

INTER-OFFICE MEMO **TENNECO CHEMICALS, INC.**

TO W. C. Champion AT Burlington DATE October 3, 1975
FROM H. R. Horton AT Burlington COPY TO J. R. Gregor
SUBJECT HOOKER B-282 (PVC 200) D. C. Hawk
A. M. Taranto
File

On October 7 Mr. Tom Paisley, Resin Quality Control Lab Supervisor at Hooker, visited with me to discuss our gel specifications and testing procedures. This visit was in reference to the three bulk truck shipments of their B-282 which we recently returned to them because of high gel counts.

He brought with him two five pound samples of recently produced material which their laboratory claimed to have good gel counts. With the samples he had pieces of the gel sheets which they ran. Examination of these sheets showed them to be excellent for gel content. However, a resin sample was prepared here and a gel count run for him while he observed our procedure. This sample was not counted because it appeared to be no better than the shipments which we had rejected.

At Tom's request, I took a part of this sheet and pressed it in our steam press at 300°F, 15000 psig pressure for three minutes (Hooker's method). No appreciable change was noted in the sheet after this.

Along with these samples and gel sheets, he brought pieces of rigid extrusion films of the three returned trucks. These appeared to be very good films and indeed this material may not be bad in rigid applications.

Tom could not explain the vast difference in the results obtained by his people, and the results of the gel test which he watched us run here. He took along with him both his gel sheets and the sheet which we had run here indicating he would contact his plant people for help.

Per a phone conversation with J. R. Gregor, portions of the resin samples submitted by Tom were forwarded to Dr. Len Gross in Flemington for evaluation via extrusion.

Tom contacted me again today (10/8) and indicated that they had a "glassy particle" problem which they were resolving and would have some "gel free" material available within the next day or two. He indicated that he would bring us a sample of this material on Monday, 10/13 for our evaluation.

A copy of Hooker's gel testing method is attached for your information.

H. R. Horton (gs)
H. R. Horton

HRH/gs
Attachment

COLORITE 009866

RUCO DIVISION

HOMOPOLYMER LABORATORY

RESIN TESTING METHOD - 9

MAY, 1955

TITLE: Gel-Count or Fish-Eye Determination

SCOPE: A sample of resin is compounded with various ingredients, pigmented black, and milled at a given temperature for a given period of time. The resultant, milled sheet is then examined over a light source for gels, or unpigmented imperfections.

APPARATUS: Two-Roll Mill, Steam heated
Pyrometer, Surface, 0-400°F
Illuminating Box
Mil Gauge
Timer
12 oz. Plastic Coated Paper Cup
Spatula, 6" Blade
Hydraulic Press, With Heating & Cooling Capacities

CHEMICALS: DOP
Stearic Acid
Advance BC-100 Stabilizer
D-11 Superba Black (Claremont)

PROCEDURE: 1. To a tared 12 oz. cup add the following ingredients:

Resin	50.0 grams
DOP	20.0 grams
Stearic Acid	0.1 grams
Superba Black Paste	0.2 grams
BC-100 Stabilizer	1.5 grams

Fig 1477-30%

2. Mix ingredients thoroughly with the spatula.
3. Check the mill temperature with the surface pyrometer. The temperature requirements for the various resins are as follows:

Type	°F
B-20	280
B-22	280
B-28	310
B-32	310
B-34	310
B-41	310
B-45	310

4. Set mill to give a sheet thickness of 15 mils, place entire sample on the mill, set the timer for five minutes and then start the timer and the mill simultaneously.

E.P.8.

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- 2-
5. Work material constantly by rolling the stock from one side of the mill to the other to insure thorough mixing.
 6. At 4-3/4 minutes after start of test, allow material to spread out on the rolls. At the end of five total minutes, cut sheet on the underside of the rolls, and remove it from the mill.
 7. Cut a 6" x 6" square from the center of the sheet, press it for 2 minutes at 10 tons pressure with a temperature of 300°F. (67 psig). Sheet thickness should now be approximately 10 mil.
 8. At the end of the two minute period, maintaining the 10 ton pressure, turn off the steam, open the by-pass, and then turn on the cooling water.
 9. When press is cool to the touch, lower the press, and remove the sample.
 10. Place the filmed sheet on the viewing box and count the number of obvious fish-eyes.

REPORT:

The total number of fish-eyes in a 6" x 6" square cut from the center of the filmed sheet.

SAFETY:

The mill is a useful but dangerous tool. Wear gloves to avoid burns. Button cuffs on long sleeved shirts. Keep hands away from nip of rolls. Be sure any tie is removed or firmly tucked away.

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