The Asphalt News Rag

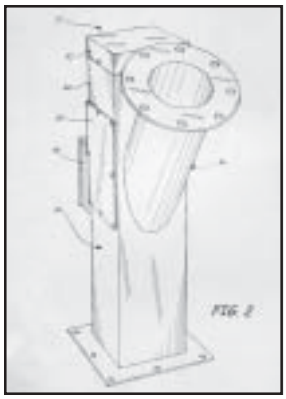
NAPA Member

A www.ClarenceRichard.com Publication

November 2006

www.ClarenceRichard.com

CONTINUOUS WEIGH SCALES
EZ Flo™

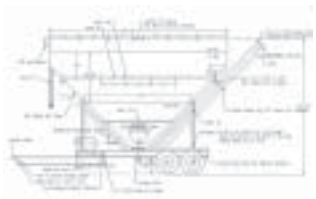


*Accurate

*Reliable

PATENTED

CONTINUOUS WEIGH FEEDERS
FOR RENT OR FOR SALE



PORTABLE PLUGMILLS

PIGS

Clarence Richard Co. 800-372-7731

3 Day Workshop

Private Workshops available throughout winter season.

Dallas, TX
Jan 11-13 Thurs - Sat
Phoenix, AZ
Jan 15-17 Mon - Wed
Austin, TX
Jan 18-20 Thurs – Sat
Tampa, FL
Jan 22-24 Mon - Wed
Raleigh, NC
Jan 25-27 Thurs – Sat
Nashville, TN
Jan 29-31 Mon – Wed

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Reston, VA
Feb 01-03 Thurs – Sat
Oklahoma City, OK
Feb 05-07 Mon – Wed
St Louis, MO
Feb 08-10 Thurs – Sat
Seattle, WA
Feb 12-14 Mon – Wed
Minneapolis, MN
Feb 15-17 Thurs - Sat
Boston, MA
Feb 19-21 Mon – Wed
Newark, NJ
Feb 22-24 Thurs – Sat
Pittsburgh, PA
Feb 26-28 Mon-Wed

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Indianapolis, IN
Mar 01-03 Thurs – Sat
Lansing, MI
Mar 05-07 Mon - Wed
Albany, NY
Mar 08-10 Thurs – Sat
Daven Port, IA
Mar 12-14 Mon-Wed
Omaha, NE
Mar 15-17 Thurs – Sat
Atlanta, GA
Mar 22-24 Thurs - Sat
Bismarck, ND
Mar 26-28 Mon – Wed
Pierre, SD
Mar 29-31 Thurs – Sat

FOR SALE Financing Available

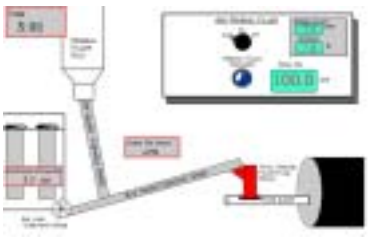
CONTINUOUS Weigh SILO/Surge Feeders

FOR RENT

Mineral Filler Problem

March 2004 Better Roads issue regarding SMA Mineral Filler

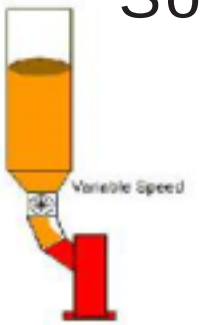
- "SMA is very sensitive to aggregate gradation", says Richard Schreck, Executive Vice President of the Virginia Asphalt Association. "A 5% change on the No. 4 sieve means it's no longer an SMA. That mixture could fail…"
- "Usually, you auger in the mineral filler" says Garbelman - Terex. "It has to be precisely controlled, it has a very narrow tolerance band. Too many fines will ruin your mix, and too few fines will ruin it also. You also have to meter the baghouse fines that you put back in the mix." Commonly, producers monitor the amount of baghouse fines being added, then subtract that from the total needed to determine the amount of mineral filler to use.



