<http://www.technologystudent.com/joints/kevlar2.html>

Kevlar® is a material formed by combining para-phenylenediamine and terephthaloyl chloride. Aromatic polyamide (aramid) threads are the result. They are further refined, by dissolving the threads and spinning them into regular fibres. When woven, Kevlar® forms a strong and flexible material. If layers of the woven Kevlar® are combined with layers of resin, the resulting ‘rigid’ material is light and has twenty times the strength of steel. It is also superior to specialist metal alloys. However, Kevlar® is expensive due to the demands of the manufacturing process and the need for specialist equipment. Kevlar was initially used for automobile tyres.

Other applications of the compound include underwater cables, brake linings, space vehicles, boats, parachutes, skis, and building materials.

1. Kwolek, who died Wednesday at 90, was a DuPont chemist who in **1965** invented Kevlar, the lightweight, stronger-than-steel fiber used in bulletproof vests and other body armor around the world.

 Patent by DuPont

A) 1965

B) the need for stronger than steel fiber

C) kwolek

D) DuPont

E) formed by combining para-phenylenediamine and terephthaloyl chloride

F) formed by combining para-phenylenediamine and terephthaloyl chloride

G) made stronger and more resistant

H) these improvements were made so that kevlar could be the leading kind of itself

I) Military and cops but its also used commercially

J) better body armor and more resistant fabrics

K) I would make it stronger and less costly to make

A) Reilly Gregorio, Devin Murray, IED 4th period, kevlar

B) Original invention was Aromatic polyamide (aramid) threads : DuPont

C) Chemical engineering because to make kevlar, they are mixing materials

D) Timeline:

Invented in 1965

1971 Production

1975 field trial

1978 adopted by military

1981 military specification

1982 military purchases

1993 ranger vest

1994 countermine and bomb suits

1995 kevlar correctional

E) Kevlar has not changed much at all, but used for different things.

F) Kevlar has had no real effects on the environment but really helped with protection of people, especially police officers and military soldiers.

G)

<http://inventors.about.com/library/inventors/blforensic3.htm#materials>

<http://www.dupont.com/products-and-services/fabrics-fibers-nonwovens/fibers/brands/kevlar.html>

<http://www.safeguardclothing.com/articles/the-history-of-kevlar/>

<http://composite.about.com/od/aboutcompositesplastics/l/aa050597.htm>

[http://timerime.com/en/timeline/83772/History+of+Kevlar/](http://timerime.com/en/timeline/83772/History%2Bof%2BKevlar/)