

论文

炼焦煤的热解过程研究

张代林, 李伟锋, 曾涛, 郑明东, 王培珍

安徽工业大学 煤的洁净转化与综合利用安徽省重点实验室, 安徽 马鞍山 243002

摘要:

通过模拟炼焦过程对不同变质程度的炼焦煤加热至不同温度, 运用HD型偏光显微镜及红外分析技术对加热后的固体产物进行分析。结果表明: 炼焦煤受热时其镜质组首先产生破碎现象, 然后软化熔融, 同一种炼焦煤中的镜质组受热变化并不均一, 不同变质程度炼焦煤中的镜质组破碎程度和软化程度也不相同; 炼焦煤加热到固化温度时, 热解固体产物全部呈现出焦炭光学特征, 随温度的升高, 固体产物的光学组织组成继续发生改变; 试验样品中的肥煤和1/3焦煤在热解过程中有机质分子结构随温度的升高, 其变化规律相似。

关键词: 炼焦煤; 热解; 显微结构; 分子结构; 焦炭光学组织

Study on pyrolyzing process of coking coals

Abstract:

Different ranks coking coals were heated to different temperatures by simulating coking process, and the heated residues were studied by making use of HD-type polarizing microscope and IR spectrum. The results indicate that the vitrinite of coal begin to break firstly, then soften and melt in pyrolyzing process. The vitrinite of the same coking coal change differently, furthermore, the degrees of breaking and softening owe different for vitrinite of different rank coals. When coal is heated to solidifying temperature, its pyrolyzing products show the optical characteristics of coke. As the temperature rises, the optical textures change sequentially. Molecular structure of organic matter of 1/3 coking coal and fatty coal as this test samples change similarly in the process of pyrolysis.

Keywords: coking coals; pyrolysis; microstructure; molecular structure; coke optical texture

收稿日期 2011-05-19 修回日期 2011-07-20 网络版发布日期 2012-02-21

DOI:

基金项目:

国家自然科学基金面上资助项目(50874001)

通讯作者: 张代林

作者简介: 张代林(1968—), 男, 安徽当涂人, 副教授, 硕士

作者Email: agdzdl@ahut.edu.cn

参考文献:

本刊中的类似文章

扩展功能

本文信息

- ▶ Supporting info
- ▶ PDF(1785KB)
- ▶ [HTML全文]
- ▶ 参考文献PDF
- ▶ 参考文献

服务与反馈

- ▶ 把本文推荐给朋友
- ▶ 加入我的书架
- ▶ 加入引用管理器
- ▶ 引用本文
- ▶ Email Alert
- ▶ 文章反馈
- ▶ 浏览反馈信息

本文关键词相关文章

- ▶ 炼焦煤; 热解; 显微结构; 分子结构; 焦炭光学组织

本文作者相关文章

- ▶ 张代林
- ▶ 李伟锋
- ▶ 曾涛
- ▶ 郑明东
- ▶ 王培珍

PubMed

- ▶ Article by Zhang,D.L
- ▶ Article by Li,W.F
- ▶ Article by Zeng,s
- ▶ Article by Zheng,M.D
- ▶ Article by Yu,P.Z