

Advanced High Temperature Solutions

Epoxies

Ceramics

Machinable

Castable

Flexible

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.

- **Duralco® High Temperature Epoxies**
Bonding and Filling to +340°C
- **Resbond® High Temperature Ceramics**
Adhesives, Fillers and Coatings to +3,000°C



**High
Temperature
Adhesives**

**Adhesives, Fillers, Coatings,
Tape, Cloths and Blankets**

Epoxy Adhesives Overview

	Conductive		Room Temperature Cure				Thermal Cure			Machinable		Single
Product Ref	120	132	4461IP	4525IP	4538	7050	4460	4700	4703	4540	454B	4420
Properties	Electrical	Thermal	Low viscosity	Electrical Resistance	Super flexible	Nylon bonder	Low viscosity	High temp	Ultra temp	Liquid metal	Non-sag putty	Single part
Max Temp. °C	260	260	260	260	230	205	315	315	340	260	260	230
Viscosity cps	25,000	36,500	600	25,000	10,000	20,000	600	40,000	50,000	30,000	100,000	Paste
Density gm/cc	3.8	1.8	1.1	1.7	1.0	1.3	1.1	1.8	1.8	1.9	1.9	1.2
Hardness Shore 'D'	70	75	90	90	60 - 80A	70	90	94	95	80	80	75
Tensile Strength psi	6,500	7,200	9,500	10,000	6,000	5,000	10,300	11,100	11,800	10,000	10,000	7,000
Thermal Conductivity (W/m°C)	7.2	5.7	0.57	1.9	1.0	0.65	0.57	1.9	2.6	5.0	5.0	1.2
Thermal Expansion (x10 ⁻⁵ /°C)	5.4	8.0	5.4	3.3	6.0	4.8	6.4	6.4	6.8	8.0	8.0	4.5
Dielectric Strength volt/mil	n/a	100	450	450	450	400	500	550	450	100	100	400
Volume Resistivity ohm-cm	0.00008	10 ⁶	10 ¹³	10 ¹⁵	10 ¹⁴	10 ¹⁴	10 ¹⁴	10 ¹⁴	10 ¹⁰	10 ⁸	10 ¹⁰	10 ¹⁰
Thermal Stability % (1000hr @ 200°C)	0.2	0.2	0.2	0.05	0.5	0.5	0.1	0.1	0.02	0.5	0.5	0.6
Heat Distortion °C	210	210	210	210	75	75	260	300	320	225	200	175

The above table represents outline information for guidance, please contact us for more detailed information.

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Performance Adhesives & Sealants

Duralco® 4525IP - 260°C Elec' 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.

Duralco® 4538 - 230°C Super Flexible

Provides thermal shock and vibration resistance, sound absorption and excellent adhesion to dissimilar substrates, including glass, rubber and Teflon® (coated).

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. No volatiles, VOCs or harsh odours.

Duralco® 4460 - 315°C Low Viscosity

For encapsulating and impregnating, superior temperature rating. Forms a protective coating, seals and protects.

Duralco® 4700 - 315°C Bonding Adhesive

A durable adhesive, with high electrical resistance, low moisture absorption, high temperature stability.

Duralco® 4703 - 340°C Tooling Compound

A composite of unique resins, metallic and ceramic particles. Easily machined to close tolerances.

Duralco® 4540 - 260°C Machinable, Castable

A metal filled epoxy, that offers outstanding adhesion, ductility, thermal conductivity and shock resistance.

Electrically Conductive

Duralco® 12x Series

Provides the conductivity required for high temperature electronic and industrial applications.

