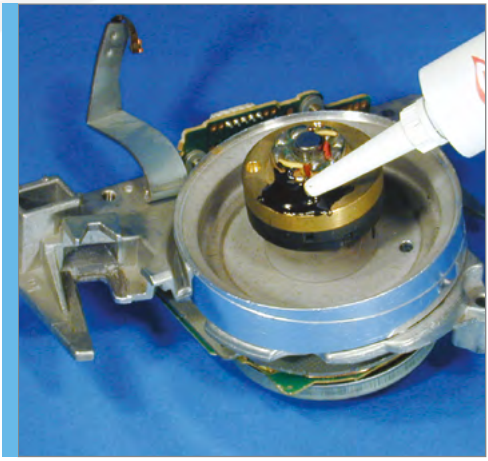
Duralco 4460

315°C Low Viscosity

For encapsulating and impregnation with a superior temperature rating, forms a protective coating, seals and protects against moisture, chemicals and corrosion. Provides high bond strength, high temperature stability and low moisture absorption. Commonly found in aerospace, electronic, appliance, instrumentation and equipment applications

Duralco 4460-1	Pint kit
Duralco 4460-2	Gallon kit

Also available in pre-measured kits.



Duralco 4700

315°C Bonding Adhesive

An exceptionally durable epoxy, 4700 has excellent adhesion to metals, glass, ceramics and most plastics. This superior adhesive has high electrical resistance, low moisture absorption, high temperature stability and excellent chemical resistance. Requires thermal cure cycle.

Duralco 4700-1	Pint kit
Duralco 4700-2	Gallon kit

Also available in pre-measured kits, please contact us for details.

Duralco 4703

340°C Adhesive Tooling Compound

A composite of unique high temperature resins, metallic and ceramic particles, 4703 provides the ultimate in stability and strength in high temperature environments. It has excellent resistance to most chemicals, solvents and acids and is easily machined to close tolerances. Requires a thermal cure cycle.

Duralco 4703-1	Pint kit
Duralco 4703-2	Gallon kit.

Also available in pre-measured kits, please contact us for details.

Machinable Epoxies

Duralco® Product and Properties Guide
Electrical and Industrial Applications

Duralco 4540

260ºC Liquid Metal

4540 is a pourable Aluminium metal filled epoxy that offers outstanding adhesion, ductility, thermal conductivity and shock resistance. Just mix and apply. No solvents. No out gassing. Either room temperature or thermal cure cycle. Has excellent resistance to chemicals and solvents.

Duralco 4540-1	Pint kit
Duralco 4540-2	Gallon kit

Durabond 454 and 456

260ºC Machinable Non-Sag Putty

A smooth, creamy putty that cures at room temperature to form a highly machinable, composite. Ideal for patching leaking pipes, valves and fittings, repairing pumps.

Duralco 454B-1	0.5Kg
Duralco 454B-2	2.0Kg
Duralco RK454	(Aluminium) applicator kit*
Duralco RK456	(Stainless) applicator kit*

*Repair kit consists of 2.5 oz Resin, 0.6 oz Hardener, Sandpaper, Mixing Sticks, Reinforcement Screen.

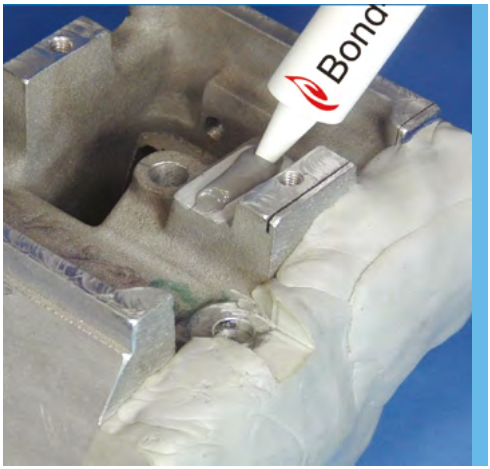
Bond-IT® 7056AL

230ºC Instant Metal

A unique super fast setting, machinable repair epoxy. Dispensed via a hand held, side by side dispenser tube, it will not drip or sag when applied and will cure in 4-8 minutes at room temperature. Bond-IT has excellent adhesion to smooth, rough or porous surfaces, most plastics, metals, ceramics, glass, wood and cures to form a hard, durable, machinable epoxy that can be machined, tapped or drilled.

Ordering Information:

7056AL-1	2 oz Applicator kit
7056AL-2	8 oz Applicator kit



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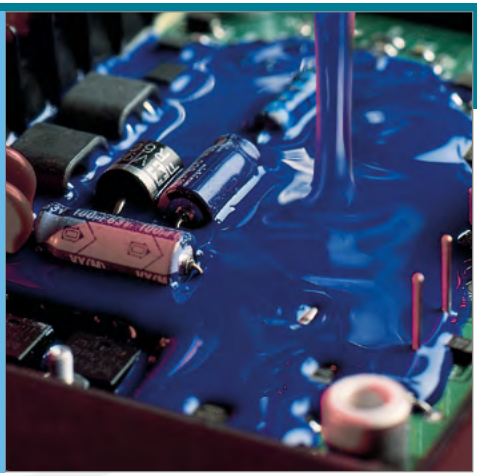
Epoxy Potting Compounds

Durapot® Product and Properties Guide
Electrical and Industrial Application



Performance Chart

Part Number	Volume Resistance	Thermal Conductivity	Accelerated Cure Cycle	Standard Cure Cycle
	Ω-cm	W/m°C		Hours
861IP	10^{13}	0.57	5 min@120	16-24
862	10^{14}	0.57	60min@175	4 @ 120
863	10^{14}	1.30	1-2hrs@175	4 @ 120
864	10^{14}	1.00	1-2hrs@120	24
865IP	10^{15}	2.88	10 min@120	4-16
866	10^{15}	0.22	10 min@120	24
868	10^{14}	0.57	60 min@175	2-4 @120

Notes: Post cures at 120°C will improve moisture resistance for Durapot 861, 864, 865 and 866.

