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PROCESS AND PRODUCT TECHNOLOGY

酚醛树脂改性煤焦油沥青中间相球体的结构特征

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摘要 Mesocarbon microbeads (MCMB) were prepared from coal tar pitch modified by phenolic resin and from the same pitch modified by phenolic resin and hexamethylenetetramine at 440℃ for 1h. By investigating the morphology of mesophase spheres and the structure of the MCMB carbonized at 1000℃ for 1h using scanning electron microscope (SEM) and XRD, it was found that phenolic resin accelerated the formation and coalescence of mesophase spheres. Some of the obtained MCMB were bi- or tri-spheres with the distorted microtextural carbon layers. Hexamethylenetetramine in the pitch modified by phenolic resin accelerated the condensation of phenolic resin and consequently expedited the combination of mesophase spheres, which was proved by the formation of some tetra-spheres. Owing to the cross-linkage of the additives, MCMB with complex structure were obtained.

关键词 mesocarbon microbeads; mesophase; phenolic resin; scanning electron microscopy
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Structural Characteristics of Mesophase Spheres Prepared from Coal Tar Pitch Modified by Phenolic Resin

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Key words mesocarbon microbeads; mesophase; phenolic resin; scanning electron microscopy

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