

Aremco offers a broad range of electrically and thermally conductive adhesives & coatings that provide solutions to a variety of electrical, electronics and thermal design problems throughout industry.

PRODUCT HIGHLIGHTS

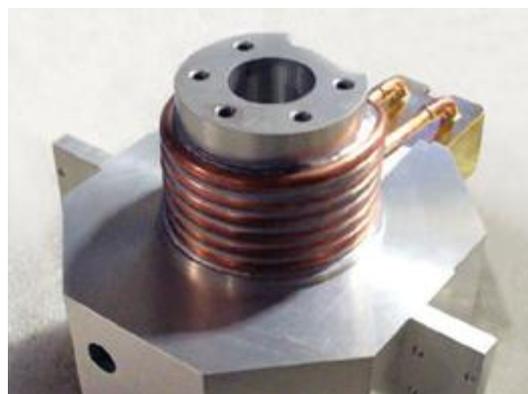
Part Number	Adhesive/Coating	Filler	Conductivity		Max Temp °F (°C)
			Electrical	Thermal	
525-N	Adhesive	Silver	✓	✓	340 (170)
556	Adhesive	Silver	✓	✓	340 (170)
556-LV	Adhesive	Silver	✓	✓	340 (170)
556-HT-HC	Adhesive	Silver	✓	✓	390 (200)
556-HT-UHC	Adhesive	Silver	✓	✓	390 (200)
556-HT-SP	Adhesive	Silver	✓	✓	445 (230)
568	Adhesive	Aluminum		✓	400 (204)
597-A	Adhesive	Silver	✓	✓	1700 (927)
597-C	Coating	Silver	✓	✓	1700 (927)
598-A	Adhesive	Nickel	✓	✓	1000 (538)
598-C	Coating	Nickel	✓	✓	1000 (538)
614	Adhesive	Nickel	✓	✓	360 (180)
616	Adhesive	Silver	✓	✓	360 (180)
805	Adhesive	Aluminum		✓	572 (300)
860	Adhesive	Aluminum Nitride		✓	400 (204)



Pyro-Duct™ 597-C metallizes ceramic tubes.



Aremco-Bond™ 556-HT-SP used to bond thermal sensor.



Aremco-Bond™ 568 bonds copper heat exchange tube to aluminum.

ELECTRICALLY & THERMALLY CONDUCTIVE ADHESIVES & COATINGS

Properties	ADHESIVES										COATINGS							
	525-N	556	556-LV	556-HT-UHC	556-HT-HC	556-HT-SP	597-A	598-A	568 ³	614	616	805	860 ³	597-C	598-C			
Product Number	525-N	556	556-LV	556-HT-UHC	556-HT-HC	556-HT-SP	597-A	598-A	568 ³	614	616	805	860 ³	597-C	598-C			
Resin type	Epoxy			Ceramic			Ceramic			Epoxy			Aluminum Nitride			Silicone		
Filler	Silver Flake	Silver Flake	Nickel Flake	Aluminum	Nickel Flake	Silver-Coated Glass	Aluminum	Aluminum Nitride	Silver Flake	Nickel Flake								
Particle Size, microns	<28	<20	<20	<20	<20	<44	<20	<20	<20	<20	<130	<50	<10	<20	<20			
No. Components	1	2	2	2	2	2	1	1	2	2	2	2	2	1	1			
Mix Ratio, by Weight, resin:hardener	NA	1:1	100:4	100:2	100:2	1:1	NA	N/A	1:1	1:1	1:1	100:12	1:1	NA	NA			
Mixed Specific Gravity, g/cc @ 25 °C	1.85	3.2	2.9	3.7	3.1	3.1	2.3	2.8	0.85	1.8	1.53	1.66	1.90	2	1.5			
Mixed Viscosity, cP @ 25 °C	Paste	35,000–40,000	4,000–6,000	40,000–50,000	40,000–45,000	35,000–45,000	Paste	20,000–25,000	Paste	100,000–110,000	50,000–60,000	11,000	40,000	400–800	400–600			
Pot Life, 25 gms @ 25 °C	NA	1 Hr	1 Hr	> 48 Hrs	48 Hrs	> 48 Hrs	NA	N/A	4.0 Hr	0.75 Hr	0.75 Hr	<1.0 Hr	4.0 Hr	NA	NA			
Recommend Cure, hr/°F	2/300	2/200	2/200	2/175	2/200	1/350	2/RT + 2/200	2/RT + 2/200	2/200	2/100	2/100	24/100 + 2/200	2/200	1/RT + .5/480	2/RT + 2/200			
Alternate Cure, hr/°F	6/250	24/RT	24/RT	0.5/250 or 0.25/300	1/250	2/300	—	—	24–48/RT	1/200 or 8/RT	1/200 or 8/RT	24/RT + 2/200	24–48/RT	—	—			
Service Temperature, °F (°C) ¹	340 (170) 375 (190)	340 (170) 375 (190)	340 (170) 375 (190)	390 (200) 480 (250)	390 (200) 480 (250)	445 (230) 570 (300)	1700 (927)	1000 (538)	400 (204)	360 (180) 400 (205)	360 (180) 400 (205)	572 (300)	400 (204)	1700 (927)	1000 (538)			
Volume Resistivity, ohm-cm	0.006	0.0009	0.0008	<0.0003	<0.0001	<0.0004	0.0002	0.0005	1.0 × 10 ⁵	0.025	0.002–0.004	1.0 × 10 ⁵	1.0 × 10 ¹⁵	0.0002	0.0005			
Tensile Shear Strength, psi ²	2,500	1,700	1,100	>1,000	1,700	1,400	—	—	2,500	2,500	1,000	1,800	1,375	—	—			
Thermal Conductivity, W/m-K	2.1	2.2	2.2	12.4	2.2	3.5	9.1	2.6	1.3	0.5	0.4	1.8	1.2	9.1	2.6			
Hardness, Shore D	76	72	84	90	90	88	—	—	75	78	78	87	75	—	—			
Color	Silver	Silver	Silver	Silver	Silver	Silver	Silver	Dark Gray	Gray	Dark Gray	Tan	Gray	Gray	Silver	Dark Gray			
Shelf Life, months	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6			

