

bestos was used to replace a similar amount of clay. Then the TiO_2 additions were reduced from 8% to 6.8%. This resulted in an ash retention increase during the production run from 38.4% to 40.6% across the wire and from 68.1% to 71.8% overall. (Data on this analysis throughout an 11-hour period are shown in figure 5.)

But despite the reduction in TiO_2 , the ash and titania contents of the paper at the couch remained about the same as before the trial. The TiO_2 content averaged 6.26% with asbestos compared to 6.12% before, and opacity and brightness were therefore kept at 92% and 81.5%, respectively.

As at the other mills, tray-water and saveall effluent solids were markedly reduced:

	Total solids, lbs./1000 gallons	
	No asbestos	With asbestos
Tray-water	30.3	25.5
Saveall influent	22.0	19.2
Saveall effluent	11.7	8.9

From the figures, the mill estimates that tray-water solids were reduced by over 15% while losses from the saveall were slashed by 24%. Saveall recoveries improved from 47.0% to 53.7% with asbestos in the system.

Asbestos' contributions apparently have not been limited to paper. Board producers also report significant improvements in retention by using the high-purity variety. One mill producing 28-35 pt. white vat-lined chipboard increased the retention of pigments in both the topline and underliner, as measured by the decrease in solids in the white water.

In the topline system, 1.9% asbestos was added to the furnish without any other change in the furnish components. White-water solids were sharply reduced from 20.5 lbs./1000 gallons to 3.8 lbs./1000 gallons. As for the underliner, a 1.4% asbestos addition meant a reduction in white-water solids from 17.7 lbs./1000 gallons to 4.9 lbs./1000 gallons. Clay addition was then cut from 3.8% to 2.5%, further reducing white-water solids to 4.1 lbs./1000 gallons. Besides obtaining an improvement in pigment retention, mill personnel reported better smoothness with asbestos present in the liner — an improvement that could lead to better printability.

What all this data point up, Carbide hopes, is something the company has claimed over the past few years — that asbestos isn't as foreign an aid to papermaking as its industrial history would seem to imply. ●

AVERAGE ASH ANALYSIS IN PAPERMAKING SYSTEM, PER CENT 40-LB. GOVERNMENT OFFSET

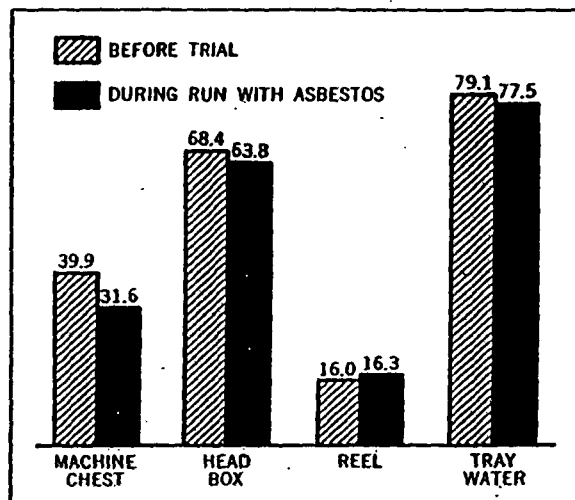


Figure 4. Carbide's high-purity asbestos does well also. This furnish held 2.2% of the fiber, enough to raise ash retention by 10% across the wire and 30% overall.

AVERAGE ASH ANALYSIS IN PAPERMAKING SYSTEM, PER CENT 40-LB. WHITE OPAQUE

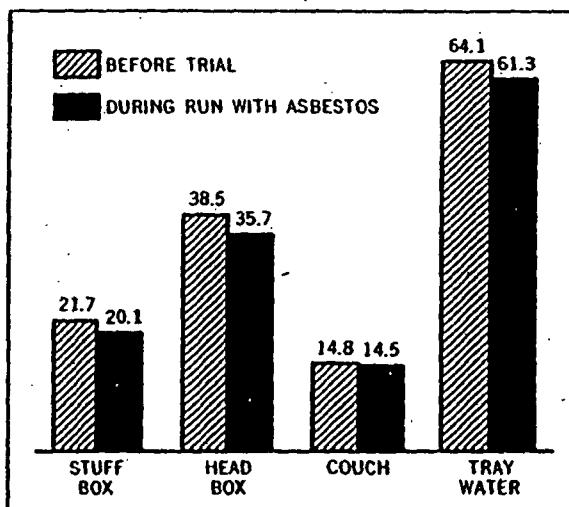


Figure 5. Paper formed during this production run contained 3% high-purity asbestos and maintained its ash content despite a reduction in TiO_2 and clay additions.