



INTERNAL CORRESPONDENCE

METALS DIVISION

P. O. BOX 579 • 4625 ROYAL AVE., NIAGARA FALLS, NEW YORK 143

To (Name) Dr. W. B. DeAtley
Division Dr. T. J. Kagetsu
Location Mr. R. W. Rebholz

Date April 5, 1979
Originating Dept. "Calidria" Asbestos

Answering letter date

Copy to Messrs. G. R. Adams
R. E. Byrne, Jr.
H. B. Rhodes
F. J. Shortsleeve

Subject Packaging

File

As previously discussed with all of you, I suggest that we meet at the King City plant on Wednesday, April 25, 1979 to discuss packaging of our asbestos products. Although our packaging "deficiencies" are not new, (see my letter dated 7/9/76 and HBR's dated 7/8/76, Attachments I and II) we are now being forced by the DOT regulations to take some action. To "kick-off" our discussions, I offer the following comments:

1. All pellets (except bulk) should be packaged in non-breathing paper or plastic bags with stitched, pasted or otherwise sealed fill openings. This would require auger or gravity packers, new bags and the "sealing" equipment. As an interim measure to minimize spout leakage, we should consider the use of a "band-aid" over the fill spout opening, the major source of leakage.
2. The optimum method to package open fiber would probably be to make blocks of no higher packaged density than current and package the blocks in paper or plastic bags or film, which would be pasted or heat-sealed to effect a dust and sift proof bag. An alternate possibility is to use vacuum filling rather than the current air pressure packing. This would eliminate the need for breathing bags and I understand this method is used for Cabosil. An interim method to approach the dust and sift proof bag is our current one of using shrink-film; however, we all recognize this is not a 100% seal and improvements are needed. The fill spout is the real source of excess leakage (see enclosed letter from Tomoe, Attachment III) and we should continue to evaluate an extended sleeve which can be sealed in some manner.

Work done in 1977 on a vacuum packer is described in the enclosed report (Attachment IV), but I have seen no further information.

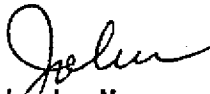
Special packaging, such as that described for RG-244 and SG-100 in the enclosed correspondence (Attachment V), should also be discussed. It is very possible that we could enjoy increased RG-244/SX-24 sales if we had a package which could be added without opening to a compounding tank. Floor tile companies now do this

April 5, 1979

with our plastic bagged pellets and a Japanese paper company requires repulpable bags which are added unopened into the papermaking system.

It should be decided if a Chemicals & Plastics or Corporate "packaging expert" should be invited to the meeting. Also, someone should be "in charge" of the packaging program as I do not have the time or the expertise to continue, except to advise what is needed from a marketing standpoint.

I plan to arrive Monterey on UA-567 at 7:17 p.m. on 4/24/79, drive a rental car to King City and stay at Keefer's Inn. If United is not flying I will drive to King City from San Francisco (I arrive there at 5:08 p.m. from Pittsburgh/Chicago on AA-257). I'd be glad to take anyone from Monterey or San Francisco. I will be leaving King City for Fresno at about 4:00 p.m. on 4/25. I will meet Harry Rhodes in Fresno to testify at the Standards Board hearing on asbestos regulations on 4/26.


John L. Myers

JLM:dal
Attachments



INTERNAL CORRESPONDENCE

METALS DIVISION

P.O. BOX 579 - 4625 ROYAL AVE., NIAGARA FALLS, NEW YORK 143

To (Name) Mr. W. C. Thurber
 Division UCC - Metals Division
 Location 38th Floor
 270 Park Avenue
 New York, NY 10017

Date July 9, 1976
 Originating Dept. "Calidria" Asbestos
 Answering letter date

Copy to Messrs. R. E. Byrne, Jr.
 R. H. Larrison
 R. D. Malin
 H. B. Rhodes
 R. L. Schult

Subject Packaging & Transportation
 Problems with Asbestos Dust

File

Please reference the attached copy of Harry's letter to me on the same Subject.

