

The Fascinating, Versatile Fabric: FIBER GLASS

IN THE basement of the Fiberglass center on Fifth Avenue in New York city, a young woman was completely swept away by what she saw. Before her were glass fabrics that never need dry cleaning or ironing; rot-proof, shrink-proof, stretch-proof fabrics! Each dazzling display flashed to her mind countless ways in which bright new color and life could be brought into her home. "I expected to see just a very limited selection," she confessed modestly. "But look at this. It's fabulous!" Her eyes flashed from row to row of fabrics in colors, designs and textures of unbelievable variety. Elegant prints, sheer boucles and marquissettes, nubby weaves and airy case-ments, bright suntoned solids—more than 5,000 styles to choose from! She was in a shopper's paradise!

Not far away stood another woman deep in thought, as

she weighed the matter of taste and pocketbook. "We have just bought ourselves a new house," she said, "and, of course, the problem of decorating it comes up. That's why I'm here. I figure that the window space in our new home will take at least thirty yards of material just for the drapes. Between \$2 and \$7 a yard—that's not considering what it will cost to make them. You can see that it will run into a considerable sum, even at that." But she was pleased with the material's practicability.

Both of these women, along with thousands of others, admired the amazing flexibility of an exciting, relatively new fabric—one possessing properties and possibilities far beyond the reach of its predecessors. Already the newcomer has inspired more magnificent designs and treatments than many fabrics have in their history! Besides, its

fiber is as light as a feather and almost as soft as silk. You can light a match to it and it will not burn. You can soak it in water and it will not shrink. Tug on it and it will not stretch. Hang it up in a wet, dingy basement and it will not rot. Expose it even to the brightest sunlight and it will not deteriorate—all this because the fiber is 100 percent glass.

No one really knows who discovered glass, but it is almost certain that the first man could not have been aware of its vast versatility. Today men take batches of sand, limestone and other mineral ingredients and melt them in a furnace. The molten glass that comes out is formed into various items, such as windows, bottles, glasses, marbles, and so forth.

Experience has taught us that ordinary window glass shatters quite easily when struck with a stone. But melt the broken pieces down and draw it out into several hundred miles of fiber. The threads become almost invisible to the eye. You can wrap them around your finger and weave them into a window screen. Now throw a stone at the screen and see what happens. Aha! This time the glass does not break!

A water glass is easy to shatter, but try to pull one apart. It is the ability of glass to withstand tremendous pull that largely accounts for its turning up in unexpected places as fiber. Just as your windows or drinking glasses will not stretch or shrink, rust, rot or wrinkle, so neither will material or fibers made of glass.

While glass fibers are mere infants in the family of fibers—hardly thirty years old—still the job performed by them to date has been man-size. Commenting on its many uses, one report states: "Inside attractively sonofaced 'tiles' for ceilings, glass fibers sound-condition rooms by absorbing useless reverberated noises, making the sounds we want to hear clearer and more pleasant. Also unseen in walls and roofs, glass fibers insulate homes and other buildings against heat and cold, sharply cutting costs of heating and air conditioning. Almost all home wiring, from the fuse box to the wall outlet is glass fiber-insulated."

This is hardly a beginning to the fiber's versatility. Perhaps one of its most dramatic displays of strength is in the field of plastics. Chairs, for example, made only of plastic are as brittle as window glass. But add glass fibers in the

plastic and the chair becomes stronger than steel, pound for pound. Some 629 New York city buses now are equipped with plastic seats reinforced with glass fibers.

The aircraft industry soars ahead of others in the use of glass-reinforced plastics. Glass and plastics practically surround passengers in the new commercial jets. The nose radome, the pilot's foot warmer, the control cables, tables, door latches, passenger seats, cabin ceilings, and a host of other items are all glass reinforced. Today, glass fibers go into battery separator plates, protective underground and above-ground pipe wrap. They are used in disposable air filters and insect screening, as reinforcement for structural plastic products, industrial papers, and in what have you.

