NONWOVEN TERMS

For the informed employee

Air Shaft

Most nonwoven machines make rolls of fabric, and these rolls are usually wound on cardboard cores. Some machines do not have shafts through the cores, but many do. Those that do often use air shafts to hold the cores in place as the material winds. The components of an air shaft are:

- A tube made from steel, aluminum, or carbon fibers
- An inflatable bladder inside the tube
- Steel plugs in each end with attached shafts
- Projections that extends through the tube and grip the interior of the cardboard tube
- An air valve and associated tubing.

The shaft with the bladder deflated is inserted into a cardboard core and the core is positioned on the shaft. Air is applied through the valve and the bladder inside inflates. This causes the lugs to extend and grip the interior of the cardboard tube. The lugs hold the core tight to the shaft so the core does not move while the fabric is winding. After the roll is complete, the air is let out of the bladder and the shaft is removed from the core.

Air shafts have different types of lugs to handle various types of cores. The shafts have many different journal configurations to fit different types of slitters and winders. The smallest shafts are about 2" in diameter and large ones can be up to 20" in diameter. Carbon fiber and aluminum tubes are used to reduce weight so the shafts are not to difficult to handle.

BUTTON SHAFT

LEAF SHAFT

LUG SHAFT

Photos courtesy of Tidland

"All that is necessary for evil to succeed is that good men do nothing.."

Edmund Burke

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