

Paul Hillyard says in *The Book of the Spider* 1994. "For an equal diameter, spider silk is stronger than steel and about as strong as nylon. It is, however much more resilient and can stretch several times before breaking - it is twice as elastic as nylon and more difficult to break than rubber. The energy required to break spider silk (its 'toughness') is about ten times that of other natural materials such as cellulose, collagen and chitin. Dragline silk (about .00032 inch (.008 mm) in *Nephila*) is especially strong - approximately twice that of silk from silkworms." Mark Carwardine says in *The Guinness Book of Animal Records* 1995. "Spider silk is the strongest of all natural and man-made fibres.... It is even stronger than steel: the dragline of a European garden spider (*Araneus diadematus*), for example, can support a weight of 0.5 g (0.002 oz) without snapping, whereas a steel strand of similar thickness will snap under the strain of just 0.25 g (0.01 oz)." Rainer Foelix says in *Biology of Spiders* 2nd Ed 1996. "The tenacity of spider silk is slightly less than that of Nylon (Lucas 1964), yet its elasticity is twice as high (31% vs 16%). In terms of tensile strength it is clearly superior to bone, tendon or cellulose, and it is half as strong as the best steel.a dragline would have to be 80km long before it would break under its own weight." At [How Stuff Works](#) we are told. "Spider silk is extremely strong -- it is about five times stronger than steel and twice as strong as Kevlar of the same weight. Spider silk also has the ability to stretch about 30-percent longer than its original length without breaking, which makes it very resilient." At [Access Excellence](#) we are told. "It has been estimated by scientists to be at least five times as strong as steel, twice as elastic as nylon, waterproof and stretchable."

"Dragline spider silk is actually stronger than Kevlar synthetic fibre and Kevlar is several times stronger than steel," says polymer scientist David Tirrell who wrote a review for the journal *Science*."