

fibers can add heat-, chemical- and water-resistance; strength and toughness, elasticity, and other properties to non-woven fabrics. Because of expense, waste nylon is the only synthetic fiber used to any great extent.

As for binders, organic solvents are ruled out because of the fire hazard. Low-cost adhesives—such as starch, gums, casein and others—are brittle and lack wet strength.

Butadiene-styrene latex binders have many worthwhile properties, but also exhibit poor stability to light, and poor laundering and dry cleaning properties. Butadiene-acrylonitrile binders often discolor and give off odors on aging. Attention currently is swinging toward acrylic esters. They have good color and odor stability, but are not as elastic as the others.

Before the non-wovens can expect to be accepted, they not only must come down in price, but they must be given improved properties, particularly elasticity, crease-resistance, drapability (for drapes and certain clothing), and cleanability. Technological and scientific research is the only way to bring the fullest blossoming to their great promise.

Science News Letter, October 17, 1959

METALLURGY

Aluminum Rockets Show High Strength

TESTS on rocket engine cases made of aluminum have upset an earlier notion that aluminum is "too weak" to contain the riot of forces in a solid-propellant rocket motor.

The year-long tests, conducted by the Aluminum Company of America jointly with a major propellant manufacturer, showed that aluminum is actually stronger than steel on a weight basis.

In addition, aluminum proved to have a "volumetric expansion" of five percent—meaning that under severe stresses an aluminum engine case could "give" five percent without exploding.

Science News Letter, October 17, 1959

Questions

BIOLOGY—How great an achievement is it for the mound-building ant to build a mound about 16 inches in height? p. 256.

MEDICINE—How wide is the use of the "artificial kidney"? p. 254.

OCEANOGRAPHY—Why is the "red tide" not prevented ahead of time? p. 251.

Photographs: Cover, Ryan Aeronautical Company; p. 251, Raytheon Company; p. 253, McDonnell Aircraft Corporation; p. 255, Department of Defense; p. 258, U. S. Army; p. 264, W. R. Grace & Co.

Do You Know

Menier's disease affects the semi-circular canals of the ear so that the sense of balance is lost.

Prematurely white hair may be due to hereditary factors, diet, a change in the chemical functions of the body, or "nerves."

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