Durapot 861IP
260°C Low Viscosity
A 100% reactive compound that provides excellent penetration, even in tightly wound coils. Just mix and cure at room temperature to provide excellent electrical, moisture and chemical resistance.

Durapot 862
315°C High Temperature Low Viscosity
High temperature version of 861IP

Durapot 863
340°C Ultra High Temperature
Offers unique properties stemming from a cross-linked, inorganic-organic polymer system. It is a 100% reactive and can be used to 340°C after curing at 175°C. Offers excellent dielectric properties, heat stability, moisture and solvent resistance.

Durapot 864
230°C Flexible, Low Viscosity
Provides the flexibility required for severe thermal shock applications. Bonds to dissimilar materials, including treated Teflon® and other difficult to bond plastics. Has the ability to impregnate and bond fibre optical bundles.

Durapot 865IP
260°C Thermally Conductive Compound
Designed for applications requiring high heat flows and rapid thermal dissipation, excellent chemical resistance and high temperature stability. Used for thermally conductive casting, embedding, impregnating and encapsulation.

Durapot 866
260°C Thermally Insulating Compound
Convenient two part, room temperature curing system. Offers a low density, non-porous foam for high temperature applications.

Durapot 868
260°C High Temperature & Flexible
Ideal for thermal shock applications, stress free potting and bonding. Offers high electrical resistance, at high temperatures

Epoxy Twin Packs and Kits

EPOX-EEZ® Twin Pack Cartridges
Ambient Curing Adhesives

High performance, high temperature epoxies are available in easy to use EPOX-EEZ twin pack cartridges. Just place the cartridge into the applicator gun, snap on a mixer tube and squeeze to apply.

The completely measured and fully mixed adhesive will cure at room temperature to provide up to 260°C service.

No more time consuming weighing and measuring. Ideal for use in any high temperature application.

Ordering Information

Part No.	Description	4525	4461	4537	4538	4540
ETSK	Starter pack with re-usable applicator gun and one cartridge of each epoxy indicated.	●	●	●		●
EETPxxxx	Twin pack refills package of 4 x 2oz cartridges, plus mixer nozzles. Specify part number required.	●	●	●		●
DK104	1:1 Applicator gun and plunger for			●	●	
DK106	4:1 Applicator gun and plunger for	●	●			●
190-620	Disposable mixer tube nozzles.	●	●	●	●	●

	All Purpose 260°C	Low Viscosity 260°C	Fast Set 230°c	Easy to machine 260°c
Properties	**4525**	**4461**	**4537**	**4540**
Hardness (Shore D)	80	75	60	80
Viscosity (cps)	40,000	800	10,000	30,000
Tensile Strength (psi)	10,000	9,500	6,000	10,000
Thermal Cond. (W/m°C)	1.87	0.58	1.01	4.32
Dielectric Strength (kV/mm)	17.5	17.5	17.5	9.75
Vol. Resistivity (ohm-cm)	10^{15}	10^{13}	10^{11}	10^{8}
Shrinkage (% max.)	0.2	1	0.2	0.1
Absorption (30 days %)	0.05	0.15	0.2	0.2
Therm. Stab. (1000hrs 90°C)	0.05	0.2	0.6	0.5
Colour	Black	Amber	Blue	Grey
Cure Cycle - hours @ 25°C	16	16	1-4	16
- minutes @ 120°C	5	5	3	8

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Epoxy Twin Packs and Kits

EPOX-EEZ® Pre-Measured Kits
Just Mix and Apply

Package Contents:

10 Pots of epoxy resin - 10g or 25g

10 Syringes of pre-measured hardener

10 Mixing sticks

High temperature epoxy formulations are packaged in convenient, easy to use pre-measured kits, with no measuring, mess or waste.

EPOX-EEZ resins are supplied in specially designed rigid mixing cups and the hardeners supplied in pre-measured disposable syringes.

Just inject one syringe of hardener into one jar of resin, mix, use and discard. Consistent results are always obtainable.

Job sized EPOX-EEZ pre-measured kits are the most economical, easy to use epoxy system available. The ideal choice for production bonding, potting and sealing.

Ordering Information:

EE xxxx -10	Pre-Measured Kit @ 10 units x 10g
EE xxxx -25	Pre-Measured Kit @ 10 units x 25g

Where 'xxxx' is the Duralco system number, for example... EE-4461-10.