With increasing awareness of dust problems, especially asbestos, we are getting an increasing number of customer complaints about our packaging. The principle problems are dust on the external surfaces of bags or shrink-filmed pallets, dust between the paper bag and shrinkwrap, and dust released from pallets when the shrink-film is removed. Almost all competitive products are "block-packs" which are completely sealed in plastic or heavy paper bags. They have no leakage or dusty bag problem except when the bags are punctured in an occasional accident.

I am fully aware that we have different packaging problems than our competitors; e.g., hot pellets and fluffy open-fiber products. However, different problems should have different solutions; and I think it is time to engage the services of Engineering or the Corporate packaging experts from Bound Brook. I am concerned about an OSHA confrontation on our packaging and transportation practices, which may "shut us down" or force us into hasty and expensive solutions which may be avoided by doing something now. Basically, barring accidents, we need to be able to move the product from our plant to the place where the bag is opened for use without any visible leakage or discharge of fiber.

Unless the costs are entirely prohibitive, I think we should start shrink-wrapping all bagged products immediately, and make sure that the shrink-wrap has adequate integrity for shipment on pallets or for loose-loading in containers or railcars. If, as Harry suggests, we must have an inspector at the plant, then this cost should be part of the consideration. If bag vacuum cleaning has not been instituted, then this should also be done as soon as possible.

By no means am I being critical of the plant. Although carloading practices might be reviewed and shrink-wrapping equipment checked, the basic problem is one of unique package development and is beyond the scope of plant expertise and its responsibilities.

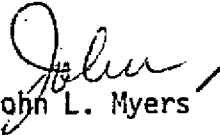
To: W. C. Thurber

-2-

July 9, 1976

Equipment for densifying "UCAR" silica fume is being evaluated by Jim Downing and NF Engineering. Preliminary results with a vibrating ball mill and corrugated rolls look encouraging and may work on RG-244 and other open fiber products.

I think "us layman" have failed to solve the packaging problem and it should now be turned over to the experts.


John L. Myers

JLM:da1
Attachment



INTERNAL CORRESPONDENCE

METALS DIVISION

• P.O. BOX 579 - 4625 ROYAL AVE., NIAGARA FALLS, NEW YORK 14302

To (Name) Mr. J. L. Myers
Division UCC - Metals Division
Location Niagara Falls, NY

Date July 8, 1976
Originating Dept. "Calidria" Asbestos

Answering letter date

Copy to File

Subject Packaging & Transportation
Problems with Asbestos Dust

This confirms our recent discussion of certain packaging problems with Super Visbestos. Recently we ran dust counts at three warehouses in Wyoming during the loading of 20-30 bags of Super Visbestos onto a truck. The counts ranged from 0.7 to 1.7 fibers/cc for shrink wrapped bags and showed 2.5 fibers/cc for some older product which had not been shrink wrapped. A similar test in Oklahoma made shortly after the shrink-filming was initiated gave levels of only 0.2-0.5 fibers/cc in a warehouse that was dusty and not particularly well maintained.

These levels are consistent with reports that we have been receiving from Montello, i.e. these are generally small but noticeable amounts of fiber on the bags, on the floor of the railcar, and in any area where the bags have been handled. The amounts evident are considerably more extensive in the shipments received in the past few months than was the case with initial shipments.

The measured fiber counts are well below the allowable ceiling and TWA levels. As you are well aware, however, the medical examination, initial monitoring, and to some extent the warning sign requirements are not triggered by the allowable limits but by the presence of any loose asbestos fiber at all. More important, the sight of loose fiber has been found to set-off a "view with alarm" reaction among OSHA inspectors who lecture on the dangers of asbestos and feel that some sort of citation must be handed out. It is thus very important to ascertain why the loose fiber is present and what can be done to reduce it.

In order to define the problem, Montello was asked to provide specific details of their observations. The following comments were received:

1. The principle problem area is along the edge where the heat seal takes place.
2. This edge is characterized by areas where the film is doubled, quadrupled or just wrinkled and wadded.

