United Adhesives

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Heat Cure Adhesives & Sealants

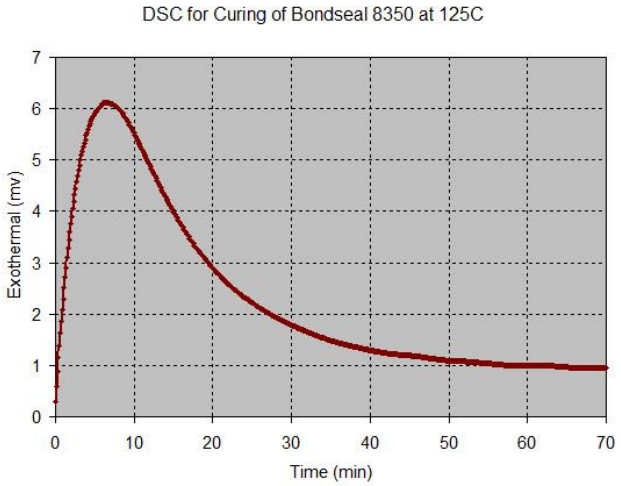
Flowable and non-sag heat curable adhesives and sealants have following major features:

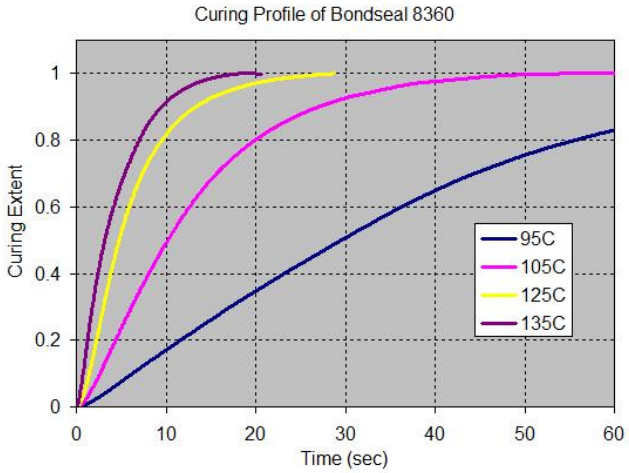
- Strong bonding to aluminum and most common plastics.
- Thermal stress compliant with silicone adhesives.
- Non-corrosion sealants and adhesives
- Excellent moisture, oil and chemical resistance.

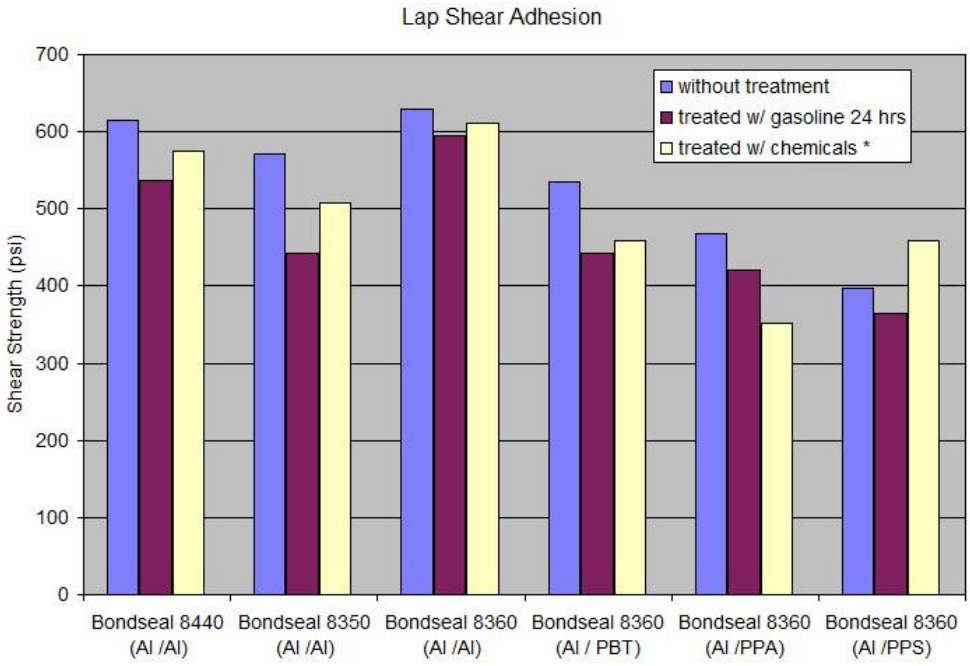
They are used to bond and seal electronic devices, components, electrical equipment, power and control connections, cover plates, housings, etc. The silicone series, Bondseal, provides stress release and resistance to high temperature and humidity, while epoxy series provides strong structural bonding for vibration applications and resistance to oil and chemicals.

