



A scientist in Southern Australia has developed a new kind of concrete that could change the way we fight terror.

Chengqing Wu, a researcher at Adelaide University, has formulated Ultra High Performance Concrete (UHPC) that behaves similarly to plastic. It has a very high energy absorption capacity. Additionally, UHPC has a higher tensile strength and a higher ductility than traditional concrete does.

This concrete has plastic-like properties due to the nano-technology and steel fibres that it contains. The higher ductility and tensile strength allow the concrete to be more flexible in the face of explosions and earthquakes.

Typically, reinforced concrete columns will become brittle and shatter with less than 10 kilograms explosive loading. However, according to Mr. Wu, columns made from UHPC have survived a 50 kilogram explosive loading.

The University of Adelaide is trying to patent this technology, which they believe will be in high demand. Particularly interested in this technology will be those involved in the construction of critical infrastructure such as government buildings, bridges, defence facilities and embassies.

SAGE International's Counter Terrorism consultant, John Bruni, seconded the belief that the new concrete would soon become highly sought-after. Mr. Bruni believes that UHPC buildings would allow people and nations to appear to be more resilient in the face of terrorist attacks. He highlighted the importance of the government's infrastructure not being wiped out as a result of explosions.

Mr. Wu says he is collaborating with China to bring the cost of UHPC down, which could extend it's application to earthquake zones. Currently the cost is five times more than traditional concrete, due to the use of expensive nano-materials.

For more information on bomb- and earthquake-proof concrete, check out our earlier post on durability innovations in concrete! Read it here: <http://bit.ly/1n2vAL8>

Source: [Karen Ashford via SBS](#)