The RTA TieID Uniform Marking System for Crossties

In 2004, following the RTA convention presentation of Dave Lowe, CN engineer, then RTA President Mike Neidert appointed and chaired a task force of Class 1 engineers to develop a standard system for identifying wood crossties. The task force was comprised of Craig Domski - UP, John Bosshart - BNSF, Dale Ophardt - CSX, Preston Painter - NS, Mike Roney - CP, Don Gallery - retired CN, and Dave Lowe - CN.

During the first conference call of this task force the following was determined:

1) That there was consensus that a uniform tie identification system is a worthy goal
2) That there was some commonality about the information desired.
3) That the primary reasons for the system are:
    a) Tie history
    b) Identification of specialized ties to enable proper shipment and installation
4) That a system needed to be designed which could be flexible enough for all railroads to use and to provide some limited ability to customize.
5) And, that such a system would be voluntary in its use in general and no single application method to the tie should be standardized since some roads wish to brand and others may wish to apply it in some other manner.

Below is the result of several hours of hard work of this task force. Many variables have been considered as well as significant debate about the order in which the identifying characters should be assigned. Where possible, the reasoning for the choices made will be explained.

TieID is a uniform system of character-based nomenclature for marking ties that can be utilized by railroads whenever the need to identify specific tie attributes is deemed necessary and appropriate for an individual railroad. The system shall consist of three *"lines"* of information. (Note: not all *lines* must be used. If a railroad only wants what line 1 offers, then that's all that they use. However, by implementing a complete system, each railroad has the ability to customize within a complete standardized system):

The *first line* will contain information on **year of manufacture, plant of manufacture, and railroad ID**.

> ➤ -The *first character* of the *first line* will contain the year of manufacture (05 for 2005)

➢ -The *last character* of the *first line* will be the railroad purchaser's ID (if desired) following the AAR's alpha code system for all railroads except the seven primary class 1 roads. For the seven primary class 1 roads, the symbols of ID shall be: UP, BN, CN, CP, NS, CX, KC. The reasoning behind this designation being the last character of the line is that some railroads do not wish to have their name branded on the tie for legacy tie concerns. So in this way, if a railroad does not want its symbol on the tie, it can simply be left off without confusing or impacting the rest of the information on the first line.

➢ -The *middle character* of the *first line* will be up to three characters indicating plant of manufacture (utilizing an RTA standardized system of plant ID.)

Thus, **05-BP1-CN** would indicate that this tie was manufactured by *BPB's #1 plant for CN in 2005.*

The *second line* will contain all **processing** information:

➢ The *first characters* of the *second line* will contain information about the primary preservative. In the case of creosote that would be:
  • C7 which would equal Creosote 7 pound retention. If other retentions are specified then the number would change to reflect that specification. C represents creosote.
  • Copper Naphthenate would be designated as N. The two AWPA approved retentions are .06pcf and .055pcf for mixed hardwoods and Oak/Hickory respectively. I would suggest that to simplify matters a numeral 5 would indicate the .055pcf and 6 indicate .06pcf. Thus N5 would indicate ties treated with Copper Naphthenate to .055pcf retention.
  • Even though no one is using pentachlorophenol at this time, we have to make allowances for it in the system so L has been chosen (rather than P because this could be confused with AWPA "P" stds.) Two retentions are permitted for Penta 5.6pcf for Oaks and mixed hardwoods and 6.4pcf for softwoods. Thus L5 and L6 would be the designations respectively.

➢ The *middle characters* of the *second line* will contain conditioning information **AD** for air-dried **BD** for Boultonizing (or Boulton Dried)

➢ The *last characters* of the *second line* would contain modifications to the primary preservative information. Thus, if an additive was used (such as blending with oil) or pre-treatments occurred with sodium borates, this would appear in this place:
  • For pre-treatments, the designation is SB for sodium borate pre-treatment
  • For blended material, M (for modification of the primary treatment) and a numeral for identifying the percentage of the blend a table of blend percentages could be developed if necessary. M5 would

indicate 50% blend of oil, M3 would indicate 30% oil, etc. A designation of MD would simply mean that a modification has been made to the primary treatment, but not pre-treatment or blending.

Thus, **C7-AD-SB** would indicate **air-dried ties pre-treated with sodium borate and with primary treatment of creosote to 7 pounds per cubic foot retention.**

N6-AD on the second line would mean **copper naphthenate air-dried ties treated to .06pcf retention (no modification.)**

C9-BD-M5 would indicate **ties Boultonized to 9 pounds creosote retention blended at a 50/50 ratio with oil.**

A *third line* could be reserved for wood type *(first character)* and tie grade *(second character)* and a character for customization *(third character)*. This line of information is still being debated and no final standard is proposed at this time. However, in the future, for wood type we would propose that only one system be used and that that system be based upon species groupings that were developed after exhaustive research with the RTA Tie Usage Index system developed in 2002 (Roman numeral and letter based---to minimize characters this system may need to be adjusted somewhat but that can easily be done.)

ALSO NOTE: For customizing, railroads could designate anything they want to standardize for the last character of any third line of marking.