

催化、动力学与反应器

Fe-Cr高变催化剂的模压成型和机械强度的动态研究

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摘要

关键词 [Fe-Cr高变催化剂](#) [成型过程](#) [机械强度](#) [动态研究](#)

分类号

DYNAMIC INVESTIGATION OF MOLDING PROCESS AND MECHANICAL STRENGTH OF Fe-Cr WGSR CATALYST

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Abstract

A dynamic method for investigating the molding process and the mechanical strength of solid catalyst was presented. By means of two sets of equipment(catalyst molding process analyzer CMPA and catalyst mechanical properties tester CMPT) designed and fabricated by the authors in laboratory, the dynamic study for Fe-Cr WGSR catalyst pellets was carried out based on the orthogonal experimental design, the effects of some factors in the molding process of Fe-Cr WGSR solid catalyst on the mechanical strength of catalyst pellets were systematically examined, and the molding conditions were optimized. The results showed that there existed the relationship between catalyst pellet density and compact pressure, and the concept of macroscopic elastic modulus was introduced. Furthermore, the remarkable factors (such as predensification process and calcination temperature) affecting Y_0 factors, macroscopic elastic modulus E' , rate of densification and side crushing strength were also investigated.

Key words [Fe-Cr WGSR catalyst](#) [molding process](#) [mechanical strength](#) [dynamic investigation](#)

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