

CASE STUDY



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Metal Coating Technologies Provide Critical Edge For Dry Bulk Solids Handling Leader

By Darin Chase, General Magnaplate Corp.

For over fifty years, Acrison has established itself as an industry leading authority in dry bulk solids handling, specifically the precision metering of dry solid ingredients by volume or weight and the closely related proportioning, blending, storage and hopping of these materials. Acrison's expertise is well known throughout the processing industries. In fact it is rumored that whenever a dry solids metering/hopping application arises that cannot be easily solved, or when competitive equipment fails to do the job, the user will contact Acrison's headquarters in New Jersey for their assistance.

Although Acrison offers a comprehensive and versatile range of volumetric and gravimetric feeders, the company also maintains an ongoing R&D program to ensure that it retains its longstanding design leadership position. The company maintains an in-depth knowledge of the latest industry applications and engineering issues to ensure that they stay ahead of the curve and their competitors as well. According to Paul Matarazzo, Senior Mechanical Engineer at Acrison, Inc., one of the Company's strengths is its use of the various metal coating technologies available.



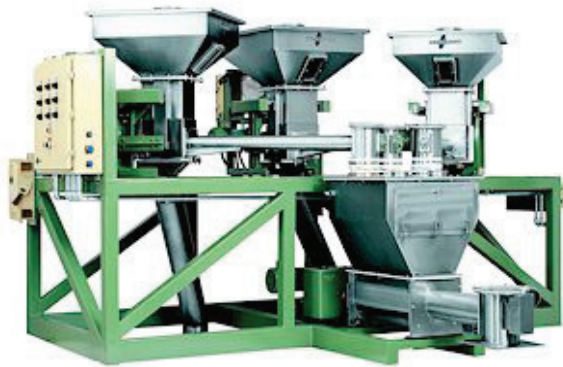
“Metal coatings play an important part in the performance of our products, primarily because of the variety of applications our equipment serves,” reports Matarazzo. “One of the principle issues is the reduction of friction on our metal feeders to prevent materials from sticking. Certain coatings will help prevent material build-up on critical components of the machinery, especially in cases where adhesive materials are being handled and/or where metering accuracy is critical. And where metering performance must be optimum, any error can adversely affect the quality of the end product. Obviously, this can have huge cost



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implications, for example, in the manufacture of automotive parts or consumer products where the color of the part is extremely important.”

“Many dry solid materials are themselves extremely expensive, especially in the food industry where nutrients, vitamins and color additives are being used. The food industry also has its own unique requirements - any of the coatings we use have to be FDA or USDA-compliant, and we serve many customers in the food manufacturing industry.”



Due to strict regulations set forth by the FDA, USDA and other global agencies, many industries are seeking more advanced coating solutions to alleviate compliance concerns. For example, many of our customers have made the switch from chrome to General Magnaplate’s NEDOX® to help meet these agencies’ guidelines.

Abrasion (wear) of various machinery parts due to the nature of certain dry bulk solids can also create issues for customers, as well as additional expense. Matarazzo adds,

“Certain materials will cause abrasion and this kind of wear not only requires the periodic replacement of applicable parts but also results in costly production downtime to replace such parts. Materials such as metallic powders, oxides, and silica-type ingredients are particularly abrasive, leading to premature wear of certain feeder components.”

“In other cases, our customers have applications where materials will react with steel, including stainless steel, which is an issue because most of our equipment is produced in stainless steel. Materials such as chlorides will react causing corrosion and even pitting on the steel - a real issue for companies such as pool chemical manufacturers. The reaction between the materials can also contaminate the original material, so the right coating is imperative.”

“We also use metal coatings for applications that require a release property in high temperature situations up to 1000°F. These applications require coatings that are able to withstand high temperatures while providing functionality.”

There are many coating options available to Acrison, some of which are done in-house while others are outsourced including coatings provided by proprietary metal coating supplier, General Magnaplate Corporation.

Given the available options, a key question is why would Acrison outsource coatings, as it’s traditionally more expensive to send parts out for coating, and which also adds lead-time to the overall manufacturing process?



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“General Magnaplate has built a reputation similar to ours,” responds Matarazzo, “as industry experts that customers rely upon to provide a viable product and to solve application problems as well. And because of Magnaplate’s immense industry experience, they are able to provide us with release coatings that outperform others available in the marketplace; our relationship with them is another weapon in our arsenal, especially when a customer comes to us with a specific problem to solve. It’s another way for us to underscore our reputation and ensure high levels of customer satisfaction.”

“Recently we had a customer whose materials were reacting with our steel parts in a rubber compounding application, so we turned to Magnaplate to solve the problem. If they do not have a coating available to solve the problem, then they’ll engineer one that custom fits the application.”

“Magnaplate provides a wide variety of proprietary coatings, many of which meet strict federal standards such as FDA and USDA compliance. This enables us to better serve these particular industries. Most importantly, however, is the life-span that Magnaplate’s coatings offer metal parts.”

“Because some of the machinery we produce is designed to survive a minimum twenty years on a grueling 24/7 schedule, the equipment is also expected to provide customers with minimum downtime, near-zero maintenance requirements and a very low cost of ownership. For example, whether a weigh feeder is metering a product at



a very low feed rate, or one that exceeds 100,000 pounds per hour, every hour that the feeder is not operating can be extremely costly for a customer.”

“In one instance we installed a volumetric feeder in Chicago in 1963 and today, it’s still going strong without even replacing a part! Magnaplate’s coatings are designed to enhance the performance of Acrison’s feeders when dictated by specific application requirements. And it does help that our customers are very familiar with the Magnaplate name; that in itself breeds additional confidence.”

To learn how surface enhancement coatings can eliminate problems in your powder or bulk solids application, contact technical representatives at General Magnaplate, call 800-852-3301, email info@magnaplate.com, or visit www.magnaplate.com.