

Laboratory Testing: Spun Bond Polyester Cartridges

Why do spun bond polyester cartridges for dust collectors often do poorly in laboratory tests, but perform exceptionally well in actual field use?

Consider, if you will, a transportation test conducted by driving 500 miles from Point A to Point B to determine the best mode of travel. This test works well for comparing the strengths and weaknesses of cars. But, how would an airplane compare with a car in the test? Would an airplane be driven down a highway to get from Point A to Point B? Of course not. So remember, the goal is to clean dust from air, not to see which cartridge material works best in a test designed for paper cartridges.

In general, polyester media face loads, while paper media tends to depth load. Paper cartridges hold more dust than polyester media cartridges, so fewer pulses are required to maintain a steady state pressure drop. Polyester media must be pulsed more frequently to maintain that same steady state pressure drop. But, since polyester media face loads, it cleans more easily than paper and therefore, the pressure required for pulsing can be reduced..

What does all this mean?

Try testing paper and polyester cartridges at lower pulse pressure with more frequent pulsing.

Now which cartridge material works best.

As for the original question, many laboratory tests only measure which cartridge can go the longest between cleaning pulses with a particular dust. Few field conditions have such heavy dust loads that the pulse cleaning system can't pulse fast enough or be reset to pulse fast enough to keep the cartridges cleaned. These tests do not challenge the cartridges with more difficult dusts or with lower pulsing pressure, moisture, or abrasive dusts as actual field use often can.

Call ECO for all of your filter needs.