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Block construction and testing for the sPHENIX electromagnetic calorimeter[1] MINA MAZEIKIS, University of Illinois at Urbana-Champaign, UIUC NUCLEAR PHYSICS GROUP AND SPHENIX COLLABORATION COLLABORATION — The sPHENIX detector is the successor to the Pioneering High Energy Nuclear Interacting Experiment (PHENIX) detector at Brookhaven National Laboratorys Relativistic Heavy Ion Collider (RHIC). The sPHENIX detector will measure quark-gluon plasma properties and is composed of layers of sub detectors, one of which is the electromagnetic calorimeter, or the EMCal. The EMCal measures the position and energy of photons, electrons, and positrons, and is constructed of absorber blocks that contain scintillating fibers embedded in a mixture of tungsten powder and epoxy. Variations in block shape allow for an arrangement that gives the EMCal full azimuthal coverage. The EMCal will consist of 6144 EMCal blocks with a total of 24576 readout channels providing the required resolution. The Nuclear Physics Lab at UIUC constructs the EMCal blocks and performs quality control testing before shipping them to BNL. Beginning with raw materials, the block construction process is complex and continuously evolving to overcome complications that arise when manufacturing this state-of-the-art calorimeter. This poster will discuss the individual steps of EMCal block construction and the testing process.

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