Part No.	Cure Temp		System Description	Temp	Colour
	Room Temp	4hrs @ 120°C			
EE-128-x	●		Ceramic based thermally conductive	260°C	Grey
EE-132-x	●		Aluminium based thermally conductive	260°C	Silver
EE-861-x	●		Low viscosity potting compound	260°C	Amber
EE-4460-x		●	Low viscosity encapsulant adhesive	315°C	Amber
EE-4461-x	●		Low viscosity encapsulant adhesive	260°C	Amber
EE-4540-x	●		Aluminium filled machinable & repair epoxy	260°C	Silver
EE-4525-x	●		Electrically resistant adhesive	260°C	Black
EE-4538-x	●		Flexible epoxy bonds dissimilar materials	230°C	Amber
EE-4700-x		●	High temperature adhesive	315°C	Black
EE-4703-x		●	Ultra high temperature adhesive	340°C	Black

High Temperature Ceramics

Maximum Operating Temp. up to 340°C
Properties and Part Selection

Selection Table - Ceramic-Based Adhesive Properties

Features	Elec. Resistant		Therm. Conductive		Single Component		
Properties	919	920	908	906	989	903HP	907GF
Properties	Elec. resistant	Therm cond.	Dual cond.	High expand	General purpose	Hi-Bond strength	Fire proof
Service Temperature	1540°C	1650°C	1650°C	1650°C	1650°C	1790°C	1260°C
Base	MgO	Al_2O_3	Al_2O_3	MgO	Al_2O_3	Al_2O_3	MICA
Compression Strength psi	4500	4500	3000	3000	3000	7000	1500
Flexural Strength psi	450	450	1100	1500	1100	3500	1250
Thermal Expansion (x 10^{-6} / °C)	4.7	8.1	8.1	12.6	8.1	7.2	8.1
Thermal Conductivity W/m°C	0.6	2.2	2.2	5.7	2.2	5.7	0.9
Dielectric Strength kV/mm	10.53	10.53	7.8	9.75	7.8	9.75	5.65
Volume Resistivity ohm-cm	10^{11}	10^{11}	10^{10}	10^{9}	10^{8}	10^{10}	10^{9}
Components	2	2	2	2	1	1	1
Mix Ratio (by weight)	100:13	100:14	100:33	100:42	n/a	n/a	n/a
Colour	Tan	White	White	White	White	White	Grey
Consistency	Paste	Paste	Paste	Paste	Paint	Paint	Paste

Not sure which ceramic is best for you, then try our selector kit...

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Selection Table - Ceramic-Based Adhesive Properties (Continued)

Features	Silica	Fast Set	Ultra Temperature		Metallic		
Properties	905	940	904	931	950	952	954
Properties	Low expansion	Zircon	Zirconia	Graphite	Alumina	Nickel	Stainless
Service Temperature	1370°C	1100°C	2200°C	2980°C	650°C	1100°C	1100°C
Base	SiO_2	Zircon	ZrO_2	Carbon	Aluminium	Nickel	316SS
Compression Strength psi	3200	4000	6000	3000	4000	5000	4500
Flexural Strength psi	2100	1800	3000	1500	3000	3000	2500
Thermal Expansion (x 10^{-6} / °C)	0.5	8.1	7.4	7.4	18.0	7.2	18.0
Thermal Conductivity W/m°C	1.9	1.15	1.4	8.6	6.3	2.0	1.4
Dielectric Strength kV/mm	7.8	4.87	9.75	Cond.	Cond.	Cond.	Cond.
Volume Resistivity ohm-cm	10^{11}	10^{8}	10^{8}	Cond.	Cond.	Cond.	Cond.
Components	2	2	1	2	2	2	2
Mix Ratio (by weight)	100:60	100:28	n/aA	100:35	100:60	100:120	100:25
Colour	White	Tan	Tan	Black	Grey	Grey	Grey
Consistency	Paste	Paste	Paint	Paste	Paste	Paste	Paste

Resbond® 970 Kit

Ceramic Adhesive Selector Kit

This selector kit contains seven 4 oz sample bottles of speciality adhesives (901 fibre based, 919 Electrically Resistant, 940 Fast Setting Ceramic, 950 Metallic Aluminium, 989 General Purpose, 7030 High Strength and 907GF Adhesive and Putty).

The 970N Selector Kit is the ideal choice for simplifying product evaluation and selection.

Resbond 970N Selection Kit

Electrically Resistant Ceramics

Resbond® Product and Properties Guide
Electrical and Industrial Applications

Resbond® 919

1530ºC Electrically Resistant

Formulated with proprietary ceramic binders to offer an adhesive with exceptionally high electrical resistance. These binders maintain their high electrical resistance and dielectric strength even when exposed to temperatures up to 1530ºC. Commonly used for electrical insulation when potting, sealing or coating ignitors, thermocouples, heating coils, instrumentation etc.

Resbond 919-1	2 pints
Resbond 919-2	Gallon

Resbond® 920

1650ºC Thermally Conductive

Offers both high thermal conductivity and the superior electrical resistance of Resbond 919. It is based on conductive Alumina ceramic and should be used whenever rapid dissipation of heat is required. Resbond 920 has a dielectric strength of 10.53 kV/mm, volume resistivity of 10^{11} ohm-cm (at room temperature) and a thermal conductivity of 2.2 Watts/mºC.

Resbond 920-1	2 pints
Resbond 920-2	Gallon

Resbond® 908

1650ºC Electrically Resistant & Thermally Conductive

A high purity, Alumina-based adhesive, with excellent electrical and moisture resistance, plus good thermal conductivity. Just mix the resin and it's activator for a readily dispensable smooth creamy paste. Ideal for bonding, potting and encapsulating delicate electronic assemblies, sensors and instrumentation, and any general purpose high temperature application.

