

不同重力条件对 PbO-B₂O₃玻璃分相的影响

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摘要 研究了PbO-B₂O₃在不同重力条件下的分相现象, 并分析了不同实验条件下试样的成分均匀性以及试样不同部位的显微结构. 结果发现, 玻璃发生分相后形成连续的富硼相和分散的富铅相. 对于分相在高重力阶段发生的试样, 顶部富铅相的尺寸远远小于试样的底部, 试样顶部的含铅量远远低于试样的底部, 因此该试样的成分均匀性最差, 其次是在正常重力下发生分相的试样.

关键词 [硼铅玻璃](#) [分相](#) [重力](#)

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Effects of Gravity Level on Phase Separation of PbO-B₂O₃ Glasses

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Abstract PbO-B₂O₃ glasses were melted and solidified through drop shaft experiment to explore the phase-separation of the glasses under different gravity conditions. XRD was conducted to determine the phase of samples after phase-separation. The distribution of elements in different samples was compared through EDS analysis and the microstructures were observed by SEM. Results show that both Pb-rich phase and B-rich phase consistently exist in all the glasses no matter how different the gravity level is. For the sample of phase-separation happened under high gravity, the size of separated Pb-rich phase in the top of the sample is much smaller than that in the bottom of the sample, and the homogeneization of elements is the worst due to the difference in density between Pb-rich phase and B-rich phase.

Key words [lead-borate glass](#) [phase-separation](#) [gravity](#)

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