July 8, 1976

3. The integrity of the seal depends on the configuration of the ~~film~~ ^{film} at the time it is sealed, i.e.
 - a. Two single layers - well sealed.
 - b. Lumpy, 2-6 layers crimped - burns through and leaves holes. Also some areas where wads occur - not sealed at all.
 - c. Where asbestos dust is on film it does not seal.
4. In the early shipments something less than 5% of the bags showed sealing problems. Recent shipments show 20-25% have faulty seals.
5. Superficially the bags with the faulty seals look satisfactory. The leakage results from vibrations during shipping and from handling.

These observations appear to pinpoint the source of the problem quite well. It is suggested that we ask the plant personnel to look into the problem and advise what can be done to reduce the number of bad seals. Perhaps a regular inspection procedure or quality control specification should be instituted.

While on the subject of shipment, it is relevant to report on a recent call from Mr. Roach at the Amsco warehouse in Kansas City seeking information on how to handle a damaged shipment. Their last car leaked asbestos out on the ground when the door was opened about 3". Unloading was then done from the other side. It was found that the load had shifted in transit and the center post in the door had torn 9 bags of RG-144 about the full length of the bag. The entire car was permeated with asbestos fiber. There was a spacer between the pallets but the door had not been lined with cardboard. Mr. Roach also mentioned that this was an unusual case and the cars usually arrive undamaged and clean. I do not know whether this case represents an oversight when the car was loaded, the need to improve our loading and dunnage procedure, or one of those difficult-to-avoid accidents that occur occasionally in rail shipments. It is reported for information and appropriate action by those directly involved.

H. B. Rhodes

H. B. Rhodes

HBR:dal

TOMOE ENGINEERING COMPANY, LTD.

(ANNEX OFFICE)
SHIN SHIN KAIKAN BUILDING
14-1, NIHONBASHI 3-CHOME, CHUO-KU
TOKYO, JAPAN

MAIN OFFICE:
DAINI MARUZEN BUILDING
9-2, NIHONBASHI 3-CHOME, CHUO-KU
TOKYO, JAPAN

CABLE ADDRESS: "EOMOT"
TELEX: 02223506 EOMOT J
TELEPHONE: TOKYO 274-0411

March 2, 1979

Mr. J. L. Myers
Marketing Manager
Union Carbide Corporation
Metals Division
P. O. Box 579
Niagara Falls, NY 14302

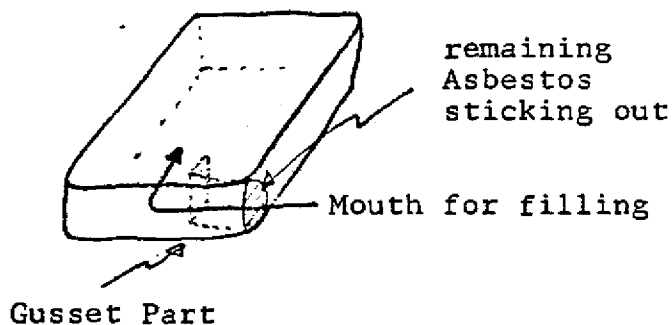
Subject: Concerning the Design of
the RG-144 Asbestos Bag

Dear Mr. Myers:

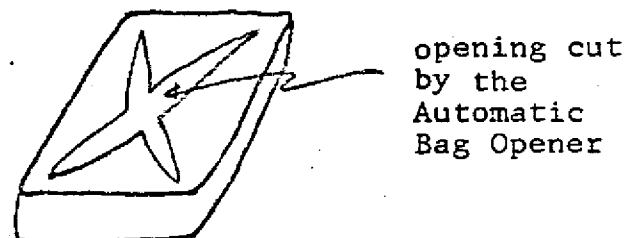
Thank you very much for the expeditious receipt via air mail of the specification for RG-144-EX. We immediately took it to the Poly Plastic Company's Fuji Plant.

From February they are going to use about 4 tons per month of RG-144 as a non-drip agent for the compounded PBT resin. In compliance to the regulations concerning the handling of Asbestos they have installed various facilities, and within them they have overcome most of the problem related to the dust problem on their automatic bag opening machine, however there still remains the problem of dusting of the Asbestos that cannot be completely removed by the automatic bag opening machine. Reason being is that the Asbestos still remains sticking out by the seam of the gusseted bag, (note sketch 1) and the machine cannot cut open that part of the bag (note sketch 2).

