

EXPECTED IMPLEMENTATION JULY 2022

530 REVETMENT SYSTEMS. (REV 11-23-21) (FA 1-13-22) (7-22)

SUBARTICLE 530-2.1.3.3 is deleted and the following substituted:

530-2.1.3.3 Physical Requirements of Broken Stone and Broken Concrete: Use broken stone and broken concrete meeting the following physical requirements:

Absorption (FM 1-T 85)	Maximum 5%
Los Angeles Abrasion (ASTM C535)	Maximum loss 45%*
Soundness (Sodium Sulphate) (AASHTO T 104)	Maximum loss 12%** (after five cycles)
Flat and elongated pieces	Materials with least dimension less than one third of greatest dimension not exceeding 10% by weight.
Dirt and Fines	Materials less than 1/2 inch in maximum dimension accumulated from interledge layers, blasting or handling operations not exceeding 5% by weight.
Drop Test*** (EM 1110-2-2302)	No new cracks developed, or no existing crack widened additional 0.1 inch, or final largest dimension greater than or equal to 90% original largest dimension of dropped piece.

* Ensure that granite does not have a loss greater than 55% and that broken concrete does not have a loss greater than 45%.

** The Engineer may accept rubble exceeding the soundness loss limitation if performance history shows that the material will be acceptable for the intended use. The Engineer will waive the soundness specification for rubble riprap (broken stone) when project documents indicate it will be placed in or adjacent to water or soil with a sulfate content less than 150 parts per million and a pH greater than 5.0. Soundness is not required for broken concrete.

*** The Engineer will waive the Drop Test unless required to ensure structural integrity. Provide all equipment, labor and testing at no expense to the Department. EM refers to the US Army Corps of Engineer's Specification Engineering Method.