

ABSTRACT

On the utilization of garments with the assumption that the rate of wear and tear of the back side is generally higher than that of the front one, then, if both sides are specially (identically) designed so that a user who does not know which side is back or front will place one side of the clothes back or front at random, the garment will last longer than that which is normally designed. In other words, the age of utilization will increase.

By the theory related to the random variable having binomial distribution, the age of utilizing (measure by times) such garments can be estimated by given the durability of the cloth as follows :

1. The cloth can be used B times on the back side.
2. The cloth can be used kB times on the front side.

With the above condition the garment will have the age of utilizing n times.

The values of n calculated according to the values of B from 100 to 1024 and that of k from 3 to 9 are shown briefly in the following table

| level of confidence | k | B | n |
|---------------------|-----|------|------|
| 95% | 3 | 100 | 138 |
| | 3 | 1024 | 1498 |
| | 9 | 100 | 160 |
| | 9 | 1024 | 1776 |

(2)

| level of confidence | k | B | n |
|---------------------|---|------|------|
| 99% | 3 | 100 | 135 |
| | 3 | 1024 | 1486 |
| | 9 | 100 | 155 |
| | 9 | 1024 | 1757 |
| 99.98% | 3 | 100 | 129 |
| | 3 | 1024 | 1464 |
| | 9 | 100 | 144 |
| | 9 | 1024 | 1720 |

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