硼铬稀土共渗对提高钢的耐磨粒磨损性能的试验研究

Experiment and Study on Improving the Abrasive Wear Resistance of Steel by RE Chrome Boronizing

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中文摘要：

研究了采用固体硼铬稀土共渗工艺（一种新的金属表面硬化工艺），得到硬化层硼铬稀土共渗层的组织，脆性和耐磨粒磨损特性均得到改善。并进行了应用试验。结果表明，硼铬稀土共渗层在保留了渗硼层高硬度的同时，明显降低了脆性，可使共渗层的耐磨粒磨损性能比渗硼层提高０．３１～０．６８倍，且应用效果显著。研究结果对农业机械零件表面硬化工艺的选择具有指导作用。

英文摘要：

Abrasive wear is a main failure type of farm implements,but the abrasive wear resistance can be increased by boronizing technology,which has been successfully applied to agricultural machinery. However,further popularizing the technology is confined because boronized layer is too brittle.Thus,a pack of RE chrome boronizing technique has been developed.The micro structure,brittleness,abrasive behaviour of RE chrome boronized layer and applied experiments were studied in this paper.The results show that the abrasive wear resistance of RE chrome boronized layer,which possesses high micro hardness like boronized layer,increases from 31 % to 68 % as compared with that of boronized layer,and that the effects applied to flat hammer are notable.The research is of great significance to selecting surface hardening technology for the parts in agricultural machinery.

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