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# Sample Measurements from the Wavelength Shifter Deposition in DEAP-3600

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DEAP-3600 is a single phase liquid argon dark matter search experiment. The liquid argon target mass is contained in a spherical acrylic vessel and viewed by a surrounding array of photomultiplier tubes. Particle interaction in liquid argon produce scintillation light in the vacuum ultraviolet (VUV) spectrum, which is efficiently absorbed by the surrounding acrylic. To make visible interactions in the target volume, the inner surface of the acrylic sphere was coated in the organic wavelength shifter, 1,1,4,4-tetraphenyl-1,3-butadiene (TPB), which has a re-emission spectrum for VUV light in the blue-visible regime. During the final stage of construction, a 3 micrometer thick coating of TPB was applied to the vessel's inner surface using vacuum deposition. Details on the final deposition, thickness considerations, and ex-situ measurements of the coating structure from removable witness samples in place during the evaporation will be presented.

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