Name	BondSeal BS8220	BondSeal BS8350	BondSeal BS8360	BondSeal BS8440	EP1611	EP1641
Chemical Base	Silicone	Silicone	Silicone	Silicone	Flexible Epoxy	Epoxy
Features / Advantages	Heat cure to form silicone rubber. Non-corrosion Non-slump. Strong bonding to Al and most plastics.	One part. Non-slump. Heat cure to form silicone rubber. Strong bonding to Al and most plastics.	One Part flowable. Heat cure to form silicone rubber. Non-corrosion sealant / adhesive. Strong bonding to Al and most plastics.	Two part. Heat cure to form silicone rubber. Non-corrosion sealant / adhesive.	Flexible epoxy formulation. Two part for fast cure. Room temperature curable.	Thixotropic (non-sag) epoxy. Low CTE. Very strong bonding to many plastics and surfaces. Strong oil and chemical resistance.
Typical Application	Bonding & sealing electronic devices, components, equipment, power control connections, cover plates, etc. Stress release & resist. to high temp & humidity	Bond & seal electronic devices. Good oil resistance. Seal lead, housing. Attach baseplate; Gasketing; Connector seal.	Bonding & sealing electronic devices, components, electrical equipment, power control connections, cover plates, etc. Stress release & resist. to high temp & humidity	Bond & seal electronic devices. Good oil resistance. Seal lead, housing. Attaching baseplate; Gasketing; Connector seal.	For low stress bonding & flexible seal. Bond to PBT, PPS, Nylon, PC, Phenolics and other difficult materials.	For severe thermal shock, vibration bonding applications. Structural bonding applications. Oil and media resistance applications.
Rheology	Thixotropic (non-sag)	Thixotropic (non-sag)	Flowable	Flowable	Flowable, Dispensable	Thixotropic (non-sag)
Appearance / Color	White / Grey	White / Grey	White / Grey	White / Grey	Off-white	Milky White Brown Or Grey
Part / Component	A : B = 1 : 1	One Part	One Part	A : B = 1 : 1	Two	One Part
Viscosity @25C (cps, after mixing)	122,000	110,000	45,000	40,000	10,000	220,000
Pot life (hr)	2 hrs	N/A	N/A	2 hrs	30 min	8 hrs
Cure Rate	125C 60 min	125C 60 min	125C 60 min	rmT 12 hrs 125C 15 min	rmT 12 hrs 125C 30 min	125C 45 min
Weight Loss @250C 1hr	< 0.2%	< 0.2%	< 0.2%	< 0.2%	< 0.5%	< 0.2%
Storage	< 25C	< 4C	< 4C	< 25C	< 25C	< – 40C
Shelf Life (days)	12 month @ 24C	>3 months @ 4C	6 months @ 4C	12 month @ 24C	12 month @ 24C	> 3 months @ – 40C
Thermal Stability	-40C to 180	-40C to 180	-40C to 180	-40C to 180	150C	-40C to 180
Tg	-120C	-120C	-120C	-120C	35C	120
CTE (ppm/C)	< 250	< 250	N/a	N/a	350	62 (above Tg) 19 (below Tg)
Hardness	Shore A = 60	Shore A = 62	Shore A = 47	Shore A = 51	Shore A = 60	Shore D = 55
Tensile Strength	6 Mpa	5.8 Mpa	5.2 Mpa	5.8 Mpa	8 Mpa	N/a
Elongation	180%	250%	280%	240%	150%	N/a
Adhesion (Al/Al Lap Shear, psi)	> 500 psi	550 psi	> 600 psi	> 550 psi	> 400 psi	> 1800 psi

▶ Properties of Heat Cure Adhesives and Sealants







* Chemicals: Windshield washer 25C, 1hr; Brake fluid 25C 1hr; Antifreezer & Coolant 50C 1hr; Moto oil 50C 1hr; Transmission fluid 25C 1hr; Ethyl alcohol 25C 1hr.