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An Investigation of Concrete Properties in Support of International Testing Standards

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Fresh and hardened concrete testing is an important aspect in evaluating the quality of ready mixed concrete. The testing process requires many standards to ensure repeatable results. The research being conducted examines two particular standards ASTM C143-The Slump of Hydraulic Concrete and ASTM 496-Split Tension Testing of Hardened Concrete. The first test compares the slump on a flat and level surface with the slump when tested on a surface which slopes up to 8%. For each batch of concrete created, 30 slump tests are conducted and three 4x8 cylinders were created for compression testing. The second test examines whether the type of bearing material impacts the measured split tensile strength. Each batch produced six 6x12 cylinders and six 4x8 cylinders for split tension testing as well as three 4x8 cylinders for compression testing. The outcome of this research will be reported to the appropriate ASTM subcommittee for their consideration and possible inclusion in the related standard.

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