Research Center
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R. F. Orth, DHQ

Amosite Fiber

Here are a few facts on fiber.

1. To develop a modulus of rupture of 5000 psi at 105-lb per cu ft density requires 26 per cent of MS blue fiber (as received). If this fiber is opened, it requires only 17 per cent of it to develop the same strength at the same density.

2. With W-3 Amosite fiber, to develop 105-lb per cu ft density it is only possible to use 19 per cent of the fiber in the "as received" condition and only 7 per cent of it, if it is opened. But, when these fiber quantities are used, the modulus of rupture is only 3400 psi for the fiber as received and 2200 psi for the opened fiber.

3. Since density parallels strength which is so important in pipe, we cannot afford to decrease it in order to use a more lofty fiber that will permit improvement in filtering. The figures in (1) and (2) show that at 105-lb per cu ft density the Amosite fiber gives 32 per cent less strength when used in the as received condition and 56 per cent less strength when used opened.

4. It is a fact that Amosite fiber will permit better filtration by keeping the structure of the pipe mass open, but this mass will also have a greater "spring back" when forming pressure is released which will cause a lowering of density and therefore strength.

5. The tensile strength of fibers also shows a big difference between the blue and Amosite.

Fiber Kind	Tensile Strength (psi)
Blue (Crocidolite)	100,000 to 300,000
Amosite	16,000 to 90,000
Chrysotile	80,000 to 100,000

(Usually the more the fiber is milled, the lower its tensile strength)

When arriving at a formula for any asbestos-cement product, many factors must be taken into consideration, and the problem of formulating properly to receive the most for the money is not quite as simple as it may appear. If the manufacturing department wishes to use Amosite fiber in the pipe formulas, please, please do not give your O.K. in pressure pipe until we have discussed it at greater length because this move may prove tragic.

George Smolak

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cc: J. Q. Trice

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