Reference Notes

- The low end of the service temperature range for all products is approximately -67 °F (-55 °C).
- Tested according to ASTM D1002-94 at 25 °C, a method for determining the shear strength of a single lap-joint of metal substrates in tensile loading.
- Available as a faster-setting, Add "-FSLV" (eg. 568-FSLV).

Application Notes

Surface Preparation: All surfaces must be free of oil, grease, dirt, corrosives, oxides, paint or other foreign matter. Sand blast or abrade non-porous surfaces, or etch using Arearco's Corr-Prep™ CPR2000.

Mixing: Two component products should be mixed thoroughly prior to dispensing. For high viscosity systems each component can be preheated separately at 100–125 °F to facilitate mixing and dispensing. Arearco-Bond™ 568 is available in 50ml cartridges. Order 568-C 50ml Cartridge, 9910 6" Mixing Nozzle and 9850 Plunger or 9700 Mechanical Dispense Gun.

Application: Apply adhesive to both surfaces maintaining a glue line of less than 10 mils. Assemble parts and apply pressure to prevent warpage and reduce air entrapment. Refer to curing guidelines in above property chart.

Abbreviations

- NA Not Applicable
- RT Room Temperature

Refer to Price List for complete order information.

Arearco Products makes no warranty express or implied concerning the use of this product. The user assumes all risk of use or handling whether or not in accordance with directions or suggestions, or used singly or in combination with other products.

Aremco's Heat-Away™ greases are ceramic and metal-filled systems that offer exceptional electrical and thermal properties up to 680 °F (360 °C). These materials are used in high power electronics, heat pipes, high vacuum systems, and other heat management applications.

PRODUCT HIGHLIGHTS

Part Number	Filler	Conductivity		Vacuum Compatible	Temp. Range °F (°C)
		Electrical	Thermal		
637	Alumina		✓		550 (288)
638	Aluminum Nitride		✓		550 (288)
639	Aluminum		✓		550 (288)
640	Copper		✓		550 (288)
641	Silver	✓	✓		550 (288)
641-EV	Silver	✓	✓	✓	550 (288)
641-HT-EV	Silver	✓	✓	✓	680 (360)



Heat-Away™ 639 coats process heater to improve thermal contact.

HEAT-AWAY™ THERMALLY CONDUCTIVE GREASES

Product Number	637	638	639 ⁽²⁾	640 ⁽²⁾	641	641-EV ⁽¹⁾	641-HT-EV ⁽¹⁾
Filler	Alumina	Aluminum Nitride	Aluminum	Copper	Silver	Silver	Silver
Temperature Resistance, °F	-60 / +550	-60 / +550	-60 / +550	-60 / +550	-60 / +550	-60 / +550	-23 / +680
Temperature Resistance, °C	-51 / +288	-51 / +288	-51 / +288	-51 / +288	-51 / +288	-51 / +288	-5 / +360
Thermal Conductivity, W/m-K	0.475	2.23	3.04	4.68	5.58	5.58	5.58
Dielectric Strength, volts/mil	300	300	40	4	4	—	—
Volume Resistivity, ohm-cm ⁽³⁾	10 ¹⁴	10 ¹⁴	10 ⁴	10 ³	<0.0002	<0.0002	<0.0006
Chemical Resistance	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
Water Absorption	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Solids, %	100	100	100	100	100	100	100
Specific Gravity, g/cc	2.42	2.27	1.35	1.33	3.90	4.30	4.20
Color	White	Gray	Aluminum	Copper	Silver	Silver	Silver

Reference Notes

⁽¹⁾ Heat-Away 641-EV and 641-HT-EV are electrically and thermally conductive greases rated for high vacuum systems.

Temperature, °C (°F)	Vapor Pressure (Torr)	
	641-EV	641-HT-EV
20 (68)	3 × 10 ⁻¹⁴	≤4 × 10 ⁻¹⁵
50 (122)	2 × 10 ⁻¹²	Not Measured
100 (212)	1 × 10 ⁻⁹	≤2 × 10 ⁻¹⁰
200 (392)	2 × 10 ⁻⁶	≤3 × 10 ⁻⁷

⁽²⁾ Caution: Exposure to voltages in excess of rated maximum may cause a permanent electrical leak path.

⁽³⁾ Volume resistivity is measured < 0.002" thick after exposure to 500 °F.

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