

Carbon springs lead the way

For many years Hiflex Glass composite springs have been used where long life is required in simple leaf springs. The food industry uses Vibratory feeders and conveyors to move products such as cereals, biscuits and snack foods by making them “hop” along steel trays allowing them to do away with unhygienic belts ,motors and gears. This industry desires the minimal of downtime and found that by replacing the steel springs that they had been using with glass composite ones they could greatly extend the life of the springs and also have much faster speeds. Carbon composite springs have now been developed which are even higher in performance.

Carbon has been used as a reinforcing material for composites in the aerospace and motor racing industries for some time but its’ costs have excluded it from many uses. The Development of HiCaflex springs shows how these materials can be used for leaf springs.



FAQ's

1. What material should I use for my springs?

Assuming that you do not have any “unusual” requirements then the choice is relatively easy. Spring steel is stiff, strong and relatively cheap but poor in fatigue strength so if you want a spring that is stiff and only going to be deflected a relatively small (hundreds to thousands) of times this is the best choice. If you want something that is reasonably stiff but likely to be bent many millions of times then Hiflex is the best choice. If you need higher stiffness and fatigue strength then HiCaflex is the best choice.

2. Where should I use Carbon springs in place of Glass?

Carbon springs are 4x stiffer than glass which means that thinner springs can be used to give the same stiffness. The extra thickness of Glass springs means that there is increased stress on their supporting bolts and this limits their use. If you have suffered from bolt breaking problems or you need higher performance you should try Carbon springs. For example an 11 ply Carbon spring is of an equivalent stiffness to a 16 ply Glass spring.