



## *New Compounding System Automates 72 Ingredients*

**Manufacturer – 3Sigma**

**Product - Brake Mixes**

**Case History #105**

### Background

A Southeastern brake manufacturer supplies numerous automakers with original equipment. For years the manufacturer had operated their mixing system manually. This manual process was identified as a potential quality control improvement area. More consistent, better quality brake pads were key in retaining existing customers and attracting new customers.

As the company manufactures tens and tens of different brake pads to meet the varying specifications of their numerous customers the number of raw ingredients used is extensive. After extensive research the company identified 72 major and minor raw ingredients to automate.

3Sigma, formerly CMT, has worked closely with this customer at numerous USA plant sites in the past. At the recommendation of other plant and project engineers this plant agreed to a meeting to discuss the project.

At our first meeting 3Sigma was presented with a concept drawing, which included two rows of 36 feeders to automatically batch the customer's 72 raw ingredients. At this time a competing screw feeder was drawn into the system. In fact, the customer had already decided on using this technology and chosen the manufacturer. After a formal presentation of 3Sigma's Geo-Mate™ Feeder the customer halted movement on the feeding system until more research into the Geo-Mate™ feeder was finalized.

### The Solution



**Geo-Mate™ Fast Feed**

After testing all 72 products, at the customer's site, 3Sigma's Geo-Mate™ feeder was identified as the best feeding solution for this application.

One key advantage, in terms of batching accuracy, is the fact that the Geo-Mate™ runs at 1,200 to 3,600 cycles per minute, even in the dribble mode of operation.

**Inherently this provides a  
pulse-less feed  
and  
optimal batch accuracy.**



**Geo-Mate™ Slow Feed**

The testing at our customer's site resulted in the design of only **three Geo-Trays™** and confirmed the selection of the **two Geo-Mate™ feeders** recommended and proposed.

Complete access, for cleaning and changeover, takes seconds. By removing one quick-disconnect clamp the entire Geo-Tray™ is accessible for complete cleaning. The unit also empties completely when run dry, with no product heel, as you would find with a screw feeder.



### **Results**

- The system was installed in February 2005.
- Only one problem was experienced during commissioning – one Geo-Tray™ had to be altered to achieve the required flow rate.
- Due to the simplicity of the Geo-Mate™ feeding system the customer commissioned the system with no assistance from 3Sigma.
- Since the Geo-Mate™ uses no moving parts not a single spare part has been ordered to date.
- One basic feeder designed has allowed the operators to quickly master their operation.
- The automated system has improved the customer's end product and their bottom line.

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