Given a Delone set $Y$ (that is, a point set of Euclidean space which is relatively dense and uniformly discrete), one may consider its finite sub-patches as analogous to finite sub-words of some infinite word. Given a notion of size for such patches one could, for example, study the growth rate of the number of translation classes of patches of size $r$ as $r \to \infty$, which provides a notion of complexity for the point set. In another direction, supposing that $Y$ has uniform patch frequencies, one may consider the set of frequencies of patches of size $r$. We consider an important class of Delone sets, the so called cut-and-project sets. Such a setup is determined by a system of linear forms, along with a choice of “window”. In this talk we will discuss how, for certain windows, Diophantine properties of the linear forms forces the number of frequencies of patches of size $r$ to stay low, and in some cases even bounded, as $r \to \infty$. (Received September 04, 2014)