

## Spidery Liquid Crystals

Scientists and manufacturers are studying a new technique that could lead to more durable fibers. This technique manufactures liquid crystals to produce stronger, longer-lasting fibers. The process uses sulfuric acid, temperatures well above the boiling point of water and a high-pressure atmosphere.

Meanwhile, another team of researchers finally discovered how orb weaving spiders and silkworms manufacture their silk. Scientists had theorized that silk from spiders and silkworms was stronger by weight than steel because proteins in the silk cross-linked with each other. But after watching silk production and drying in careful lighting under magnification, astonished scientists actually saw what happens.

Silk is produced in the silk gland as a thin, watery liquid. Once the protein-rich liquid is released from the gland, the liquid begins to concentrate because of evaporation. As the liquid concentrates, it changes into a liquid crystal state. Scientists have been trying to create fibers in the lab from liquid crystals. They would love to know how the spider does it, using only water at normal temperatures and pressures.

This is another example of how God has already solved an engineering problem that we were trying to solve. It is especially interesting that He allowed scientists to discover *His* solution at the same time that others were trying to solve the problem. This allows us to reemphasize that our world is the work of a Creator and not mindless, natural accidents.

### **Psalm 150:1-2**

**"Praise ye the LORD. Praise God in his sanctuary: praise him in the firmament of his power. Praise him for his mighty acts: praise him according to his excellent greatness."**

Prayer: Lord, You are Lord not only of the altar and the pew, but also of the spider, the silk-manufacturing process and all that exists. Let me always remember that You are also my Lord through the forgiveness of sins. Amen.

Ref: Cowen, R. "Liquid crystal bridges silk-spinning gap." *Science News*.