J Material Sci Eng 2014, 3:3
http://dx.doi.org/10.4172/2169-0022.S1.017

OMICS Group Conferences
Accelerating Scientific Discovery

3rd International Conference and Exhibition on
Materials Science & Engineering
October 06-08, 2014 Hilton San Antonio Airport, USA

Analysis of the strength of the saws to the dynamic and static loads

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The results of the investigations show that the Saw wearout occurs due to the bending of the shaft under dynamic loads. The results of the investigations show that the high density of raw cotton leads higher damage to fibers during ginning. Assessment of different distances between the saws of gin and its effect to the quality of fiber; the results of the investigations shows that the Since reduction of the distance between saw from 22 mm to 14.59 mm brings about mechanically damaged filaments from 19.2 to 48%, interrupted filaments from 9.2 to 21% and thin skins with filament and fuzz from 1.66 to 3.14%. To solve this problem, we made an energy efficiency ginning machine. In old machines their saw cylinder included 130 saws, but there were much more problems described above. Because the distance between saws is 14.59 mm. As a result short cotton fiber increased in amount and it takes more time to gin. In conclusion, our new model of ginning machine enables energy efficient production, unlike old models of ginning machine, there are two saw cylinders in the new design of gin with similar parameters which are located in one worker chamber. When worker chambers consume cotton, it appears loosening and lengthened oval form. This allows reducing the density and accelerating the process of ginning and getting a qualitative fiber. As a result it provides stability and strength of shaft and increases durability of working parts

Biography

Saidnugmanov Umidjon Rustamovich has graduated Bachelor of Science in Banking and Finance at Management Development Institute of Singapore in Tashkent in 2013. He is a junior scientific researcher at International Relations Department of Namangan Engineering and Technological Institute. He has published 3 scientific articles.

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Engineering carbon into graphene on metals for corrosion mitigation

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Engineering carbon into graphene as ultra-thin coating has emerged as a new cornucopia to the protective coating against corrosion. The potential of an ultra-thin graphene as a corrosion resistant coating for copper, nickel and their alloys has been investigated in recent studies (2011-2014). Large area graphene coating is generally synthesized via chemical vapour deposition (CVD) route. We demonstrate a low vacuum chemical vapour deposition technique for synthesis of multilayer graphene on copper using n-hexane as hydrocarbon source. The characterisation of the graphene coating was done using Raman spectroscopy to determine deposition of graphene and number of layers of graphene. In this study, the performance of graphene coating on corrosion resistance of copper in 0.1M sodium chloride has been investigated by potentiodynamic polarization and electrochemical impedance spectroscopy (EIS). The quality of graphene determines its corrosion protection ability and addressing challenges in graphene synthesis will decide the technological fate of graphene as corrosion protective layer.

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