Bollobás, Béla; Erdős, Paul; Spencer, Joel; West, Douglas B.
Clique coverings of the edges of a random graph. (In English)

Bounds on the clique number of the random graph (with the edge probability of $1/2$) are derived. It is proved that almost every graph with n vertices has a collection of $O(n^2 \ln \ln n/(\ln n)^2)$ cliques that cover all its edges. It is also proved that for almost every graph with n vertices, in order to cover all its edges it is necessary to use at least $(1 - \varepsilon)n^2/(2 \ln n)^2$ cliques.

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