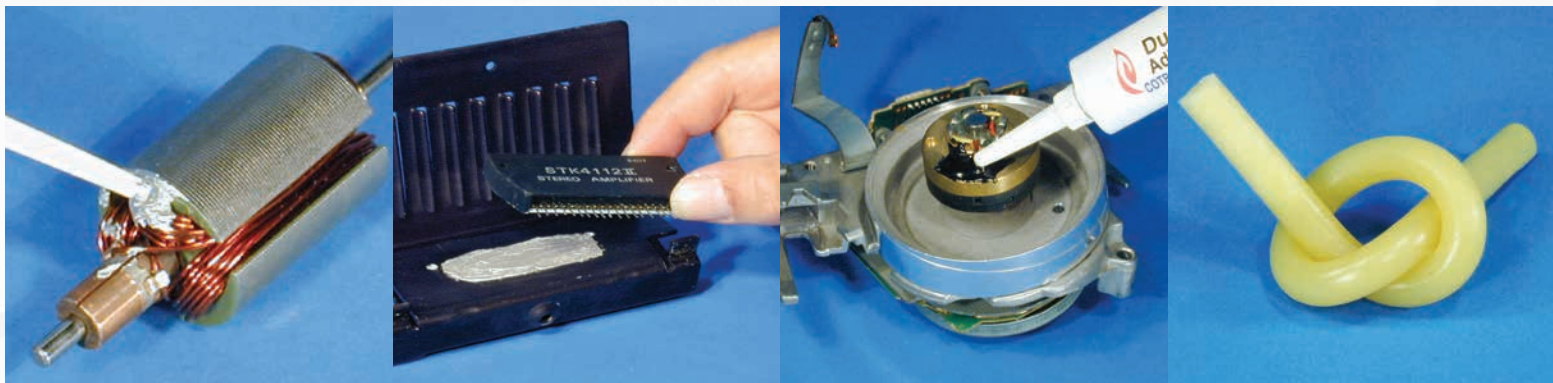
- **Duralco 120** 260°C Silver based
- **Duralco 122** 260°C Nickel Based
- **Duralco 124** 340°C Ultra Temp, Silver Based
- **Duralco 125** 230°C Flexible, Silver Based
- **Duralco 126** 230°C One Component
- **Duralco 127** 200°C Graphite Based

Thermally Conductive

Duralco® 13x Series

Provides the heat dissipation required for high temperature electronic and industrial applications. Combines a unique polymer system and speciality thermally conductive fillers.

- **Duralco 128** 260°C Ceramic based
- **Duralco 132IP** 260°C Aluminium Based
- **Duralco 133** 315°C Aluminium Based
- **Duralco 134** 260°C Ceramic based grease
- **Duralco 135** 260°C Aluminium based grease



Epoxy Potting Compounds

Durapot® 861IP - 260°C Low Viscosity

Durapot® 862 - 315°C Low Viscosity

Durapot® 863 - 340°C High Temperature

Durapot® 864 - 230°C Flexible, Low Viscosity

Durapot® 865IP - 260°C Thermally Conductive

Durapot® 866 - 260°C Thermally Insulating

Durapot® 868 - 260°C Flexible

Part No.	Resistance	Thermal	Cure Cycle	Cure Cycle
	Ω-cm	W/m°C	hrs @ 25°C*	minutes @ °C
861IP	10 ¹³	0.576	16-24	5@120°C
862	10 ¹⁴	0.576	4@120°C	60@175°C
863	10 ¹⁴	1.296	4@120°C	120@175°C
864	10 ¹⁴	1.008	24	120@175°C
865IP	10 ¹⁵	2.880	4-16	10@120°C
866	10 ¹⁵	0.216	24	10@120°C
868	10 ¹⁴	0.576	4@120°C	60@175°C

Adhesives & Sealants

Resbond® 919 - 1530°C Electrically Resistant
 Exceptional high electrical resistance and dielectric strength even when exposed to extreme temperatures.

Resbond® 920 - 1650°C Thermally Conductive
 Alumina based for rapid heat dissipation, ideal for bonding high temperature resistors, pyrometers & heating elements.

Resbond® 908 - 1650°C Dual Purpose
 Electrically resistant and thermally conductive, high purity alumina based adhesive.

Resbond® 906 - 1650°C High Expansion
 Formulated for bonding high expansion materials, offering high thermal conductivity and electrically insulating.

Resbond® 989 - 1650°C Single Component
 Forms strong bonds to ceramics, graphite, metals and glass. Ideal for thermocouples, heat sensors and more.

Resbond® 903HP - 1780°C High Strength
 For any combination of dense non-porous materials.

Resbond® 907GF - 1260°C Fireproof
 Fireproof adhesive, sealant and putty.

Resbond® 905 - 1370°C Low Expansion
 Ideal bonding compound for bonding low expansion & thermal shock resistant materials.

Ceramic Potting Compounds

Durapot® 801 - 1840°C Pure Alumina
 Offers room temperature curing, 99% pure Alumina ceramic.

