A quick comparison of Chemonite ACZA to creosote

Chemonite ACZA treated railroad ties are a vast improvement over creosote treated ties in efficacy and are environmentally a better choice. Creosote used in the tie industry has changed since the early 1980's in that the preservative solution has been cut 50% with oil. Originally creosote came from the coking process and was refracted from the waste product. Creosote is now primarily purchased from China, Mexico, and Europe. Little comes from the United States. Stake tests in the USDA's Forest Product Laboratory's, Comparison of Wood Preservatives in Stake Tests (2011 Progress Report) show creosote stake samples started in 1940 are still performing well but none with the diluted creosote preservative or the creosote preservative of today. Creosote contains at least 200 different **chemical compounds, most of which are aromatic hydrocarbons.** Due to the refraction process many of the most important constituents are bled off for other uses such as naphthalene which is an affective insecticide. ACZA stake tests which have been in place since 1981 and are still doing extremely well with no failures at retentions as low as 0.25 pcf. ACZA crosstie retentions are 0.40 pcf per AREMA.

Actually knowing what is in creosote is hard to determine due to the various origins of the coal and constituents that are extracted for other purposes as the previously mentioned naphthalene. Most ties used in the United States are hardwood and treated with creosote to refusal or gage retention instead of ACZA's exacting penetration and retention standards verified by bore samples and testing per the AWPA Standards. ACZA as a preservative has certain registered constituents which must be contained in the wood and quantified to their percentage and weight based on pounds per cubic foot. Thereby the customer can be assured of what is contained in ACZA preservative treated timber or ties.

Handling creosote treated wood has some limitations. In comparison to creosote treated wood which is pungent in smell and can produce chemical burns from handling, ACZA treated wood can be stored, handled and worked like untreated wood. When handling, cutting, or drilling untreated wood persons should use gloves and eye protection.

Another difference is in the leachate of both preservatives, creosote is treated with oil which results in an oily residue and all the problematic effects of that versus a highly immobile preservative with little loss of constituents over the life of the treated tie or timber especially in ground contact. ACZA treated wood has been continuously studied for its effectiveness and ability to perform in environmentally harsh conditions. These studies indicate that ACZA treated timbers are fire resistance, resistant to wood pecker damage and carpenter ants. Another study has shown that ACZA treated wood is very resistant to spike with drawl making it desirable for holding spikes and other screw like fasteners. ACZA has been used in the harshest environments and has performed admirably from salt water emersion in docks and piling to commercial cooling tower applications around the world.