



PPMS Service Note 1084-308

Cautions for Working with ACMS Coilsets at High Temperatures

Specification

Coilset Temperature Range: 1.9 K–350 K (Do *not* exceed 350 K for any longer than two hours.)

Description

Quantum Design uses a two-part epoxy adhesive for low- and high-temperature applications in the ACMS coilset assembly. The ACMS coil contains four balanced coils wound around a set of three sapphire tubes.

The coilset can be damaged when the ACMS is held at high temperatures (350 K–400 K) for more than two hours. Excessive lengths of time at high temperatures will melt the epoxy. As the epoxy softens, the sapphire tubes can shift, causing an imbalance in the coilset. The unbalanced coilset can permanently affect measurement results.

In addition, if you remove the insert while it is still hot (over 298 K), you can damage the coilset and rod. This damage typically occurs where the rod and coilset join.

Recommendations for Removing ACMS Coilset

After you use the ACMS to perform high temperature measurements and tests, Quantum Design recommends that you perform one of the following two procedures *before* you remove the ACMS coilset.

Procedure 1

Set the temperature to 100 K, then wait for approximately 10 minutes. This procedure will guarantee that the ACMS coilset assembly has been sufficiently cooled. After 10 minutes, you can ramp the temperature back up to 298 K. Once the system has reached 298 K, you can remove the coilset assembly.

Procedure 2

Set the temperature to 298 K and wait for *at least* 4 hours before you remove the ACMS coilset. This procedure will ensure that the coilset is at an appropriate temperature for removal.