Sketch 1.



Sketch 2.



RECEIVED

MAR 9 1979

UCC-CALIDRIA
NIAGARA FALLS, N. Y.

Mr. J. L. Myers

- 2 -

March 2, 1979

Of the Asbestos still remaining by the seam, and the empty bag itself, all of these disposable empty bags are put in one big polyethylene bag by the workers. At that time the Asbestos dusting problem occurs, and as this may also be understood by both Tomoe and UCC, consequently they have requested us to improve on this point. It may be that removing 100% of the Asbestos from the bag may be rather difficult, however prior to establishing a tolerance range for the dust removal they wish to have Tomoe and UCC review the situation to see whether improvements can be made, especially of the part where the Asbestos sticks out by the seam.

Also since we believe that the automatic bag opening machine has its defects, therefore we are thinking of obtaining a similar machine made by the Beltyn Company of England, however, if you know of a good machine we shall greatly appreciate your kind introduction.

Thanking you in advance for your kind study of the above, and may we anticipate receipt of your comment at your earliest convenience.

Very truly yours,

TOMOE ENGINEERING CO., LTD.



H. Fukuma
Inorganic Chemicals Section

S. Shiraishi/ju

cc: Mr. R. E. Byrne, Jr. (UCC)
Mr. N. Enomoto (UCJKK)
Mr. M. Kanno (TEC)

~~REC~~ ~~REC~~
~~102~~
~~102~~

~~CC-102~~
Niagara Falls, New York, October 19, 1977

REPORT NO. 77-T-111

FILE NO. 11023 & 11108

ATTACH. II

TRIP TO: Denver, Colorado

DATE: October 12, 1977

BY: L.G. EVANS

PURPOSE: To Witness Bagging Test of Silica
Fume and Asbestos (Dust and Pellets)

DISTRIBUTION LIST

Messrs.

C.E. BOARDWINE

R.A. CASCIANI

J.H. DOWNING

W.T. DUBEE

L.G. EVANS

W.E. HAMBRICK

T.J. KAGETSU

E.W. KANTZ/File

R.J. KLOTZBACH

C.F. LINCOLN JR.

R.O. MARSTEN

R.F. MERKERT

J.L. MYERS

A.F. NASIADKA

D.A. RHODES

E.W. SHORTRIDGE

J.P. TRUNZO

E.C. WOESTENDIEK

RECEIVED

OCT 21 1977

UCC-CALIDRIA
NIAGARA FALLS, N.Y.

Niagara Falls, New York, October 19, 19

REPORT NO. 77-T-111

FILE NO. 11023 & 11108

UNION CARBIDE CORPORATION

METALS DIVISION

TECHNOLOGY DEPARTMENT - ENGINEERING

TRIP TO: WPM Systems Inc., Denver Colorado
DATE: October 12, 1977
BY: L.G. Evans
ACCOMPANIED BY: R.O. Marsten - King City
PURPOSE: To Witness Bagging Test of Silica Fume and Asbestos
(Dust and Pellets)
PERSONS
CONTACTED: G. Morley
P. Moore

PURPOSE:

To determine the feasibility of bagging Silica Fume and Asbestos in the WPM Vacuum packer.

OBJECTIVES:

To densify, improve efficiency, eliminate dust problems during packing, and reduce the dustiness of the material.

DISCUSSION:

The tests were performed on the silica fume first, then asbestos dust and finally the asbestos pellets.

WPM tested the silica fume several days prior to our arrival and had already established the equipment setting. Therefore, the testing went fairly smoothly.

Several 16" x 24" x 8" (1.78 ft³) bags were filled and weighed. Only one bag ruptured. This was caused by a poor seam in that particular bag.

The complete cycle i.e. the time to position a bag, fill it and position a new bag was not timed. The time to position the bag on the fill nozzle was very high because the nozzle diameter was too large for the bag used. This size can be changed for optimum operation.

The operation was somewhat dusty because their collector was not installed.

See the attachment on test procedure.

The asbestos dust test was only moderately successful. A ten pound bag of dust was emptied and repacked with only 12 lbs. The asbestos pellet test failed.

