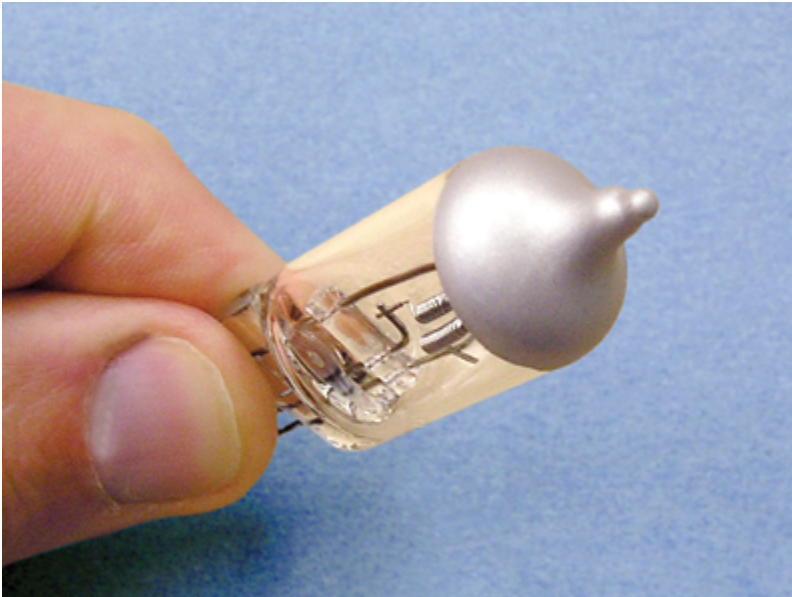


HIGH TEMPERATURE COATINGS FOR CERAMICS, GLASS & QUARTZ

Technical Bulletin A5-S4



Lamp-Coat™ LC4010-GL applied to auto headlamp.



Lamp-Coat™ LC4040-SG applied to IR heater.



Ceramacoat™ 845-GLT applied to auto headlamp.

PRODUCT HIGHLIGHTS

Ceramic-Inorganic

845 Single part, waterborne, silicon-filled, phosphate-bonded, brown-black coating for glass and quartz to 2000 °F (1093 °C). Primarily used for marking ceramic parts and coating automotive headlamps, stadium lighting and quartz vessels for the semiconductor industry. Standard viscosity is 200–400 cP; a higher viscosity coating, 845-HV, in the range of 500–800 cP is available upon request. Additional colors below are offered.

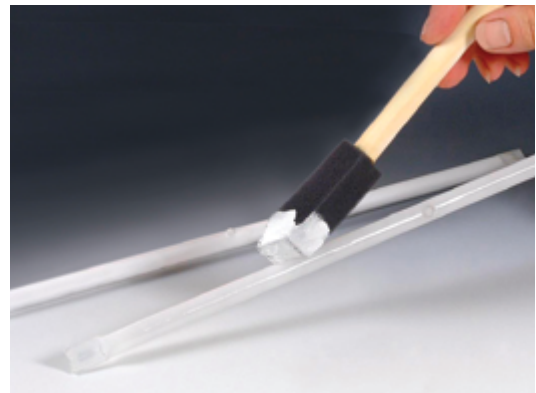
- 845-BLK** Jet Black
- 845-BLU** Cobalt Blue
- 845-GRY** Light-Gray
- 845-GLT** Light-Green
- 845-GDK** Dark-Green
- 845-SIL** Silver
- 845-WHT** White

Glass

- 613** Glass-filled adhesive/sealer for use with porous ceramics and refractories to 1150 °F (620 °C).
- 617** Glass-filled adhesive/sealer for use with porous ceramics and refractories to 1500 °F (816 °C).
- 850** Glass-ceramic filled, white reflective coating for glass and quartz to 1500 °F (816 °C).

Silicone

- LC4010-BT** Aluminum-filled coating for application over black top coated headlamps to 1020 °F (550 °C).
- LC4010-GL** Aluminum-filled coating for application directly over uncoated headlamps to 1020 °F (550 °C).
- LC4040-SG** White reflective coating for use on mercury vapor lamps and other high temperature glass and quartz components to 1200 °F (649 °C).



Quartz-Coat™ 850 applied to quartz IR heater tube.

