Modern High-Performance Ray Casting toolkits, such as the Intel Embree library, which is a de facto industry standard, are a cornerstone of the high-performance levels seen in current CPU rendering. The purpose of Embree is an easy integration into professional image synthesis environments to accelerate rendering scenes with complex geometry, usually composed of many primitives. Unfortunately, Embree does not offer support for rendering constructive solid geometry (CSG), solids composed of a manageable amount of primitive solids by using set operations. This is a significant drawback since CSG modeling is an intuitive and powerful option for describing complex geometry. In this thesis, we describe the integration of Embree into the predictive rendering system ART and propose a method for rendering CSG by combining the traversal of Embree's and ART's internal ray acceleration data structures. The tests we conducted with virtual scenes containing CSG not being constructed from triangle meshes showed that our method is competitive with the original ART renderer and often even faster.