

In the universal coating problem, the goal is to enclose any given object with a thin layer of substance that may serve as a protective layer for the object or isolate malicious objects from their environment. We consider an extension to the 3D hybrid model for programmable matter in which robots cannot move tiles of the initial configuration (called native tiles), but instead is able to construct and deconstruct artificial tiles at will. We present an algorithm that solves the coating problem, i.e., fully encloses a given object  $T$  with artificial tiles, by a single robot in  $O(n^2)$  rounds. Further, we present our progress towards a tighter analysis in the case where  $T$  has genus 0, in which case, we conjecture that the algorithm requires  $O(n \log n)$  rounds.