SMA Solution

PRECISE CONTROL

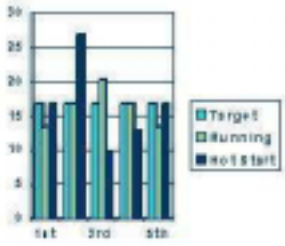
LIME Solution



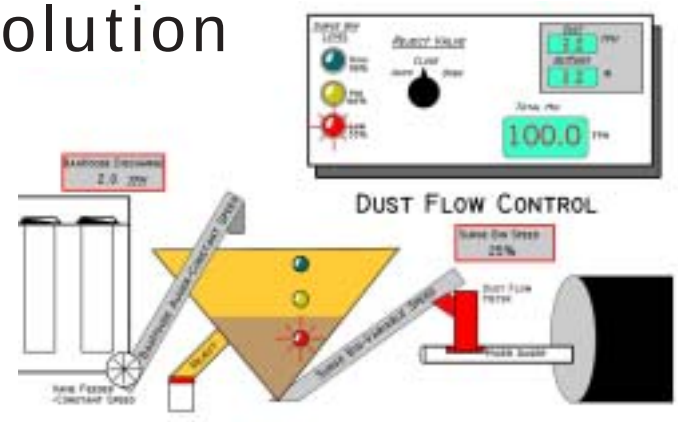
Baghouse Dust Problem

Typical Baghouse Dust Return – *Sags and Surges.*

1) Expect 42% swings (+/- 21%) slowly swinging every 4 minutes.
2) Hot Start - Expect a 59% surge followed by a 59% sag.



Solution



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Controlling Dust, Adding Powders and Fibers: Problems and Solutions

Flow Measurement Devices

The process of blending these materials into mix requires a continuous weighing device that provides an electronic signal like you would get from a belt scale. Belt scales do not work with powders and fibers due to the ease of these materials becoming air borne. Therefore the scales must be totally enclosed.

What happened to the good old days of making it hot and black?

Our customer has become more sophisticated. Consequently, we as hot mix and equipment suppliers strive to meet their requirements.

DOTs across the country are specifying mix with ingredients difficult to control like hot aggregate dust, fly ash, hydrated lime and fiber.

These ingredients and their feeder systems may not be required often. *The feeder systems may need to be rented as opposed to being purchased.*

The choices are many and confusing when you take into consideration the ingredient equipment, the asphalt mixing process type that the ingredient is being added to, the DOT introduction spec, how often you may make this specific mix, the ingredient with it's availability, MSDS and handling characteristics

These ingredients vary in density and flowability depending on aeration, compaction and bridging characteristics, consequently making measurement and control difficult. This problem makes volumetric control unacceptable and gravimetric control a necessity. Just because one knows vane feeder speed does not mean one knows the amount of material being introduced into the mix. When it comes to SMA, precise control of the minus 200s is critical to a successful mix.

Vane feeders are much like a cold feed bin in the manner that they both are volumetric feeders.

A) The aggregate in cold feed bins are rather uniform in density all the time. The aggregate in cold feed bins flows quite easily usually with out any mechanical stimulation.

B) One revolution of the cold feed bin may yield 1,000 pounds of aggregate every time if the bin is not bridging or running empty. If the bin runs empty, it does not take long for the loader operator to visually notice or the aggregate belt flow scale to sense the difference. *The success of the cold feed bin and the vane feeders as reliable volumetric feeders differ sharply*.

A) Mineral filler in a silo may be quite uniform in density when the material is flowing through the silo. That changes when material is being aerated over time or the amount of aeration or vibration changes or if the silo is being filled at the time.

B) During vane feeder volumetric calibration; one revolution of a vane feeder may yield 10 pounds every time if the silo is not bridging or running empty. If the silo runs empty, it may take a disastrous amount of time for some one to notice. The vane feeder is totally enclosed making it impossible for plant personnel to see that it is running empty. Unless a gravimetric flow scale is measuring flow down stream, there is nothing to sense the difference. Thousands of tons of mix has been made, trucked, laid, milled up, trucked back and then recycled. The cost in all this waste surely has to be more than the cost of adding a flow measurement device.

These ingredients and their feeder systems may not be required often. *The feeder systems may need to be rented as opposed to being purchased.*

Continuous Weigh Scale Types

1) Nuclear- Expensive to own and operate.
2) Silo on load cells depletion – good for inventory control – bad for immediate, accurate control. The overall job may be in spec but he road may have wet and dry spots.
3) Weigh depletion hoppers – good for flow control of dust, fly ash, calcium carbonate, fiber – not as good for hydrated lime because the flow starts and stops when charging the weigh hopper; the repetitive silo flow interruption sometimes encourages bridging. Aeration is necessary for the pod as well as the silo. Long 60 degree cones are necessary for maintaining flow.

4) Continuous Flow Scale – good for flow control of hot aggregate dust when temperature compensated- good for fly ash, calcium carbonate, fiber and hydrated lime. Flow Scales are the *least expensive* to buy and operate, and take up *less space*.

Anti-Strip Hydrated Lime

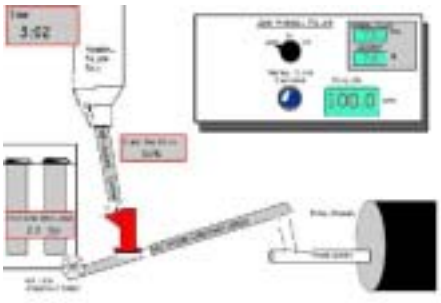
Hydrated lime tends to coagulate when allowed to come in contact with moisture. Fiber tends to bridge when dispersed. Fly ash becomes cementious when exposed to water.