CONCLUSIONS :

1. The material density is doubled (12# to 23#). (silica fume).
2. One 50# bag can be filled per minute (silica fume).
3. Repeatability: plus or minus 10 oz. in 50# (silica fume).
4. Rate is estimated at 2500#/hr @ 80% operating time (silica fume).
5. The system is completely automatic except for positioning and removing the bags.
6. The dustiness of the Silica Fume is reduced.
7. Compressed air is required.
8. The non bridging hopper does not work with Silica Fume.
A stable rathole is formed. This can be easily overcome by the incorporation of a mass flow hopper.
9. A plastic bag filler nozzle is not available at this time.
10. The estimated cost of the entire system (not incl. dust collector or air compressor is \$52,000.
11. The present delivery is 16-20 weeks after Purchase Order.
12. There is a possibility that a leasing arrangement can be agreed upon.
13. Bag used in test: 16" x 24" x 8" = 1.78 ft³.
14. Weight of each bag average 40# (silica fume)
15. Asbestos dust - UCC Caledrin Asbestos Resin Grade 244.
Initial weight per bag 10# - weight achieved in vacuum packer 12#.
16. Asbestos pellets -plugged hopper and fill pipe.
Could not fill any bags.
17. This bagging method is far superior to any other means attempted to date for silica fume.
18. A safe, reliable, efficient and profitable system for UCAR silica fume at a rate of approximately one ton per hour can be designed around three pieces of equipment.
 - a. Mass Flow Hopper.
 - b. Georgia Marble Classifier.
 - c. WPM Carter-Vac Packing System.
19. A complete lab. testing report will be issued by WPM Systems in approximately two weeks.

RECOMMENDATIONS FOR SILICA FUME:

1. Design and fabricate a 50 - 100 ft³ mass flow hopper.
2. Ship the hopper to WPM Systems Inc. and install it on their lab machine.
3. Run a second series of tests using a new 2.3 ft³ bag. (Vol. to hold 50#)

TEST PROCEDURE:

1. Inflate a new bag.
2. Position on the material fill nozzle.
3. Set the scale to expected weight.

In order to completely fill the bag and achieve the maximum density, this weight is set purposely high on the first bag so that the packing operation is never shut down by the scale. When the bag is full the packer will pulse. (This is detectable on the scale - the dial fluctuates plus and minus one pound of the total weight.)

4. The package is physically checked to determine if the bag is completely full.

The material in the package is usually very taut since it conforms to the bag cage.

If excess bag capacity remains the cage dimensions are increased. (There is a limit on the test machine - which we reached.)

5. The dimensions of the package are taken (ignoring the loose bag at the extremities) and the bag is weighed.
6. The following times are set: Time to draw initial vacuum, frequency that material valve is open (allowing material to enter bag) and duration of material flow.

The vacuum is automatically broken and atmospheric air enters when material valve closes.

Note: The bag acts as the filter media. During filling the material will tend to coat the inside of the bag blocking air flow. The air flow is reversed when outside air enters, cleaning the bag.

7. The scale is reset for automatic operation.

This must be no more than the maximum expected from the previous test on a single bag.

8. A new bag is placed on the fill nozzle and the cage closed and latched.
9. The start button is pushed and the following automatic operation follows:
 - a. The door closes.
 - b. A vacuum is drawn on the chamber.

- c. The material valve opens. (Scale records amount added.)
- d. The vacuum is broken, cleaning bag interior.
- e. "b" through "d" repeat until weight is within 5 pounds of desired.
- f. At this point the dribble feature comes in, which only opens the material valve partially. This reduces the possibility of overshooting and improves the accuracy.
- g. When the desired weight is achieved the chamber door and gauge open automaticall

LGE/dm


L.G. EVANS

ATTACH. V

cc: EWS

3/9/79

TOMOE ENGINEERING COMPANY, LTD.