Resbond 908-1	Pint
Resbond 908-2	2 pints

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High Temperature Ceramics

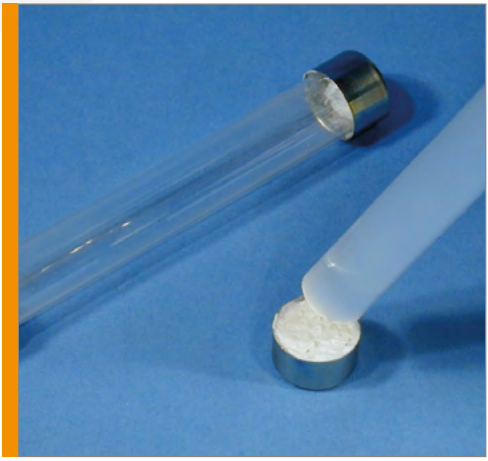
Resbond® Product and Properties Guide
Electrical and Industrial Application

Resbond® 906

1650°C High Expansion Adhesive

Magnesia based adhesive formulated for bonding high expansion materials for use to 1650°C, it bonds to steel, stainless, aluminium, brass, copper, silver, nickel and other high expansion materials. It will cure at room temperature to form a highly thermally conductive bond.

Resbond 906-1	Pint
Resbond 906-2	2 pints
Resbond 906T-1	Thinner - pint



Resbond® 989

1650°C General Purpose

A single component 1650°C Alumina based general purpose adhesive. It has a smooth creamy consistency and cures at room temperature to form strong bonds to ceramics, graphite, metals and glass. It is resistant to oxidisation, electricity, molten metals, most chemicals and solvents.

Resbond 989-1	2 Pints
Resbond 989-2	Gallon
Resbond 989T-1	Thinner - pint

Resbond® 903HP

1790°C Single Component

High temperature Alumina adhesive, developed for high strength bonding of any combination of dense, non porous ceramics, glass and non-reactive metals. It is a smooth, creamy paste that can be brushed, trowled or sprayed on.

Resbond 903HP-1	Pint
Resbond 903HP-2	2 pints
Resbond 903HP-3	Thinner - pint

High Temperature Ceramics

Resbond® Product and Properties Guide
Electrical and Industrial Applications

Resbond® 907GF

1280ºC Fireproof Adhesive and Sealant

A moist, fireproof adhesive sealant, applied via a standard caulking cartridge, 907GF has excellent adhesion to clean steel, stainless, iron and most metals, plus ceramics, ceramic cloth, tape and gaskets. Applications include repair and sealing of exhaust systems, pipe joints, stacks, flues, fire bricks, mortar etc.

Resbond 907GF-1	1/2 Pint
Resbond 907GF-2	2 Pints
Resbond 907GF-5	3 x 4oz dispenser tubes
Resbond 907GF-6	11 oz caulking cartridge

Resbond® 905

1370ºC Low Expansion Adhesive

Specifically formulated for bonding low expansion and thermal shock resistant ceramics. The thermal expansion closely matches that of Quartz, Fused Silica, Corderlite and Lithium-Alumina ceramics. Used as a replacement for standard ceramic adhesives that may crack or weaken on thermal cycling.

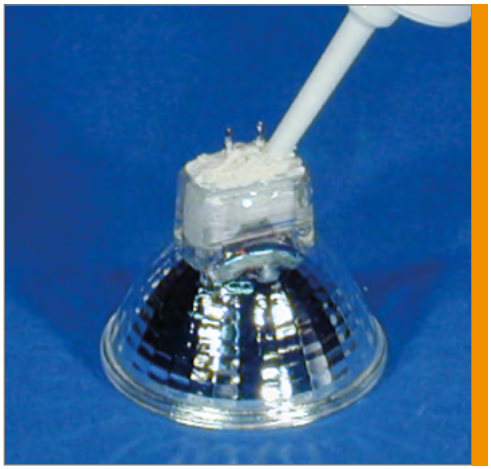
Resbond 905-1	Pint
Resbond 905-2	2 Pints
Resbond 905T-1	Thinner (pint)

Resbond® 940 Range

up to 1530ºC Fast Setting Adhesives

Fast setting, customisable adhesives are designed to eliminate costly errors caused by bonding adhesive and substrate with mismatched physical properties. Choose from Standard, High Temperature, Low Expansion, High Expansion and Stainless Steel.

Resbond 940	1100ºC Standard
Resbond 940HT	1530ºC High temperature
Resbond 940LE	1370ºC Low expansion
Resbond 940HE	980ºC High expansion
Resbond 940SS	1100ºC Stainless Steel



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High Temperature Ceramics

Resbond® Product and Properties Guide
Electrical and Industrial Application

Resbond® 904

2200°C Zirconia Adhesive and Coating

Designed as a smooth creamy paste that is easily brushed on to ceramics, graphite, metals, etc. to form adhesive bonds and coatings that will provide continuous protection.

Resbond 904-1	Pint
Resbond 904-2	2 Pints
Resbond 904-4	Thinner - pint

Resbond® 931

3000°C Graphite Adhesive

Bonds graphite or carbon components with 99% pure graphite. Just apply and cure at 120°C. Resbond 931 has excellent adhesion to graphite and other porous surfaces, forming graphite bonds with strengths measuring in excess of 2500 psi.