These ingredients are conveyed in enclosed elevators, augers, chute, pipes and hoses. Sometimes they need to be aerated and vibrated in order to flow. Hydrated lime requires at least a 60-degree slope on the discharge cone. Aerating and pneumatic conveying requires conditioned dry air. Air drying and pneumatic conveying is expensive. Compared to augers and elevators; pneumatic conveying requires higher horsepower, wears out equipment and vane-feeder (air locks) fast, can take up plant baghouse and fan capacity thereby lowering plant production capacity.

Aeration. Hydrated lime likes to bridge especially when exposed to humidity. Aeration becomes necessary and requires about 5 psi at 60 cfm per silo (about 1 hp to every CFM). When using plant air, the air must be dried. Air-drying this compressed air is expensive to buy and operate.

A better alternative, other than using expensive plant compressed air with an expensive air dryer; is using 5 psi compressed air from a *positive displacement blower*. The type of aeration produced is a very important item for maintaining product fluidity while reducing energy and equipment costs. When advised about the benefits, many companies are turning to *positive displacement blower* for this task. When compressed air is readily available, dessicant dryers are a better choice over refigerant drying during the hot days of summer.

Hydrated lime has been used in the asphalt mix as a mineral filler, anti-strip and modifier. As an anti-strip, hydrated lime is usually added into a continuous pug mill with water.



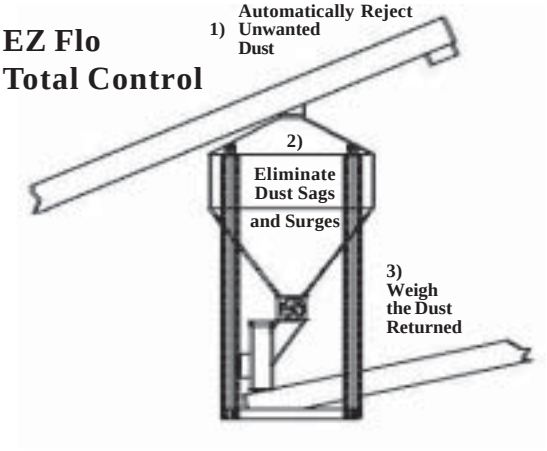
Water is required to moisten aggregate before the aggregate is to be dried. This process promotes better adhesion to the aggregate. Since hydrated lime is added to the aggregate before the aggregate is to be dried, both batch and continuous mix plants should mix the hydrated lime in a continuous pugmill or belt plow before the drier.

Pug Mills For Sale or For Rent

Baghouse Dust

The aggregate drying process inherently separates the fines from the aggregate. When air velocity changes (due to production, moisture, temperature variations) through the drier, so does the sizes and amount of fines separated. Consequently, the loading of the baghouse changes and so does the amount of dust returned. Complicating the issue further is the baghouse discharging the dust in sags and surges (plus or minus 21% over a three minute period of time). Adding insult to injury, the Hot Stops allow the bags to relax when the fan is turned off causing most of dust to fall and fill the auger below. When the Plant is started again, the drier initially sees the full auger surge (59%). Since the bags released most of their dust, the augers run empty until the bags build up the dust cake again. This situation then causes the dust to go from the surge to a sag (59%) until it slowly builds up the dust cake over a 5-minute period.

The solution to this problem are *1) practicing correct operation procedures*. These procedures being a) slowly change from one production rate or temperature to another b) maintain consistent aggregate moistures c) slowly change exhaust damper settings and *2) investing in the right equipment such as surge bin with flow measuring and control.*



Baghouse dust is continuously fed to surge bin. In order to use all the dust while smoothing all the sags and surges, the operator sets his vane feeder discharge speed so the level fluctuates between the Low and Middle Level Bindicators during normal operation and between the Lower Bindicators and High Level Bindicator during a Hot Start. The surge bin should be sized to absorb these fluctuations.

When Rejecting; The operator can set the Dust Flow Controller to the percentage wanted . The Flow Scale reports to the controller and increases or decreases the vane feeder depending on the plant rate. The excess fills the surge bin and is rejected out the second Surge Bin Auger Discharge Port.

Asphalt Plant Operation Workshops *plus* 'On-Line Safety Training'

You Have Questions ??

