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## **Kevlar**

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# Kevlar

**Was ursprünglich als Verstärkung für Reifen gedacht war, wurde schließlich ein universeller, für seine Stärke bekannter Werkstoff – Kevlar. Vor 45 Jahren erfand eine Frau die Faser durch Zufall.**

„A damsel in distress rescued by her knight in shining armour.“ A romantic cliché, though it’s hard to imagine anything very romantic taking place with the knight covered in metal. Body armour was thick and heavy. But that changed in the late twentieth century, thanks to a pioneering damsel.

Stephanie Kwolek was born in New Kensington, Pennsylvania in 1923. Her father kindled her interest in science at an early age. Together, father and daughter studied plants and animals around their home. From her mother, a *homemaker*, the young girl developed an interest in clothing design. Both *skills* would prove useful in later life.

In college, Kwolek *majored* in chemistry with the *goal* of attending medical school. But when medical school proved too expensive, she interviewed for a chemical research position at DuPont. The work was so interesting she never left.

In 1965, at age forty-two, Kwolek was working in the laboratory looking for a strong, lightweight *fibre* to strengthen automobile tires. And she was successful beyond anything she could have imagined. What she discovered was a material that, pound for pound, was five times stronger than steel. The material? Kevlar.

Body armour has seen many *advances* since the days of *medieval* knights. The military is always seeking better ways to protect foot soldiers. What made Kevlar so revolutionary was that it’s a polymer fibre, like nylon. When *layered*, it’s strong enough to stop bullets. Yet it’s light enough to be comfortably worn as part of a police uniform. Kevlar isn’t good at stopping sharp objects, like knives or ice picks. And the human body absorbs a lot of a *bullet’s* energy. Imagine being kicked hard, really hard, in the chest.

But Kevlar and similar products are continually being *refined*. And their use isn’t limited to body armour. They’re used in the manufacture of *rope*, car brakes, sports equipment – even musical instruments. And all thanks to the *ingenuity* of Stephanie Kwolek.

“When I first *discovered* Kevlar, the polymer solution was very different from the standard

maid in danger saved ... \*list

\*see list allowed

awarded

stimulated

housewife

talents

\*see list

intention

\*see list

developments

\*see list

\*see list

shot's

improved

string

inventiveness

found

polymer solution,” she said. “It had a lot of strange features. I think someone who wasn’t thinking very much ... or took less interest in it ... would have thrown it out.” But Kwolek didn’t. And her work has saved thousands of lives.

Kwolek’s efforts haven’t gone unnoticed. In 1994, she was *inducted* into the National Inventors Hall of Fame – only the fourth woman to receive that honour when it was *conferred*. But, of course, awards aren’t what motivated Kwolek. “I love doing chemistry,” she said. “And I love making discoveries.” ■

Andy Boyd, University of Houston

[http://web.mit.edu/invent/www/ima/kwolek\\_bio.html](http://web.mit.edu/invent/www/ima/kwolek_bio.html)  
[www.chemheritage.org/classroom/chemach/plastics/kwolek.html](http://www.chemheritage.org/classroom/chemach/plastics/kwolek.html)

Weitere Artikel über Stefanie Kwolek und ihre Entdeckung.

<i>advance</i>	Fortschritt
<i>armour</i>	Rüstung, Harnisch
<i>bullet</i>	Geschoss, Projektil
<i>confer, to</i>	verleihen, gewähren
<i>damsel</i>	Maid, Jungfrau
<i>discover, to</i>	entdecken
<i>distress</i>	Bedrängnis, Not, Gefahr
<i>fibre</i>	Faser, Faden
<i>goal</i>	Ziel
<i>homemaker</i>	Hausfrau
<i>induct, to</i>	einführen, einweihen
<i>ingenuity</i>	Einfallsreichtum, Erfindungsgabe
<i>kindle, to</i>	entfachen, wecken
<i>knight</i>	Ritter
<i>layer, to</i>	schichten
<i>major in sth., to</i>	etw. im Hauptfach studieren
<i>medieval</i>	mittelalterlich
<i>refine, to</i>	verfeinern, weiterentwickeln
<i>rescue, to</i>	retten
<i>rope</i>	Seil, Tau
<i>skill</i>	Fähigkeit, Können

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