(ANNEX OFFICE)
SHIN SHIN KAIKAN BUILDING
14-1, NIHONBASHI 3-CHOME, CHUO-KU
TOKYO, JAPAN

MAIN OFFICE:
DAINI MARUZEN BUILDING
9-2, NIHONBASHI 3-CHOME, CHUO-KU
TOKYO, JAPAN

CABLE ADDRESS: "EOMOT"
TELEX: 02223306 EOMOT J
TELEPHONE: TOKYO 274-0411

RECEIVED

MAR 1 1979

February 20, 1979

UCC-CALIDRIA
NIAGARA FALLS, N.Y.

Mr. J. L. Myers
Marketing Manager
Union Carbide Corporation
Metals Division
P.O. Box 579
Niagara Falls, N.Y. 14302

Subject: RG-244 and Dust Free Bag

2. For the Development of Bags which will Dissolve in Unsaturated Polyester Resin (Reference, letter dated June 15, 1978)

Concerning the aerosil #200 (CAB-O-SIL M5) being used by Japan U-Pica, in order to dissolve the bag in polyester resin so the bag can be thrown in directly as is, consequently it can be handled dust free. Subject company is especially evaluating the merits of RG-244 from the standpoint of price, and for thought of using it, and just the same as with Aerosil #200 it must be able to be handled dust free. For this effective method a bag similar to that of Aerosil must be developed.

As a lead we obtained a bag used by Nippon Aerosil, therefore we are enclosing it for you. Please analyze as soon as possible, and we sincerely request of you to successfully develop a dust free bag.

With true appreciation for your continued understanding and cooperation.

Very truly yours,

TOMOE ENGINEERING CO., LTD.

H. Fukuma

SOLUBLE BAG SAMPLE FROM AEROSIL IS 1 MIL POLYSTYRENE. FEASIBILITY OF ADOPTION FOR RG-244 SEEMS POOR BECAUSE OF BAGGING PROBLEMS WITH IMPERVIOUS PLASTIC, HOWEVER, CURRENT STUDY OF KING CITY PACKAGING SYSTEMS MAY ALLOW US SOME OPPORTUNITY TO ACCOMMODATE YOUR REQUEST.

REGARDS,

R. E. BYRNE
CALIDRIA ASBESTOS

UCC 009219

Reply to Fukuma 3/13/79

TOMOE ENGINEERING COMPANY, LTD.

(ANNEX OFFICE)
SHIN SHIN KAIKAN BUILDING
14-1, NIHONBASHI 3-CHOME, CHUO-KU
TOKYO, JAPAN

MAIN OFFICE:
DAIMI MARUZEN BUILDING
9-2, NIHONBASHI 3-CHOME, CHUO-KU
TOKYO, JAPAN

CABLE ADDRESS: "EOMOT"
TELEX: 02233508 EOMOT J
TELEPHONE: TOKYO 274-0411

October 5, 1978

Mr. J. L. Myers
Marketing Manager
Union Carbide Corporation
Metals Division
P. O. Box 579
Niagara Falls, N. Y. 14302

Subject: SG-100 for Nozawa Co.

Dear Mr. Myers:

For production of extrusion molded wall material 'ASLOC' (for household partitions and expressways noise abatement walls), Nozawa has been using about 150 - 200 tons month of Careys Canadian 7MS together with long fiber asbestos (5, 6 class). Meanwhile they have been studying SG-100 for possible replacement of Carey and lately decided upon its adoption. The potential for SG-100 is 100 - 150 tons/month. The lesser amount as compared to Carey is because the shorter fiber length of SG-100 which calls for greater amount of long fiber asbestos to be mixed with. Even with this, SG-100 costs less, and for this merit Nozawa finds SG-100 preferable in view of overall production cost.

Incidentally Nozawa strongly desires SG-102 (100 lbs bag) for reducing chances of opening bags for dust control. However, while at this plant workers are using hand hooks to handle 100 lbs bags, they desire future supplies in polyethylene-woven 100 lbs bags as Carey does to avoid punctures.

Nozawa purchases on basis of container delivery after customs clearance, and for exchange rate the mean value of one month period is applied. Our profit is 4% of CIF price which Nozawa admits.

We are going to conclude a sales contract with Nozawa in the end of October, which will stipulate orders to be placed two months prior to shipment. The products typical properties and specifications to be submitted thereupon will cover the following items per your advice.