- *Identify and Troubleshoot Plant Problems.*
- *Safety...Accident Prevention and Damage Control.*
- *Understanding the Combustion & Drying Process.*
- *Increase your Energy Efficiency & Improve Pollution Control.*
- *Improve Plant Performance Expectations with Plant Calibration & Plant Maintenance.*
- *Study Operation Procedures & Improve Mix Quality*
- *Hands On Electrical Troubleshooting*

Most Contractors are not OSHA Compliant

OSHA requires employers to provide written procedures for lockout/confined space entry for every piece of equipment and situation. This is a very complex topic made quite simple. Workshop registration includes Classroom instruction plus On-Line written procedure development. **See page 7.**

The Big Apple Hot Mix Team

Workshop goes to New York City

— The Big Apple Hot Mix Team Workshop goes to New York City —

Anthony Bordenca has tried to make it to one of the national workshops with some of his people for several years. Anthony is just part of the team that makes his operation work. Although it was important for him to attend, it was more important that the whole team attend. He felt that everyone must understand together the operation and how it works and understand the importance of their role and contribution.

Also, Anthony was required to provide applicable safety training on a regular basis to the team. The safety class portion of the workshop not only provided the training, this training was specific to their operation.

New York City

As the class unfolded, problems of all sorts were documented and addressed. Production, Mix Quality, Maintenance, Operation, Efficiency ideas were offered and reviewed. Problems were identified and solutions sought.

After a season of working with the team, Anthony feels the team found itself motivated in making corrective actions after determining their direction. It is not news that a cohesive team of adequately trained minds out performs a team independent brighter minds.

ENROLL TODAY!

1-800-372-7731 www.clarencerichard.com

Clarence Richard Services

NAPA Member

• • LOCATIONS & DATES 2007 • • •

3 Day Workshop

Private Workshops available throughout winter season.

Dallas, TX
Jan 11-13 Thurs - Sat

Phoenix, AZ
Jan 15-17 Mon - Wed

Austin, TX
Jan 18-20 Thurs – Sat

Tampa, FL
Jan 22-24 Mon - Wed

Raleigh, NC
Jan 25-27 Thurs – Sat

Nashville, TN
Jan 29-31 Mon – Wed

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St Louis, MO
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Atlanta, GA
Mar 22-24 Thurs - Sat

Bismarck, ND
Mar 26-28 Mon – Wed

Pierre, SD
Mar 29-31 Thurs – Sat

Plant Operator Workshop

This workshop has been specifically designed to improve the skill levels of all plant operator personnel. This intense workshop breaks down the entire plant operation process into steps that every plant operator can understand and will benefit from. Operators will learn how to identify and troubleshoot plant problems. Safety, maintenance and accident prevention is covered in great depth. An understanding of the combustion and drying process is taught. Operators will learn how to increase plant efficiency, plant production and improve pollution control. We aim to improve your plant performance expectations with detailed information on plant calibration and plant maintenance, and improve your quality with a detailed discussion of mix quality and operation procedures.

Edmonton, AB

Improve Quality

Reduce Maintenance

Reduce Pollution

Reduce Repair Time

Improve Plant Safety

Increase Production

Increase Efficiency

Increase Profits

REASONS TO ENROLL IN THIS EXCEPTIONAL WORKSHOP

■ **You'll see immediate and direct benefits from the theoretical and practical troubleshooting of asphalt plants and their electrical circuits.** Prevent lengthy downtimes as operators learn how to quickly and effectively identify and resolve electrical problems.

■ **Get substantial results from a relatively small investment.** For just $995, this workshop will pay for itself almost immediately. Production will go up, and Mix quality will improve, while lengthy repair delays will be minimized.

■ **2004 Plant Operation Reference Manual...** 1,000 page, 2 Volume set with Test Meter. Randy Rizzo, B A Blacktop; "My brief case with all my notes, tables, cheat sheets was stolen. I've been impaired without them since. These References replaces most of what was stolen from me". Harry Klatt- 1997, Buffalo Bituminous; "This Reference Manual alone is worth the Registration money". Wonder what Harry would think about them now?

Winvan Paving-Plant Superintendent Rick Rogers explains the benefit of a product he discovered and nicknamed 'Wonder Rubber'

■ **Each attendee receives a free Multimeter.** During basic electrical training operators are shown how to effectively use a multimeter to quickly locate and identify circuit problems so that repair times are minimized.

■ **This seminar will be presented at a location near you.** We bring our workshops to you, saving you the hassle, inconvenience and expense of travel. We can even arrange a private workshop for your company at a time and location most convenient to you.

Plant Operator Workshop Agenda

Thermal & Mechanical

- Operators Identify Their Plant's problems.
- Burners and Combustion
- Exhaust System
- Drying and Heating
- Pollution Control and Plant Efficiency
- Stack Test Preparation
- Mix Quality
- Operation Procedures
- Plant Maintenance and Calibration
- Operation Production Expectations

Electrical & Safety

- Basic Electrical
- Meters/Safety
- Components
- Circuits
- Paper Troubleshoot
- Live Troubleshoot
- Identifying equipment to lockout / tagout & confined space to permit. Writing procedures for lockout / tagout and confined space.
- Handling asphalt oil safely. Oil burns prevention and first aid. Preventing explosions and fire. Understanding and testing safety interlocks. Damage Control.

