



AC-59

Description

AC-59 is a unique anhydride curing agent for epoxy resins, designed to provide a low exotherm and minimal shrinkage when large quantities of epoxy-anhydride mixture are cured. It is also very low in viscosity and accommodates high filler loadings. AC-59 imparts excellent electrical insulation properties, coupled with a high degree of durability in constant high heat and moisture applications. AC-59 is used for epoxy cast power transformers and large tools.

Typical Applications

- Large Electrical Castings
- Large Tooling Parts

Specifications

Appearance	Clear light yellow liquid
Color (Gardner)	1
% Anhydride	94 Min.
% Free Acid	1 Max.
Viscosity, 25°C, cps	50-230
Specific Gravity, 25°C	1.15 - 1.25
Vapor Pressure, 25°C, mbar	8×10^{-3}
Strong Life	1 Year
Flash Point	150°C

Typical Formulation

Parts by Weight

Epoxy Resin (EEW 185-195)	100
AC-59	100
BDMA	1

Suggested Curing Schedule:

6 hours at 80 °C. Ramp up 30 °C/hr. to
140 °C Hold at 140 °C for 6 hours

Properties

at cure schedule 70°C, 1-1.5 hours)

Tensile Strength, psi	10,900 - 12,300
Elongation, %	2.5 – 4
Tg °C	105 – 110
Flex Strength, psi	19,600 – 22,480
Coefficient of liner thermal expansion	20 – 80 °C range $60-70 \times 10^{-6}$

The above suggested neat resin formulation requires the addition of filler and a thermal shock improver such as AC-39 or a polyglycol.



Temperature	Dielectric Constant	Dissipation Factor
R.T	2.6 - 2.8	.008 - .010
85 °C	2.7 - 3.0	.010 - .012
150 °C	3.6 - 4.0	.088 - .100

These tests were run on a Hewlett Packard Capacitance Bridge Model 4270A at 100,000 cycles.

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