Eastern Alloys, Inc.

WHY USE PREMIXED GALVALUME?

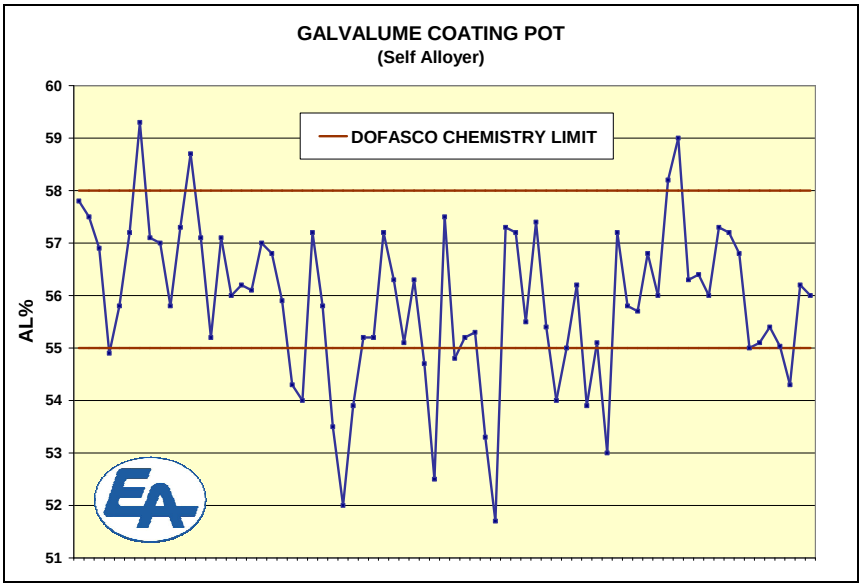
Galvalume is a scientifically engineered material which offers superior corrosion protection than other hot dip or continuous coating alloys. The alloy contains approximately 55% aluminum which can cause difficulties during alloying process. Eastern Alloys has developed a process to alloy Galvalume, ensuring that the alloy is within specification limits. This eliminates alloying step and associated problems for our customers.

There has been much research & testing done to determine the differences between Premixed and self alloyed Galvalume. The following is a summary of the benefits that can be obtained by using Premix Galvalume:

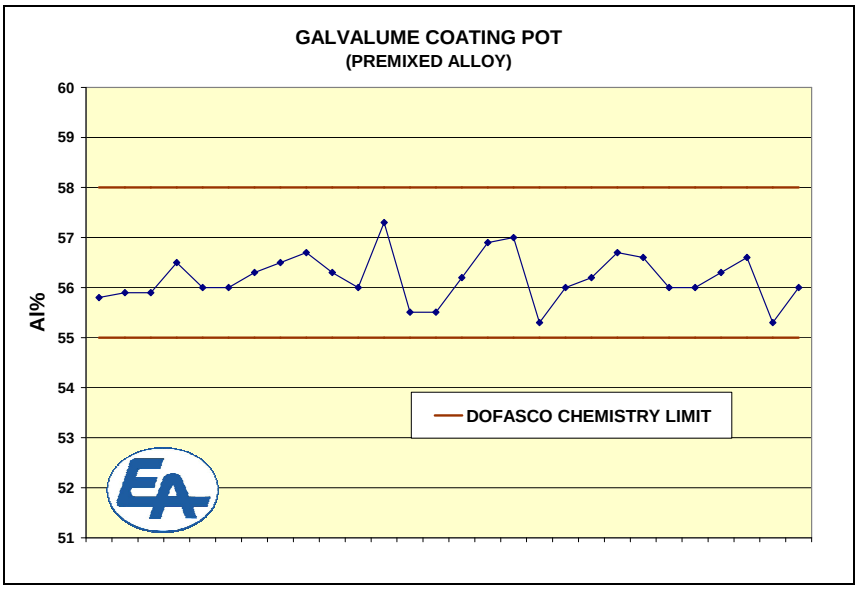
Possible Issues by Alloying Galvalume:	Benefit using Premixed Galvalume:
Inconsistent Alloy control	Galvalume coating thickness is measured by the amount of zinc in the coating using in-line X-Ray detectors. If the alloy chemistry is not consistent, the thickness measurements could be inaccurate. Using premix helps eliminate these inconsistent bath chemistries. Tests have shown that chemistry variation in Premix alloy was 1/3 to 1/2 that of self alloyed material. (**See graphs 1 and 2)**
Corrosion Requirements	Galvalume's ability to resist corrosion is due to the material's chemical analysis. Out of Spec Galvalume can lead to inferior corrosion performance.
Higher Energy Costs	When alloying, pure aluminum requires higher temperatures to dissolve in the melt. Studies have shown that using premix alloy saves approximately 7% in energy costs.
More Dross	Studies have shown that dross in premixed alloy is approximately 50% lower than that of alloying the material on site due to the lower melting temperatures.
Inductor Life	Because of segregation, higher required melting temperatures, dross buildup & corundum buildup, blockage of the inductor channel can be a very serious problem which can lead to production stoppages. To "unclog" the inductor channel, very aggressive drilling techniques are used, which will shorten inductor life considerably.
Productivity	Premixed Galvalume melts 10-30% faster (melting temperature is much lower than other aluminum alloys). This helps improve productivity and could make the premix furnace unnecessary.
Labor Costs	Premix alloy comes in one shape versus a combination of shapes and sizes for aluminum, zinc, and silicon; therefore, inventory costs, handling costs and chemical analysis costs can be reduced or eliminated by using Premix alloy.

Although the material costs of Premix Galvalume is higher than the combined material costs of each alloyed metal, the purpose of this article is to highlight the other "hidden" costs associated with Self Alloying which when added together make using premix very attractive. In addition, using premix eliminates several issues which allow the user to focus on making product, and not worry about alloying.

The above discussion is only a brief synopsis of the results found from tests performed comparing premix alloy to self alloying. For the full testing results, or if there are any questions concerning the benefits of Premix Galvalume, please contact Eastern Alloys.



Graph 1 – Testing done showing chemical analysis results on Self Alloyed material.



Graph 2 – Testing done showing chemical analysis results on Premixed Alloy.