HIGH TEMPERATURE COATINGS FOR CERAMICS, GLASS & QUARTZ

Type	INORGANIC-CERAMIC									GLASS			SILICONE		
Product Number	845	845-HV	845-BLK	845-BLU	845-GRY	845-GLT	845-GDK	845-SIL	845-WHT	613	617	850	LC4010-BT	LC4010-GL	LC4040-SG
Tradename	Quartz-Coat™			Ceramacoat™						Aremco-Seal™		Quartz-Coat™	Lamp-Coat™		
Color (cured)	Brown-Black	Brown-Black	Jet Black	Blue	Gray	Light Green	Dark Green	Matte Silver	Off-White	Light Gray	Clear	White	Silver	Silver	White
Maximum Temperature, °F (°C)	2000 (1093)	2000 (1093)	1500 (816)	1500 (816)	1500 (816)	1500 (816)	1500 (816)	1500 (816)	1500 (816)	1150 (620)	1500 (816)	1600 (871)	1020 (550)	1020 (550)	1200 (649)
No. Components	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Viscosity, cP ¹	200–400	500–800	1,000–1,500	500–1,000	400–700	750–1,250	800–1,000	400–900	400–700	1,000–2,000	1,100–1,500	500–1,000	40–50	300–400	250–500
Specific Gravity, g/cc	1.44	1.51	1.66	1.64	1.65	1.66	1.67	1.46	1.83	1.39	1.45	1.84	1.07	1.05	1.70
Solids by Weight, %	50.1	52.8	52.9	50.9	51.8	52.9	52.9	44.4	41.3	54.0	51.3	61.3	57.0	35.8	70.9
Solids by Volume, %	22.9	31.9	32.0	23.6	25.2	26.7	26.7	23.1	22.9	41.6	40.5	31.4	49.5	31.9	52.7
WFT, mils (microns) ²	3.24 (82.3)	3.13 (79.6)	2.90 (73.8)	4.24 (107.8)	3.97 (100.8)	3.74 (95.0)	3.74 (95.0)	4.34 (110.1)	4.12 (104.6)	2.40 (61.0)	2.47 (62.7)	3.18 (80.8)	2.02 (51.3)	3.13 (79.6)	1.90 (48.2)
DFT, mils (microns) ³	1.00 (25.4)	1.00 (25.4)	1.00 (25.4)	1.00 (25.4)	1.00 (25.4)	1.00 (25.4)	1.00 (25.4)	1.00 (25.4)	1.00 (25.4)	1.00 (25.4)	1.00 (25.4)	1.00 (25.4)	1.00 (25.4)	1.00 (25.4)	1.00 (25.4)
Theoretical Dry Film Coverage ⁴ @ 1 mil, ft ² /gal (m ² /liter)	495 (12.2)	512 (12.6)	552 (13.6)	378 (9.3)	404 (9.9)	429 (10.5)	429 (10.5)	370 (9.1)	389 (9.6)	668 (16.4)	650 (15.9)	504 (12.4)	794 (19.5)	512 (12.6)	845 (20.8)
Curing, Min Air Set, min ⁵	10	10	10	10	10	10	10	10	10	30–60	30	30	10	5	60
Curing, Heat Cure, °F, min	200, 10 + 900, 5	200, 10 + 900, 5	200, 10 + 900, 5	200, 10 + 900, 5	200, 10 + 900, 5	200, 10 + 900, 5	200, 10 + 900, 5	200, 10 + 900, 5	200, 10 + 900, 5	1150, 30	200, 30 + 350, 60 + 1650, 3	1650, 15	200, 15 + 900, 10	200, 30 + 900, 10	200, 60 + 450, 60 + 1300, 15
Application Temperature, °F	50–90	50–90	50–90	50–90	50–90	50–90	50–90	50–90	50–90	50–90	50–90	50–90	50–120	50–120	50–120
Thinner	845-T	845-T	845-T	845-T	845-T	845-T	845-T	845-T	845-T	Water	Water	Water	PM Acetate	Ethanol	PM Acetate
Flash Point, °F/°C	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	~ 118 (48)	~ 118 (48)	~ 115 (46)
Volatiles, lbs/gal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.7	6.1	3.8
Shelf Life, months	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Storage Temperature, °F	55–85	55–85	55–85	55–85	55–85	55–85	55–85	55–85	55–85	40–90	40–90	40–90	40–90	40–90	40–90

Reference Notes

- ¹ Viscosity is measured using a Brookfield LV Viscometer; spindle and speed selection vary depending on the product.
- ² Estimated Wet Film Thickness (WFT).
- ³ Recommended Dry Film Thickness (DFT).
- ⁴ Actual coverage will vary depending on material losses during mixing and application.
- ⁵ Where a value is provided for "Min Air Set", it is recommended that the coating set at room temperature for, at minimum, the specified time prior to curing.

Abbreviations

- NA Not Applicable
 NR Not Required
 DFT Dry Film Thickness
 WFT Wet Film Thickness

Surface Preparation Notes

All surfaces should be free of oil, grease, dirt, corrosives, oxides, paints or other foreign matter. No further preparation is required when coating ceramics, refractories or graphites. Quartz should be sandblasted whenever possible. Smooth metal surfaces should be sandblasted or etched using Aremco's Corr-Prep™ CPR2000.

