

**American Railway Engineering and Maintenance of Way Association
Letter Ballot**

1. **Committee and Subcommittee:** Committee 30 – Subcommittee 4
2. **Letter Ballot Number:** 30-22-15
3. **Assignment:** To prepare manual for changes in the cement industry.
4. **Ballot Item:** Change the recommendation from a C150 portland cement only to a C150 or a C595 blended cement.
5. **Rationale:** In order to reduce their carbon emissions, the cement industry is currently moving away from producing C150 Type I, II and III Portland cement in favor of a C595 Type IL (L for limestone) blended cement. This change has already occurred in certain parts of the country and should be nationwide eventually. This means both the Manual and manufacturers need to be prepared need to accommodate the new type of cement.

Draft Not Yet Approved

4.2.2.1 Cement

- a. Cement shall be portland cement ~~and shall meet the requirements of meeting~~ ASTM Specification C 150 Type I, II or III or blended hydraulic cement meeting ASTM C595 Type II. It is recommended that cement alkali content of Na₂O equivalent (Na₂O + 0.658 K₂O) be as low as possible and not greater than 0.6%.
- b. Alternatively, instead of using low alkali cement to minimize the risk of alkali-aggregate reactivity, pozzolanic materials such as fly ash, silica fume, or slag may be used, provided concretes made from the proposed cement, aggregates, and pozzolan have a demonstrable and proven durability record. As concrete durability problems may not become evident for some time, it is recommended that a minimum service record of 10 years be used to assess performance.
- c. Cement mill certificates should be obtained on a regular basis during tie production in order to ensure consistency in chemical ingredients. Under no circumstances shall substitution of cement be permitted unless it has been pre-qualified through the tests listed in this section.

Draft Not Yet Approved