On-Line Safety Training

At your pace, your place, your convenience.

PRIVATE WORKSHOPS

Arrange a specialized private workshop that is geared toward the needs of the plant operators at your company. We have provided many workshops for individual companies. We request a minimum of ten attendees, but have taught as many as forty employees at one time for larger companies. We can structure the workshop to requirements of your company. A Florida company recently hosted us for an entire week in order for us to work with every operator on electrical troubleshooting and to enable hands on teaching at their own plant. Price of private workshops varies depending on numbers, location, meters, text and meal requirements. Our schedule filled fairly quickly, so to guarantee your choice of dates call us today to arrange a private workshop.

Cincinnati

Past Private Workshops: Elam Construction, Grand Junction, CO 25 - Vulcan Materials, L A, CA 12 - Old Castle, Grand Junction, CO 50 - Old Castle-Columbus, OH 100 - Mar-Zane-Zanesville, OH 25 - Rockford Blacktop-Rockford, IL 14 - Reeves, Americus, GA 16 - Sloan, Greenville, SC 18 - S E Johnson, Finlay, OH 48, Iafrates-Warren, MI 16 - Ajax, Sarasota, FL 10 - Granite construction, Salt Lake City, UT 18 - Mathy, Amery, WI 25 - LaFarge, Toronto, ON 22 - Works Alberta, Edmonton 25

Safety Training Program

On-line OSHA Required Employer Provided Lockout/Confined Space Written Procedures

A Professional Asphalt Plant Safety Consultant states about the asphalt industry; "Many contractors have not complied to this OSHA requirement. Most of those that believe they comply are significantly misinformed".

Charlotte, NC

Baltimore, MD

Los Angeles, CA

Safety Interlocks

Most plants have nearly 40 safety interlocks (burner and material handling). Learn how to easily check most interlocks every time you start and stop your plant. Safety Interlocks help prevent accidents. Don't find out your Interlocks don't work by accident.

Hot Asphalt Oil Burn Prevention and First Aid

Hot Oil Heater and Tank Safety. Everyone experienced in our industry knows people burned by asphalt oil. Sometimes fires and explosions are part of the scenario. Don't be among the few that experience these catastrophes.

Plant Operation and Damage Control Procedures

Know what to do, when to do it and what not to do.

Clarence Richard Co. 800-372-7731

TTENDEES TO RKSHOP

&H Contractors 4 Secon uth Coast 2 Paving Prod-Harris 1 AR Covington 2 st.2 Hutchins 3 AZ Koch Mesa Matls 2 CA Jaxon 2 alt 1 Fitch 3 Calmat 12 6 Western 2 City of Den-2 Schmidt 9 LaFarge 11 Paving 1 CT Allstate 1 Materials 2 Tilcon 9 FL 10 Kaloosa Asphalt 3 Pan 1 Bankhead Asphalt 14 18 Scruggs Company 2 Glover IA Fred Carlson ng 2 Barkley 2 Grimes 8 Heartland Asphalt 2 natts 9 ID ZZ Asphalt 1 ate 4 Gordon 4 IL Howell 2 Valley Improvement 3 l Blacktop 3 Dunn Com-ond Construction 4 Uni-ann Flatt 3 Valley Con-ge 3 ET Simmonds 4 K-Tickle Asphalt 6 Cham-ymead 2 Harco 1 Circle ks 4 JH Rudolf 4 Stoneco end 2 Aspahlt Supply Co es 3 JH Shears 1 Cornejo America 1 Ritchie Paving rtified 2 Glass 3 Ragland Bros 2 TL James 16 D&J Bridge 2 MA Middlesex 15 Glynn 2 Ted Ondrick Kary Asphalt 2 E Lane 7 oker 4 Thompson 1 MI alt Products 19 Ajax 8 aginaw 9 Cadilac 5 Na-verine Paving 1 MN Mid-Tri-City 2 Buffalo 3 Bitu-ktop 4 Bituminous Mtrls Tamara 2 Anderson Bros Thoreson 1 FM Asphalt 4 n Const 2 Hodgeman & 4 Mid Minnesota 3 Mark polis 1 MNDOT 2 South-ster Sand 1 McLaughlin inz 1 Intex 10 Plaistead 1 4 Shamrock 1 MO NB erson Asphalt 2 Fahey 5 og Contracting 4 Higgins Delta 5 MS Blain 1 Hot 2 Nelcon Construction 1 ers 1 Riverside 5 Helena m 2 Zurich Insurance 1 uctors 3 Nello Teer Co 5 na Sunrock 6 ND Strata ail 2 Northern Improve-ing 3 NE Flinn Paving 10 ckwall Corp 3 Weldon 9 n Asphalt 1 Manzo 1 NM Lewis Quarry 12 County Tilcon 1 LC Whitford 2 Grace Industries 1 John oad Mtrls 3 Barrett 17 Burns 1 Eastern Rock 2 ome Bituminous 1 Casey toneco 4 Barrett 2 Mar-8 Gerken Materials 17 t Dolemite 2 HP Streicher elly 43 OK Quapaw 1 McConnel 1 Glover 4 OR State 1 Mt. Hood 1 Morse ouck 4 PA Wilson Paving erry 1 Davidson 2 Lindy 3 Matls 3 Allegheny 2 IA sett 1 SC Ashmore 1 JF ction 15 SD Norris 2 Hills tation 3 Jensen Rock & Roys Paving 11 Topkote Concrete Materials 2 TN mers Taylor 4 Tennessee sphalt Matls 1 TX Vulcan os 8 Price 4 Lewis 4 Tyler 7 Gilbert Const 2 Gilvin-lland 5 Jagoe 1 VA Inter-1 BP Short 6 Newton Virginia Paving 6