Resbond 931-1	Pint
Resbond 931-2	2 Pints
Resbond 931-3	Gallon kit
Resbond 931-4	Thinner - pint
Resbond 931S	Graphite sealer - pint

Resbond® 950 Range

1100°C Metallic Adhesives

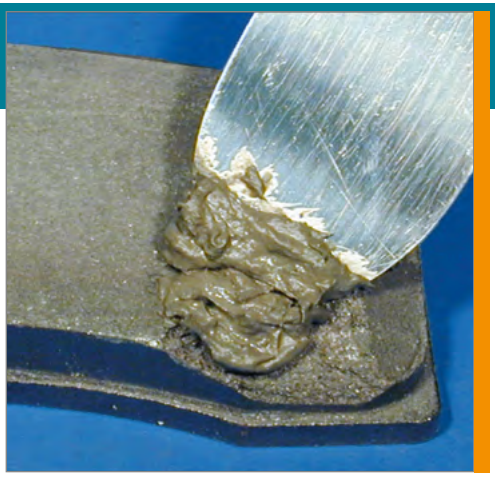
These three metallic composite adhesives offer some of the ductility and impact resistance associated with soldering and welding. Just mix, apply and cure at room temperature with no odours or VOC's.

Resbond 950	650°C Aluminium
Resbond 952	1100°C Nickel
Resbond 954	1100°C Stainless Steel
Resbond 954OD	Minimised porosity

Available as an adhesive or putty in various sizes. Please contact us for further details.

Ceramic Putties

Durabond® Product and Properties Guide
Electrical and Industrial Applications



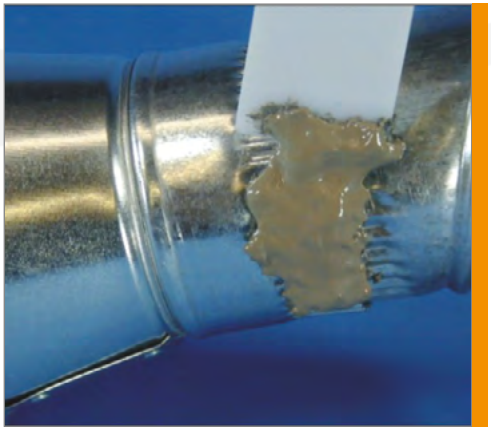
Durabond® 7025

530°C Aluminium Putty

A corrosion resistant putty with active Aluminium that provides excellent resistance to most chemicals and solvents.

Can form a smooth surface that is ideal for any high temperature repair, rebuilding, production, manufacturing, industrial, automotive or equipment application.

Durabond 7025-1 1 lb kit
Durabond 7025-2 2 lb kit



Durabond® 7032

1100°C Stainless Steel Putty

Repairs and seals high temperature equipment with the ease of Cotronics' high performance systems. Hardening starts in just 60 minutes.

Durabond 7032 is machinable and resistant to most chemicals and solvents, ideal for high temperature repairs, rebuilding, filling holes, plugging leaks in a variety of maintenance and industrial applications.

Durabond 7032-1 1 lb kit
Durabond 7032-2 2 lb kit

Ceramic Putties Features Table

Product	7025	7032
Service Temperature	530°C	1100°C
Base	Aluminium	Stainless Steel
Compression Strength psi	4,800	5,400
Bond Strength (psi @ room temperature)	1,400 @ 540°C	1,200 @ 530°C
Thermal Expansion (10^{-6} / °C)	18	18
Thermal Conductivity (W/m°C)	4.32	1.44
Components	2	1
Mix Ratio	100:55	N/A
Viscosity	Putty	Putty
Density (g/cc)	2.2	3.5
Cure @ room temperature (hours)	16	16

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Ceramic Potting Compounds

Durapot® Product and Properties Guide
Electrical and Industrial Application

Durapot® 800 Range

High Performance Encapsulating and Embedding Materials

These high temperature potting compounds offer temperature stability plus excellent chemical, solvent and electrical resistance. Durapot 800 series is available packaged in either Quart (US), or Gallon (US) packs, with the exception of 821 which is packaged as either Pint or Quart.

Cure times can be accelerated by mild heat (65°C to 95°C), whilst post cures @ 120°C will improve moisture resistance for 801, 808, 809, 814 and 821.

Durapot® 801	1840°C Pure Alumina
Durapot® 804	1650°C 96% Alumina
Durapot® 805	1650°C 96% Alumina
Durapot® 809	1530°C Electrically resistant
Durapot® 810	1650°C Thermally conductive
Durapot® 814	1100°C High Speed setting
Durapot® 821	1370°C Low Expansion

Unique High Performance Potting Compounds

up to **13.65 kV/mm**
dielectric strength

Ceramic Potting Compounds Features Table

Product	801	804	805	809	810	814	821
Special Feature	Pure Alumina	Small Parts	Large Castings	High Dielectric	Therm. Cond.	Fast Cure	Low Expansion
Base	99% Alumina	96% Alumina	96% Alumina	Mg0	Alumina	Zirconia Silicate	Fused Silica
Temperature Limit °C	1800	1650	1650	1530	1650	1100	1370
Volume Resistivity (ohm-cm)	10^{15}	10^{10}	10^{10}	10^{11}	10^{11}	10^{8}	10^{8}
Dielectric Strength (kV/mm)	13.65	6.82	6.82	10.53	10.53	4.88	4.88
Thermal Expansion (10^{-6} / °C)	7.74	7.20	7.20	4.68	8.10	8.10	0.54
Thermal Conductivity (W/m°C)	1.15	1.15	1.44	0.57	2.16	1.15	0.72
Pot Life	15 min	30 min	30 min	20 min	20 min	20 min	20 min
Cure Time @ room temp.	24 hrs	24 hrs	24 hrs	24 hrs	24 hrs	24 hrs	24 hrs
Mix Ratio	100:44	100:19	100:12	100:13	100:13	100:30	100:44