The Fiberglas people say that a few years ago it would have been difficult to imagine boats with completely maintenance-free hulls, molded in one piece; or colored, translucent panels that could be sawed and nailed like wood to make patio roofs, decorative interior partitions or skylights that absorb infrared light; but they are realities today because of glass. Today we have glass fishing rods, sleds, skis, crash helmets for

jet pilots, bullet-proof vests, auto bodies, airplane parts and many other products. "Put glass fibers in paper, and a few strands of paper tape, 1/4-inch wide, can lift a 3,000-pound automobile. Reinforced paper is used instead of steel bands on cartons, as durable tarpaulins, freight car coverings and heavy-duty packaging." Now these powerful fibers are being turned into yarn for beautifying the inside of the home.

Each year about 100,000,000 tiny crystal balls, approximately three-fourths of an inch in diameter are remelted into molten glass. In these pale-green marbles that resemble the marbles children have played with for centuries, men have found cloth, believe it or not.

The molten glass is driven through tiny holes at speeds up to three miles a minute. This stretches the glass liquid into long, thin fibers. The fibers are about one three-hundredths of the thickness of human hair! Out of one small marble alone comes ninety-five miles of filament. The filaments are twisted or plied together and the glass yarn is ready for weaving. The weavers receive the yarn and handle it like any other.

The fabric is often so soft that it is hard to believe that

it is glass. Some of the yarns are shot through with jet streams of air to blow up or fluff the yarn and give it its bulk. The fabric is put through a special heat treatment at 1,200 degrees Fahrenheit, a process known as "Coronizing." This treatment softens the woven fabric and gives it its fluffiness and makes it feel like cloth. This same heat treatment makes the fabric permanently wrinkle-proof and does away with the backbreaking job of ironing.

At this point the cloth can be dyed or printed with a wide range of designs, styles and colors. Finally the material is baked at 320 degrees Fahrenheit to set the color and give buyers cloth with almost perfect washability. Since each fiber is made from glass, dirt cannot possibly penetrate it, so the material is as washable as a glass or a dish and just about as durable.

Glass fiber draperies and curtains have proved especially practical. They transmit sunlight like a stained-glass window and, at the same time, are soft to touch and delicate in appearance. They are also easy to maintain. For example, when the time comes to take the curtains or drapes down to clean, simply dip them in mild soapy water and

squeeze the material to free the dirt particles. Since the dirt remains on the surface of the fabric, a mild detergent is all that is necessary to loosen the dirt, without the aid of hot water or rubbing. Then merely rinse the material in clear water and hang it up to dry, or roll the curtain up in a towel first to remove excess moisture, then hang it over a shower-curtain rod or clothesline to dry.

Fiber-glass drapes are easier to clean than blinds. According to a Los Angeles newspaper, the supervisors of a new \$24,000,000 courthouse figure that the maintenance cost of fiber-glass drapery installations is only one tenth that of blinds. There is no need to dry-clean fiber-glass drapes. However, if you insist on having glass draperies cleaned commercially, then ask to have them "wet-washed" or "wet-cleaned." Request that they be treated in the same manner as a fine woolen blanket. The danger of sending glass fabrics out to commercial cleaners is that the solvents used in the commercial process can be harmful to dyes in the fabric. And, too, the tumbling action of the cleaning process can be abrasive in nature. For the same reason, it is not recommended that glass fabrics be

washed in a washing machine.

When hanging glass draperies, be sure the fabric clears the floor, ceiling or any projection, such as window sills and radiators. The movement on a traverse rod will not damage the material. Since glass fabrics do not sunrot and are highly fade-resistant, there is no need to have them lined. However, if you choose to line the cloth, then make sure the lining is preshrunk and washable. While it is not necessary to use weights to improve the appearance of glass drapes, yet if weights are used, see that they are rela-

tively light and are covered with cotton or similar material.

While glass fabrics are ideal for draperies, they are not recommended for bedspreads, tablecloths or upholstery because of the possibility of abrasion.

Of course, the fabric can be sewed. But first cut off a practice piece and run it into the sewing machine several times, until you find the proper pressure adjustment. Then sew with ordinary cotton thread, but with a sharp needle and with slightly looser tensions than usual.

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DEGREES IN DEGRADATION

Phil May, the artist, when once down on his luck in Australia, took a job as waiter in a very low-class restaurant. An acquaintance came into the place to dine, and was aghast when he discovered the artist in his waiter.

"My God!" he whispered. "To find you in such a place as this."

Phil May smiled, as he retorted:

"Oh, but, you see, I don't eat here."