Asphalt Plant Operation Workshops

Regarded nationally as *MUST-ATTEND* workshops, our program breaks down the entire plant operation process into steps every Plant Operator can understand.

'Hands-On' 'Live' troubleshooting

Many small contractors don't have the advantage of full-time, on-site technical people to support the Operators in maintaining their process at peak performance and on the leading edge of the latest technologies.

Clarence Richard Services offers their seminar tailored to significantly improving the skill level of plant operation personnel. Safety is number 1. Accident prevention, proper lockout procedure, first aid, safety interlock checks are part of Safety. Operators will learn about Electrical Safety and Basic Electricity, including troubleshooting procedures, test meter usage and actual hands on troubleshooting of live electrical circuits in class. Other topics include Plant Operation Procedure, Calibration and Maintenance. The entire Exhaust Gas System from the Burner to the Stack is covered including: Pollution Control, Dampers, Flighting, Air Velocities, Combustion, Fuels, Excess Air, Test Preparation, and much, much more. This will be accomplished by focusing instruction on the Plant Process Sciences and the latest in state-of-the-art procedures. This successful workshop has been given the highest marks by past attendees. Our track record has shown that seasoned as well as rookie operators walk away with information and ideas that pay for this course over and over again.

Canada

REGISTRATION: Mail or fax your registration to 952-939-1026, call toll free 1-800-372-7731. Seating is limited, so sign up today...

WORKSHOP

Workshop City:_____

Workshop Date:_____

WHO WILL BE ATTENDING

Name 1: _____

Title: _____

Name 2: _____

Title: _____

Name 3: _____

Title: _____

YOUR ORGANIZATION

Company: _____

Address: _____

City: _____ **State:**_____ **Zip:** _____

Phone: _____ **Fax:** _____

Approving Mgr's Name:_____

Contact Person:_____

Title: _____ **Email Address:**_____

Lodging: When size requirements are met Contact Person shall be notified of lodging/ workshop location. Terms**:** Travel and lodging at attendee's expense. Ask recommended hotel for Workshop Lodging Discount. Nonrefundable airline tickets: do not book until minimum class size requirements are met. Class size requirements are usually determined 45 days prior. Cancellation**:** Attendees may cancel with full refund up to 45 days prior to class start date. After 45 days:- a) attendee may attend free any following year or b) attendee may attend any other Workshop location, free. CR Services liability for any costs incurred at anytime are limited to the course fee.

Questions: 1-800-372-7731, 952-939-6000, fax 952/939-1026, Email, clarence@clarencerichard.com

PLANT OPERATION WORKSHOP INCLUDES:

- 3-day Workshops will be held when attendance is 14 or greater at the cutoff time. 2-day workshops are automatically provided when attendance is 13 or less. In addition to a low student to instructor ratio, a full curriculum is provided.
- Test Meter
- On-Line Safety Training
- Reference Manuals
- Lunch and Refreshments

Registration Fee:

Registration is $995.00 per registered attendee.

$995 USD x _____ = $ _____ Due

- **Travel Tip:** *Airline tickets can typically run about $250 RT when purchased to include Sat night stays, 2-3 weeks in advance of travel dates. The workshop schedule has been designed to accommodate this.*

Method of Payment:

Important: Send your payment now, tuition is due before the workshop. Make checks payable to Clarence Richard Services, 3908 Tonkawood Rd, Minnetonka, MN 55345.