Flexible Ceramics

Rescor® Thermal Insulation Overview

Rescor® 370

1650ºC Ceramic Blanket

Rescor ceramic fibre blanket insulation is a strong, lightweight, flexible blanket made from asbestos-free, extra long ceramic fibres, which are cross linked to produce excellent handling strength. Provides outstanding thermal insulation, low heat storage, high resiliency, high mechanical and thermal shock resistance and sound absorption.

Rescor® 372

1650ºC Wrap-It Mouldable Sheets

Combine high purity fibres with proprietary, inorganic binders in an economical wet felt form. Wrap-It is cut to shape, moulded and dried to form a light-weight, resilient, highly efficient, thermal insulation that is also resistant to most chemicals and solvents. Just air dry to form strong free standing shapes. Wrap-It will not crack or flake, has excellent thermal shock resistance and is not wet by molten metals.

Rescor® 375FT

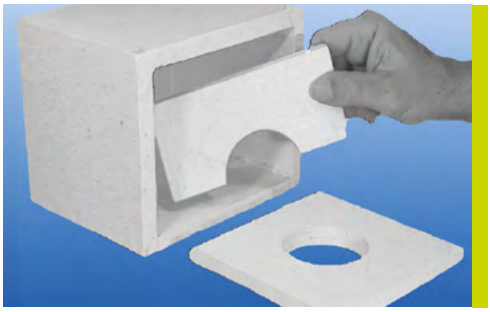
1260ºC Thermal Stop Tape

Thermal Stop is a high purity, aluminium oxide based ceramic fibre, uniquely bonded to a 0.05mm thick layer of aluminium foil. The ceramic fibres have a melting point of 1760ºC and will provide up to 1260ºC continuous service. Often used for pipe duct wrap, expansion joints and repairs, insulation equipment, plastic moulds, pilot plant, lab units and such like.

Rescor® 360

1480ºC Ceramic Board

Made from asbestos free, high purity, refractory fibres, that have a melting point of between 1760ºC to 1980ºC. They are thoroughly interlaced in the production process and bonded with an inorganic binder.
Strong, rigid, free standing shapes and parts are easily constructed. Just cut, saw or drill.



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Flexible Ceramics

Thermeez® Fabrics and Tapes

Overview

Thermeez® 399

1100ºC Fabrics and Tapes

Rescor 399 Silica products are woven from 96% pure Silica fibre are inorganic and will not smoke when exposed to heat. Ideal for thermal and electrical insulation, handling molten metals, hose or wire covers, gaskets, expansion joints etc.

Thermeez® 398

340ºC Nomex®, Kevlar®, Aramid Fabrics

Thermeez 398 fabrics, tapes or sleeving are woven from Nomex or Kevlar brand of Aramid fibres. They are exceptionally strong, temperature resistant, flame retardant and will remain flexible while in use from -40ºC to 340ºC. Provides short term service to 450ºC. Thermeez 398 Aramid fabrics are resistant to fungi, bacteria, mildew and abrasion. 398 is non-allergenic and lightweight.

Thermeez® 390

1260ºC Ultra-Temp Ceramic Tape

Ultra-Temp Ceramic Tape is made from asbestos-free aluminium oxide based, high purity refractory fibres. Can be used to temperatures exceeding 1260ºC and offers outstanding high temperature stability. Designed to replace asbestos based products which were limited in use at 650ºC. Ultra-Temp tapes can be cut with ordinary scissors and formed into complex shapes.

Thermeez® 391

1430ºC Ultra-Temp Tape and Cloth

Ultra-Temp 391 is woven from continuous filament, high alumina, ceramic fibres. These uniquely woven ceramic fibre cloths, tapes and sleeving, form materials with flexibility and strength. Excellent chemical and electrical resistance.

Flexible Ceramics

Thermeez® Fabrics and Tapes
Overview

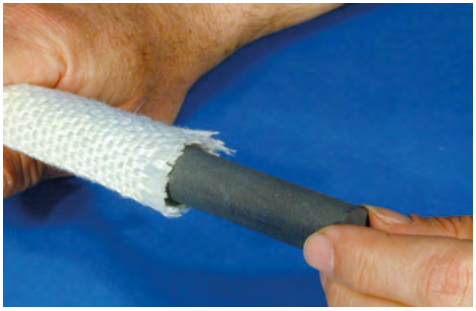
Thermeez® 395 and 397

815ºC Tape, Cloth and Sleeve

Thermeez woven ceramic fibre products are ideal for thermal insulators, padding, gaskets, flexible curtains, liquid metal splash protection, expansion joints, sleeving for flexible wire insulation, hoses, thermocouples and induction coils.

Thermeez 395 and 397 fabrics are high strength, flexible, durable, dimensionally and chemically stable and offer excellent electrical resistance.

