

Technical Tuesday

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Mosquito Repellent finish on Textiles

What is Mosquito Repellent finish?

The Mosquito repellent finish on textile is one of the speciality finishes in textiles, which means the finish which repellent the mosquitoes and protect the user from mosquitoes bite.

Need of Mosquito Repellent Finish for Textiles:

The mosquito repellent finish protects the human beings from the bite of mosquitoes and thereby promising safety from the mosquito-borne diseases, such as malaria, dengue fever (DF), Nile fever, dengue hemorrhagic fever (DHF), chicken gunia and filariasis, are serious public health problems in tropical regions.

Textiles Finish With Mosquito Repellent:

All the textiles should not be mosquito repellent finished, the textiles which are mosquito repellent finished are

- Nylon mosquito nets
- Cotton Bed sheets
- Baby wears
- Night wears etc...

Experimental Method for Mosquito Repellent Finish:

- The Fabric used for mosquito repellent finish should be well Desized, scoured, bleached for good intake of finishing chemicals.

Chemical used: N-N Diethyl Benz amid

Pretreatment:

- The material is treated with soap at 60°C for 30 minutes to remove the dirt on the untreated fabric. The soap solution is added into water in the proportion of 3: 1. Then the material is given hot wash and cold wash.

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Finishing Application:

- The pretreated sample is treated with N-N Diethyl Benz amide at minimum 7% concentration at room temperature for 30 minutes with water. The liquor ratio is 1:7. The material is Hydro dried. The Bath PH is maintained at 6. Finally the fabric samples were tested for mosquito repellency as per the standard test methods.

Standard Test Method to Evaluate the Efficiency of Finish:

Cage Test:

- Cage tests are the quick and cost-effective way to determine the mosquito-repelling qualities of treated textiles. The tests follow the acknowledged protocol for cage tests of repellents. For such a test, volunteers cover a defined area of their forearms with the textiles and then present it to hungry mosquitoes in cage.
- Both the untreated cotton fabric and N-N Diethyl Benz amide treated fabric is placed inside the mosquito cage containing mosquitos for 2 hours. The effectiveness of the finish is evaluated by depending upon the number of mosquitos on the samples and the bites.

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