

结构材料及核材料性能

# 中低温固化环氧树脂配方体系研究方法探讨

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收稿日期 2007-11-15 修回日期 2007-12-15 网络版发布日期: 2008-1-20

**摘要** 介绍了中低温固化环氧树脂配方体系的研究方法。该方法适用于具有特殊要求的大预应力湿法缠绕成型的碳纤维复合材料薄壁内衬筒体工件。从碳纤维复合材料设计指标如复合材料横向拉伸、纤维体积含量等出发, 理论推导了树脂基体的断裂延伸率和拉伸强度, 并对方法研究中的难点进行分析, 提出配方研制中应考虑的原则和研制思路, 重点介绍配方体系化学流变工艺适用性预测方法和固化工艺制度的制订方法。

**关键词** [复合材料](#); [树脂配方](#); [化学流变性](#); [固化制度](#)

**分类号** [T032](#)

## Study on Middle-Temperature Cured Epoxy Resin Matrix of Advanced Composite

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**Abstract** Based on the total design requests of carbon fiber reinforced composites, the properties of strength of the epoxy resin matrix available for wet fiber wilding composites and its study methods were described in this paper. The text introduces a new middle temperature cured epoxy resin system such as SY-6# which is used in the fiber wilding process with T700 carbon fiber, and puts the emphasis on the study of rheological behaviors and curing process by testing mechanical properties, viscosity, thermal properties measured by the differential scanning calorimeter (DSC) and curing degree tested by IR.

**Key words** [composite](#) \_ [epoxy resin matrix](#) \_ [rheological behaviors](#) \_ [curing process](#)

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