

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

1. **Committee and Subcommittee:** Committee 30 – Subcommittee 4
2. **Letter Ballot Number:** 30-22-20
3. **Assignment:** To review and update every section of the manual.
4. **Ballot Item:** Upon review of section 4.8.1, the subcommittee decided on changes that would directly link the user to Test 7 and cut out redundancy.
5. **Rationale:** The section contained impedance requirements that were already shown in 4.9.1.14 and a reference to this section. 4.9.1.14, in turn, references Test 7. We removed the impedance requirements already shown elsewhere and added a direct reference to Test 7 to streamline the user's experience.

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#### 4.8.1 REQUIREMENTS (~~1990~~2023)

Individual concrete cross-ties for use in signal circuit tracks together with their fastenings should be electrically isolated from the running rails so as to provide a minimum impedance of 20,000 ohms ~~per tie~~ when a c energy of 10 volts, 60 Hertz is applied when tested per Chapter 30, Part 2, Section 2.8, Test 7, Fastener Electrical Impedance Test (see as required in Article 4.9.1.14 for test procedure).

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