
摘 要

本文叙述了电磁屏蔽织物的种类及相应的制备工艺，并介绍了国内外的各类抗电磁织物的研究现状。同时综述了涤纶织物的改性和处理手段，尤其是活化工艺进行了特殊的介绍，最后鉴于目前大多数的电磁屏蔽织物都是通过反射的形式来实现防护，而铁镍合金具有很高的磁导率，能够有效的吸收电磁波，避免了反射导致的二次污染，金属镍具有自催化活性，能够替代贵金属活化剂，使有限的贵金属资源得到保护,用于更加需要的地方，同时降低经济成本，设计了一种涤纶纤维布化学镀铁镍合金织物的制备方法。但是由于铁镍合金与织物的结合能力不强，形成的镀层不够牢固。为了改善这个问题，设计出了化学镀织物上利用液相原位聚合法先将其复合在涤纶纤维布上，随后在聚苯胺涤纶复合织物上进行化学镀铁镍合金的方法。本文按照这个思路设计出了涤纶纤维布上复合导电聚苯胺和化学镀铁镍合金的实验方案和实验工艺。

关键词：聚苯胺；化学镀；活化；电磁屏蔽；铁镍合金。

ABSTRACT

This article describes the types of electromagnetic shielding fabrics and the corresponding preparation process, and summarizes the research status at home and abroad. The modification treatment method and chemical plating process of the polyester fabric, especially the activation process are introduced. Finally, given that most of the current electromagnetic shielding fabrics are protected by reflection, and the iron-nickel alloy has a high magnetic permeability, it can effectively absorb electromagnetic waves and avoid secondary pollution caused by reflection. Catalytic activity can replace precious metal activator, save limited precious metal resources, and at the same time reduce economic costs, prepared polyester fiber cloth electroless iron-nickel alloy fabric. However, the binding ability of the iron-nickel alloy and the fabric is not strong, and the formed plating layer is not strong enough. In order to improve this problem, a method of chemically plating in-situ polymerization on the polyester fiber cloth by liquid-phase in-situ polymerization method and then electroless iron-nickel alloy plating on the polyaniline polyester composite fabric was designed. In this paper, according to this idea, the experimental scheme and experimental process of composite conductive polyaniline and electroless iron-nickel alloy on polyester fiber cloth are designed.

Keywords: polyaniline; electroless plating; activation; electromagnetic shielding; iron-nickel alloy.

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