Card Number_____

Name on Card _____

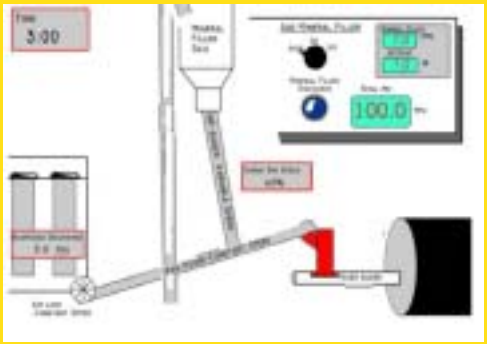
Expiration _____

Information Disclaimer

The information provided in the workshops is considered by us as always being in a state of continuous improvement. This information is our opinion and the opinion of others gathered through knowledge, experience and research. The information here is true to the best of our knowledge. Your experiences and research may be different. This information is provided as a guide. Consult professional engineering for your application.

Mineral Filler

as minus 200 make up such as dry lime dust, fly ash, calcium carbonate, hydrated lime, etc.

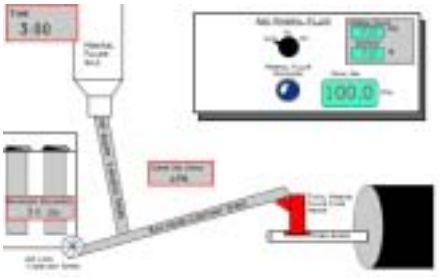


Fiber

is now being added to asphalt primarily to reduce asphalt oil drain down in an open graded friction course. Cellulose fiber (typically .3% of total aggregate) is more oil absorbent than Mineral fiber (typically .4% of total aggregate) consequently less Cellulose is specified.

In order to make up the difference of baghouse dust with mineral filler (common in SMA mixes), the baghouse dust must be accounted for at all times. As discussed previously, the baghouse delivers in sags and surges and therefore must be controlled. This can easily be accomplished in 1 of 2 ways:

1) Weigh all material through one flow scale or weigh pod and vary the speed of the added mineral filler to the proper proportion
2) Divert all dust from the Baghouse into the mineral filler silo and weigh the silo out put with weigh pod or flow scale. (This does not work as well as 1 above because the silo is storing both mineral filler and dust allowing for less mineral filler storage.) This system works well when hydrated lime is being used as a mineral filler because the dust dilutes the hydrated lime and makes hydrated lime more flow able.



Many plants do not have equipment to smooth out dust sags and surges. An investment in special equipment can be absorbed by all the other commercial and agency mixes processed by using the mineral filler silo to smooth out dust sags and surges. Dust can be controlled by diverting the Baghouse Dust through the mineral filler silo for just the cost of the means to get the dust into the silo.

The schematic (top of next column) illustrates how easy it may be to retrofit an existing facility to 1) control dust in all applications 2) add a mineral filler 3) make up baghouse dust differences such as is necessary for most SMA mixes. Add a silo and hot leg next to the dust incline auger and a flow scale downstream of both.

SMA Dust Makeup Control
When 10% total minus 200 is needed in the mix and baghouse dust can only supply a surging proportion; the perfect solution are either of the two schemes above. 1) Dust is augered directly to the flow scale and into the drum. 2) The flow scale reports to the controller that not enough Minus 200 is being fed into the drum. 3) The controller increases the feed from the Mineral Filler Silo into the incline auger. 4) The flow scale reports the increased flow to the controller. 5) The controller adjusts until satisfied.

Baghouse Dust Control When used to smooth out baghouse dust sags and surges: 1) The slide gate under the incline auger is opened, thereby feeding the dust into the boot of the 30 tph bucket elevator 2) The dust fills the silo while the discharge mechanism speed is constantly adjusted by the automatic dust flow controller 3) The dust flow control is set near the anticipated dust percentage expected 4) When the dust silo High or Low Level indicators reports the silo level extreme, the operator changes the dust flow set point accordingly.

Mineral Filler as an Additive

Mineral filler is normally added as a percentage of total mix or total aggregate. Therefore it is important to measure just the mineral filler. The same equipment can be used as above by moving the flow scale auger from the discharge of the baghouse incline auger to the silo discharge. The silo can no longer be used to smooth out dust so the dust is conveyed all the way up the incline auger and into the mixer. The down side to this, is the mix is not protected from dust sags and surges

Batch Plant-Fiber

Several methods for introducing fiber into batch plants are:

1) Some manufactures provide pre-weighed bags requiring an operator to load a bag into the pug mill directly for each batch.

2) The fiber can be delivered into the pug mill as it is batch weighed by a fiber feeding machine. Fiber is normally blown into asphalt spray and hopefully finished when the oil has completed the spray cycle. Wet mix time will have to be extended if the fiber-feeding machine cannot deliver all of the fiber during the Asphalt Oil Discharge time.