Thermeez products are user friendly and unlike fibreglass, non-irritating to the skin. They are also non-toxic, meet OSHA requirements, will not burn and are resistant to molten metal sparks and splashes, most chemicals and solvents.



395/7-21	Tape	1” x 1/32” x 100’
395/7-22	Tape	2” x 1/32” x 100’
395/7-23	Tape	3” x 1/32” x 100’
395/7-41	Tape	1” x 1/16” x 100’
395/7-42	Tape	2” x 1/16” x 100’
395/7-43	Tape	3” x 1/16” x 100’
395/7-81	Tape	1” x 1/8” x 100’
395/7-82	Tape	2” x 1/8” x 100’
395/7-83	Tape	3” x 1/8” x 100’
395/7-21PS	Adhsv’ Tape	1” x 1/32” x 50’
395/7-22PS	Adhsv’ Tape	2” x 1/32” x 50’
395/7-23PS	Adhsv’ Tape	3” x 1/32” x 50’
395/7-41PS	Adhsv’ Tape	1” x 1/16” x 50’
395/7-42PS	Adhsv’ Tape	2” x 1/16” x 50’
395/7-43PS	Adhsv’ Tape	3” x 1/16” x 50’
395/7-81PS	Adhsv’ Tape	1” x 1/8” x 50’
395/7-82PS	Adhsv’ Tape	2” x 1/8” x 50’
395/7-83PS	Adhsv’ Tape	3” x 1/8” x 50’
395C/7C-1	Woven Cloth	40” x 1/16” x 5’
395C/7C-2	Woven Cloth	40” x 1/16” x 15’
395C/7C-3	Woven Cloth	40” x 1/16” x 50’
395C/7C-5	Woven Cloth	40” x 1/8” x 25’
395T/7T-0	Sleeving	1/8” ID. x 100’
395T/7T-1	Sleeving	1/4” ID. x 100’
395T/7T-2	Sleeving	3/8” ID. x 100’
395T/7T-3	Sleeving	1/2” ID. x 100’
395T/7T-4	Sleeving	3/4” ID. x 100’
395T/7T-5	Sleeving	1” ID. x 100’
395T/7T-6	Sleeving	1.5” ID. x 50’
395T/7T-7	Sleeving	2” ID. x 50’
395R-1	Braided Rope	3/8” DIA. x 100’
395R-2	Braided Rope	1/2” DIA. x 100’
395R-3	Braided Rope	1” DIA. x 50’

When ordering, specify Thermeez 395 for 595ºC service or Thermeez 397 for 815ºC service

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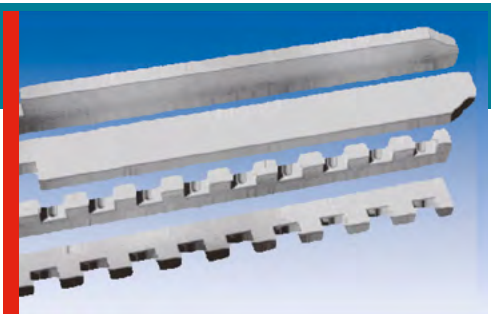
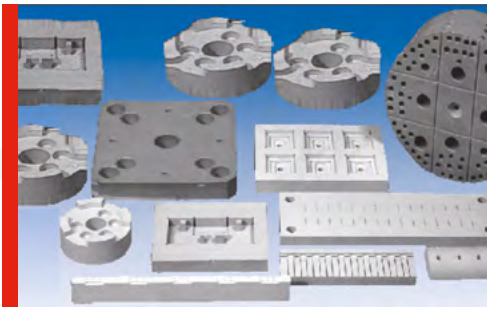
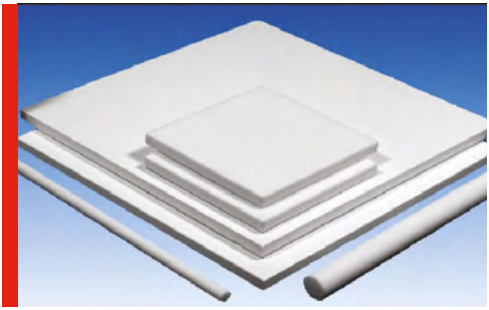
Machinable

Rescor® Blocks and Shapes Overview







Rescor® 902

1150°C Alumina Silicate

Fine grained ceramic that is readily machinable, providing excellent electronic, mechanical and thermal properties. It is inert to oxidising and reducing atmospheres, resistant to most acids, chemicals, solvents and has excellent thermal shock resistance.

Ideal for rapid prototypes, fabrication of electrical insulators, furnace components, brazing, soldering, welding fixtures etc.

Rescor® 914

430°C Glass Ceramic

A dense and vacuum tight, glass ceramic composite that is readily machinable, with no post machining heat treatment required.

Inert to oxidising and reducing atmospheres and usable to 540°C maximum. Offers excellent mechanical and electrical properties and has a dielectric strength of 18kV/mm.

Rescor® 915

980°C MACOR® Glass Ceramic

A dense vacuum tight, glass ceramic composite that is readily machinable and usable up to 980°C. Can be ground, sawn, turned, milled, drilled etc. Will provide dense zero porosity parts in-house.

Use in critical medical and high vacuum applications. No post machining heat treatments required.

Rescor® 960

1650°C Ultra High Temperature

96% Alumina, machinable ceramic, offering the convenience and economy of an in-house capability for Alumina parts. The chemical, thermal and electrical properties are equivalent to standard high performance Alumina ceramics.

