

# Product Bulletin

# CASS POLYMERS

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Plastic Systems  
SC-9001 Registered



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ES-219  
EPOXY SURFACE COAT  
HIGH TEMP-ALUMINUM FILLED-GRAY  
NON MDA & VCHD

REV: 0302

## DESCRIPTION

ES-219 is a thixotropic, aluminum filled, high temp epoxy surface coat which gives excellent surface duplication while maintaining no sag qualities. ES-219 mixes easily and applies smoothly with a brush. ES-219 can be used constantly at temperatures up to 154°C/310°F. Use ES-219 with ADTECH EL-336 or EL-337.

## USES

Vacuum form molds	High temp holding fixtures
Blow molds	any high temp tooling
High temperature bonding fixtures	

## HANDLING CHARACTERISTICS @ 25°C/77°F

Mix Ratio	(parts by weight) .....	100:10
	(parts by volume) .....	9.1:1
Density (Mixed)	(lbs/gallon) .....	10
	(lbs/in3) .....	0.043
Specific Gravity	(g/cc) .....	1.20
Viscosity		
	Resin (cps) .....	200,000
	Hardener(cps) .....	750
	Mixed (cps) .....	100,000
Work Life	(minutes) .....	30-40
Tack Free Time	(hours) .....	2 - 3
Demold Time	(hours) .....	16-24
Color		
	Resin .....	Gray
	Hardener .....	Amber
	Mixed .....	Gray
Shelf Life (Months - Unopened at 25°C/77°F)	.....	12

## PHYSICAL PROPERTIES

Ultimate Tensile Strength (psi) (ASTM D-638.91)	.....	5,000
Tensile Modulus (psi) (ASTM D-638.91)	.....	641,400
Tensile Elongation (psi) (ASTM D-638.91)	.....	0.60
Ultimate Compressive Strength (psi) (ASTM D-695.91)	.....	27,500
Compressive Modulus (psi) (ASTM D-695.91)	.....	154,500
Ultimate Flexural Strength (psi) (ASTM D-790.92)	.....	8,000
Flexural Modulus (psi) (ASTM D-790.92)	.....	319,800
CTE (in/in/F)	.....	0.0000203

CONTINUED ON REVERSE

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**PHYSICAL PROPERTIES (CONT.)**

Heat Deflection Temperature @ 66 PSI (°C/°F) (ASTM D-648.82).....	113/236
Heat Deflection Temperature @ 264 PSI (°C/°F) (ASTM D-648.82).....	105/221
Notched Izod Impact Strength (in-lb/ft) (ASTM D-256.93A).....	6.87
Moisture Absorption (%) (ASTM D-570.88).....	0
Hardness (Shore D).....	90 - 92
Shrinkage (in/in).....	0.0002

THIS SYSTEM DOES NOT CONTAIN VCHD OR MDA

Recommended Cure Schedule: 16-24 hours @ 25°C/77°F  
2 hours @ 66°C/150°F  
2 hours @ 93°C/200°F  
2 hours @ 121°C/250°F  
3 hours @ 149°C/300°F