3) The fiber can be delivered into the weigh hopper as it is batch weighed by a fiber feeding machine. Two problems may arise. The fibers may get damaged due to rock friction and the fiber may also be sucked away into the scavenge air stream.

Information Disclaimer
The information provided in the NewsRag is considered by us as always being in a state of continuous improvement. This information is our opinion and the opinion of others gathered through knowledge, experience and research. The information here is true to the best of our knowledge. Your experiences and research may be different. This information is provided as a guide. Consult professional engineering for your applications.

Continuous Mix Plant-Fiber

FIBER FEEDERS
WITH FLOW SCALE

When fiber is introduced into a continuous mix plant, it is important to blow the fiber directly into the asphalt spray before it has a chance to become airborne.

Fibers are packaged in smaller 40 to 50 pound bags or in larger bales weighing 600 to 1600 pounds. A plant running at 200 tph will consume 20 pounds of cellulose fiber per minute making it very easy for a fiber machine loading person to keep up with production. Counting bags every so often allows the operator to know the fiber machine is keeping up.

CRCo designed the EZ-Flo Fiber Feeders up to 50 pound bags feeding directly into the hopper from the loading table of the EZ-Flo Feed Conveyor. The addition of this conveyor makes this fiber feeder very practical for handling the big jobs. The conveyor not only makes it easy for one man to load the fiber feeder, the added storage capacity of the conveyor makes it possible to keep the Fiber Feeder Hopper charged more often.

Some contractors require several hundred pound bales to be used for larger jobs. Some machines have hydraulically operated loading cassettes loaded by fork lifts. The cassettes empty themselves into the feed hopper. Some feeders can be fed directly by loader bucket. CRCo has several designs capable of loading Bales into the EZ-Flo Fiber Feeder available upon request.

Model 240 Fiber Feeder-Operation

This model is capable of holding 240 pounds of fiber until hopper needs refilling. Typically, Operator positions a fork lift with pallet of fiber near loading table, so operator can easily slide bag from pallet onto the loading table. The operator slits the bag open and removes the poly wrap and slides compressed fiber onto the conveyor and into the hopper. The conveyor can handle up to 400 lbs of fiber before recharging.

30,000 TON SMA
INDIANA

20,000 TON SMA
TEXAS

1,500 TON OGFC
MINNESOTA

50,000 TON SMA
LOUISANNA

8,000 TON SMA
KENTUCKY

Fiber
Bags

EZ-IN

EZ-OUT

FLOW SCALE APPLICATIONS

BLENDING AND BATCHING

CALCIUM CARBONATE
COLORADO

HYDRATED LIME
SOUTH DAKOTA

FLYASH
OKLAHOMA

BATCHING CEMENT
ALABAMA

FLYASH WITH
BAGHOUSE DUST
TEXAS

BAGHOUSE DUST
MINNESOTA

Horizontal 1000 BBL Silo

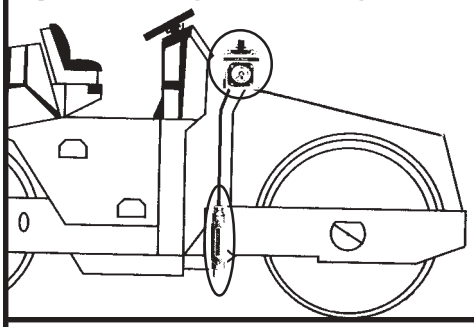
w/EZ Flo Scale Blending-Batching Mineral Filler-Hydrated Lime-Dust

Portable

No Crane

No Concrete Pad

New!!
Digital Lighted Indicators
for EZ Night Viewing! ***$995.00***

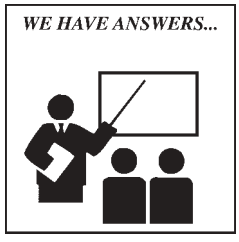


EZ Flo™
Continuous Weigh Scales

Baghouse Dust
Mineral Filler

Training

Page 3



Problem: Environmental Protection Agency

40 CFR Part 112 - Oil Pollution Prevention and Response;
Rules and Regulations 47147

(8) Engineer or update each container installation in accordance with good engineering practice to avoid discharges. You must provide at least one of the following devices.

[i] High liquid level alarms with an audible or visual signal at a constantly attended operation or surveillance station. In smaller facilities an audible air vent may suffice.

[ii] High liquid level cutoff devices set to stop flow of a predetermined container content level.

[iii] Direct audible or code signal communication between the container gauger and the pumping station.

[iv] A fast response system for determining the liquid level of each bulk storage container such as digital computers, telepulse, or direct vision gauges. If you use this alernative, a person must be present to monitor gauges and the overall filling of bulk storage containers.

Solution:

Asphalt/
Fuel Oil
Tank Level
Gauge

BUY / Sell - Used Equip

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