For information on castable ceramics please contact us for details.

Miscellaneous Sealants

Resbond® Thread Lock and Pipe Sealant Overview

Resbond® 907TS Series

1150ºC Thread Locker & Pipe Sealant

Viscosities and strengths to meet your toughest sealant needs, for use from -150ºC to 1150ºC.

Easy to use with no measuring, or mess and economical as just one bottle can provide up to 2000 applications. Cures at room temperature.

Offers high temperature stability and high bond strength providing excellent adhesion, sealing most metals and ceramic parts.

Resbond® 507TS GEL

260ºC Thread Locker & Pipe Sealant

The perfect alternative to traditional anaerobic sealants that are limited to 150ºC. Easy to use and thermally stable, prevents vibration loosening and seals pipes and threads.

All purpose two part epoxy Teflon® sealant, just mix (100 parts resin to 15 parts hardener) and apply. Cures in 4 hours at room temperature to form thermally stable, electrically insulating and chemically resistant bonds.

Features	Low Viscosity	Standard	High Strength	High Viscosity	Epoxy Teflon
Properties	**907TS Green**	**907TS Blue**	**907TS Red**	**907TS Gold**	**507TS GEL**
Typical Uses	Penetrates fine openings	General purpose	Prevents vibration and loosening	Fills large gaps and grooves	General purpose
Viscosity (cps)	2,000	5,000	7,000	15,000	35,000
Shear Strength (PSI)	370	400	450	500	1,200
Breaking Torque (inch/lbs)	80	180	250	300	500
Gap Fill (mm)	0.076	0.127	0.254	0.762	0.254
Typical Applications Include	Small set screws, adjustment screws, fasteners and instrumentation	Medium screws, nuts, bolts, pipe threads and fittings.	Large fasteners and set screws, pipe threads, studs and bearings.	For difficult applications, flanges, bolts, pipe threads and large nuts.	All purpose two component epoxy Teflon for difficult applications.

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Epoxy Adhesives

Outlined below are some key points to follow during the application of our epoxy adhesives and compounds.

Preparation Clean surfaces of all grease, oil, dirt, old coatings, rust etc. Roughen surface to improve adhesion. For best results use Resbond 105RS solvent or 105RP surface preparation. Re-stir all resins and hardeners to ensure a uniform, homogeneous product. Warming resins to 35ºC - 50ºC will reduce the viscosity and ease mixing.

Mix Ratio All measurements are by weight. Follow instructions supplied on the product label for the exact mix ratios. Weight = (total weight) - (weight of container). Weigh out the resin and hardener into separate clean containers. Combine the resin and hardener. Mix slowly and thoroughly, making sure to scrape the sides of the container to ensure complete mix. Do not whip air into mix! Apply and heat cure as directed, if applicable.

Vacuum Degassing Special additives have been incorporated into these Epoxy systems to eliminate the need for vacuum degassing. Warming resin and letting the mixture stand for several minutes before use normally removes most of any remaining trapped air. Vacuum degassing need only be employed for critical applications. NOTE: The use of warmed resin may reduce working time.

Adhesive Applications Apply with a trowel or dispensing syringe. Use bond lines from 0.13mm to 0.25mm. Disposable syringes are available, please contact us.

Potting and Casting Applications Pour slowly, in a thin continuous stream, to allow the air to escape. The material should be allowed to flow around and under components. A fast pour may trap air pockets.

Curing Follow the curing procedures listed on product labels for these systems. Optimum high temperature properties are only obtained when following the recommended cure cycles. Post cure for 4 hours at 90ºC to 120ºC to enhance any room temperature curing system's properties.

Ceramic Adhesives

Outlined below are some key points to follow during the application of our ceramic adhesives and compounds.

Preparation of Non-Porous Materials Clean surfaces of all grease, oil, dirt, old coatings, rust etc. Roughen surface to improve adhesion. For best results degrease with Resbond 105RS solvent and dry thoroughly.

Preparation of Porous Materials Clean surfaces of all grease, oil, dirt, old coatings, rust etc. Roughen surface to improve adhesion. For best results use Resbond 105RS solvent or 105RP surface preparation. Moisten the surface to be bonded with a solution of 50% ceramic thinner and 50% clear water (Use the thinner for the specific adhesive system selected).

Mix Ratio Pre-mix adhesive thoroughly prior to use, following instructions on the label. DO NOT whip air into the mix. For two component systems, mix the powder and activator according to weight ratio on the label.

Apply Adhesive Use a spatula, brush or by dipping, completely wetting surfaces, IMMEDIATELY press the surfaces together. If necessary clamp or fix to maintain uniform distances while curing. Typically a joint gap of between is 0.25mm to 0.50mm is recommended. Excess adhesive can be removed with a damp cloth. Bond testing with sample pieces for your specific application is recommended.

Curing Let joint air set 1 to 4 hours. Cure a minimum of 2 hours at 90ºC. Avoid excessively fast heating. It may cause adhesive to bubble and form a weak bond. Always follow the product's specific instructions as shown on the product label. These products will not out-gas after a complete cure.

Post Cure To develop maximum strength, solvent and moisture resistance, post cure for 1 hour at 120ºC followed by 1 hour at 315ºC to 370ºC. A second cure will provide maximum strength, solvent and moisture resistance.

Potting Applications For potting applications request instructions for our ceramic potting materials.