Durapot® 804 & 805 - 1650°C Alumina
 Commercial, Alumina potting and casting material.

Durapot® 809 - 1540°C Electrically Resistant
 General purpose Magnesium Oxide based compound.

Durapot® 810 - 1650°C Thermally Conductive
 Alumina based, thermally conductive compound & adhesive.

Durapot® 814 - 1100°C High Speed Set
 Cures in 5 minutes at 80 - 110°C or overnight at room temp.

Durapot® 821 - 1370°C Low Expansion
 Quartz based fast curing adhesive and potting compound.

Ceramic Putties

Durapot® 7025 - 530°C Aluminium Putty
 With active aluminium particles. Ideal for repair of cracks and voids, rebuilds, sealing and protection.

Durapot® 7032 - 1100°C Stainless Steel
 Ideal for high temperature repairs, rebuilds, filling holes and plugging leaks in maintenance and industrial applications.



Metallic Adhesives

Resbond® 950 Series - up to 1100°C
 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** - Aluminium based
- **Resbond 952** - Nickel based
- **Resbond 954** - Stainless Steel based
- **Resbond 954OD** - Minimised porosity

Ultra Temperature

Durapot® 904 - 2200°C Zirconia Compound
 Formulated with active aluminium particles to provide resistance to corrosion, erosion, chemicals and solvents. Ideal for repair of cracks and voids.

Durapot® 931 - 2980°C Electrically Conductive
 Bonds graphite or carbon components for use to 3000°C with 99% pure graphite. Simply mix with its activator to a creamy paste, apply and cure at 120°C.

Ceramic Adhesives Overview

Product Ref	Elec. Resistant		Therm. Conduct		Single Part		Silica	Ultra Temperature		Metallic		
	919	920	908	906	989	907GF	905	904	931	950	952	954
Properties	Elec resistant	Thermal conduct	Dual	High expansion	General purpose	Fire proof	Low expansion	Zirconia	Graphite	Aluminium	Nickel	Stainless
Max Temp. °C	1540	1650	1650	1650	1650	1260	1370	2200	2980	650	1100	1100
Compressive Strength psi	4500	4500	3000	3000	3000	1500	3200	6000	3000	4000	5000	4500
Flexural Strength psi	450	450	1100	1500	1100	1250	2100	3000	1500	3000	3000	2500
Thermal Expansion x10 ⁻⁵ /°C	4.7	8.1	8.1	12.6	8.1	8.1	0.5	7.4	7.2	18.0	7.2	18.0
Thermal Conductivity W/m°C	0.6	2.2	2.2	5.7	2.2	0.9	1.9	1.4	8.6	6.3	2.0	1.4
Dielectric Strength volt/mil	270	270	200	250	200	145	200	250	Cond.	Cond.	Cond.	Cond.
Volume Resistivity ohm-cm	10 ¹¹	10 ¹¹	10 ¹⁰	10 ⁹	10 ⁸	10 ⁹	10 ¹¹	10 ⁸	Cond.	Cond.	Cond.	Cond.
Mix Ratio (by weight)	11:13	100:14	100:33	100:42	n/a	n/a	100:60	n/a	100:35	100:60	100:20	100:25
Colour	Tan	White	White	White	White	Grey	White	Tan	Black	Grey	Grey	Grey
Consistency	Paste	Paste	Paste	Paste	Paint	Paste	Paste	Paint	Paste	Paste	Paste	Paste

Machinable Ceramics



Rescor® 900 Series up to 1650°C

A range of machinable ceramic blocks, bars and sheets, that can be turned, milled, drilled, sawn and shaped to produce sharp, detailed parts. Having the physical properties of ceramic based compounds, offers the ability to manufacture bespoke high temperature withstand parts.

Castable Ceramics



Resbond® 700 Series up to 2200°C

Choice of Alumina, Silicone carbide, Zirconium Oxide, Fused Silica and Low density ceramic foam. Just mix and pour into any non-absorbent mould, to produce detailed ceramics.

Flexible Ceramics



Thermeez® 300 Series up to 1650°C

Range of tapes, cloth, paper and blankets suitable for numerous applications for wrapping, sleeving and insulating. Safe and practical to use.

Authorised distributors for



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