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Minimal coverings of a 3-manifold with special open subsets

What is the minimal number of "special" open subsets U of a closed 3-manifold M^3 that cover it?

We will discuss this question with the following nine meanings of the word "special":

absolute
1. Homeomorphic to $\mathbb{R}^3$
2. Homeomorphic to $S^1 \times \mathbb{R}^2$
3. Homeomorphic to an open subset of $\mathbb{R}^3$
4. Contractible (in themselves)

relative
5. Contractible in M^3
6. π_1-contractible in M^3
7. H_1-contractible in M^3
8. H-contractible in M^3
9. S^1-contractible in M^3.